

BRIAN HOUGHTON HODGSON

MAMMALS

At the front of this volume is inserted a piece of paper on which is written
Raj Man Sing
Chitrapar
Or Artist

Underneath are 3 initials presumably RMS

PAGE 1

India House November 1852

No 56

Large completed colour illustration of a monkey shown sideways on
To the right are two pencil drawings of monkey's heads one above the other,
demonstrating different expressions, the upper one with closed mouth the lower
one with mouth open.

TEXT

Below main illustration

No. 1. ~~Macarcus Nepalensis Nob.~~ Above that is written Dinops Mihi Rhesus
[ayct]? var

No. 2. feem Tarai Feb 24

1/3 nat. size

Extra LXV11

N.B. { No. 4 mas old. March Hills 22 inches

See { No. 3 feem old April Hills 20 inches

M.S { No. 4 is the dark hued, smoky faced and clad rumped species
a var(iation) of Rackham

No. 3 is possibly -ditto- ~~Robinsons~~ *THERE ARE SOME WORDS WRITTEN ABOVE THIS LINE
THAT IT IS NOT POSSIBLE TO MAKE OUT.....* the red faced pale one of Tarai like this

No. 4 Pelops wh. see *NOTHING ELSE IS WRITTEN AFTER THIS*

PAGE 1 - REVERSE

*This page has both notes and a table of measurements. The top left hand corner of
the page is missing which affects the text.*

TEAR....shot in Res's(Residency's) grounds whereto strayed from Sambhunath
wood mas. **TEAR**....or three years but not full grown but old males in Sambhu are
much larger **TEAR** [collo]sities large 1 3/4 inch by 1 1/8 nudity around and below
them distinct but less than in older subjects & red hue of these parts & of face
vague promptu mostem veljuventulam is fleshy grey. cheek pouches 3 1/2 deep,
canines large acute deeply grooved and sharp, nares ovoid terminal proximity
oblique. Hands and feet membraned feet longer, fingers before clearly unequal as
much as in man but thumb reaching only it's nails length below base of index. In
foot

PAGE 1 REVERSE CONTINUED

digits more equal but similar gradation and thumb analogue as big as in our hand reaching to end scarcely only of 1st ph. of proximal digit. Hair smooth, fine one sort rusty pales below & changing to sordid grey on forequarters. Intestines 13 feet 4 inches caecum 2 1/2 & 4 1/2 inch from end in free part and 4 inch from end all caecum & all large gut sacculated & banded. width of caecum 2 3/8 inch & of great gut (mas) it the same thence decreased to vent width of small gut flattened in boards 1 inch. Stomach simple bagpipe or pear shape with aperture very [near]? & fundus very large. 14 inch on large arch or 1 3/4 on small & 4 1/4 wide greatest

NOTE: Following this section are some pencilled notes which have not been transcribed due to their extreme faintness

Table of Measurements

	1.	2.	3.
Snout to root tail	1. 3 1/2	1. 6. 0	1. 9 1/4
Tail & hair 10 1/2	0. 9. 0	0. 9. 0 (11 1/2)	- 10 -
Symp max to jut. occ.	4 1/2	4 5/8	5 3/8
-do- -do-	6	6	7
Ear longit intire demens	1 5/8	1 13/16	1 11/16
“ free [exsertion]? from crown	1	1 1/4	1
Elbow to tip long fingers	9 3/4	9. 0	10 1/4
True knee to Do. toe	11 3/4	11 -	1. 0. 0
Intire hand along palm from tip finger to inner jut of wrist	4	3 7/8	6 1/2
Intire foot from - do- to end of calcis	5 7/8	5 1/2	2 3/8
Length of longest finger	0. 0	1 7/8	2 1/2
Length of longest toe	0. 0	2 1/8	
Weight	18 lbs		

(1) Feem juv. Cent. Hills Jan^y.10

Above rusty shaded with dusky [slats]? of fur below surface. Below sordid hoary shoulders & arm taut extreme tics dusky [slats]? while [hems]? postially nude & deep red. Face ditto but paler. Facial angle small orbit very salient. Head round & ample developed. Ears as in as but higher up, or rather with a larger unrefluted helix & sub hairy. Hands have 2 cent.digits subeq. & 2 lats. ditto & less.

Thumb of fair size all united by uns...ed memb. nearly to 1st ph. Feet larger than hands & digits more connected by memb. even beyond the 1st ph this inner digit or thumb much stouter than any finger even more than in us. Cheek pouches, anal call large 1 1/2 by 1. Tail slightly tapered and just 1/2 length of animal from sym. of upper jaw to postial angle of rump call. but more if measure to base of tail only wh. is 3 inches short of latter point.

(2)Feb^y 26 Terai

Another feem small gut 8.4 large 4 caecum oval large & as well as all great gut saccul & banded. Stomach simple bagpipe 21 ½ inches by 5 ½ orifices near &
PAGE 1 REVERSE CONTINUED

large fundus. seems mature for teeth are worn much canines hardly plus rest with oblique internal crowns. Molars almost flat cheek pouches & calli signal [single]? as before & red face & rump. ditto ditto. Remarkable for roundness of nostrils wh. do not stretch towards eye Colour red vaguely passing to slaty grey on fore extremities. Face [shut]? Orbits mod. Head rounded & full with close hair tending back & down & a little re-curved to front at gape but no whiskers nor beard. Below head body & limbs very slightly haired showing skin. Feet & hands shorter & stronger than in last but similar & thumbs behind very strong and reaching to end of 1st phalanx of index before they reach only to base of finger.

March 4 Valley

Young male perhaps 3 months old fur softer shorter. Buttocks not nude [Collositem]? full. Canines scarcely more pointed or longer than incisors. Skin of face not ruddy fleshy grey. 12 inches long & tail 5 ½. Head very round, face short, nose short with ovoid subterminal nares. Orbits mod. & salient, ears large nude helix not reflected on edge except antially. On hands digits gradated as ours save exterior wh. is subeq. Index thumb small reaching but ½ way down 1st ph. of index. foot longer, digits similar save thumb wh. much longer than afore & reaches end of 1st phal. of next toe.

PAGE 2

Completed illustration in colour to the left of which is a small pencil study of a head.

TEXT BELOW MAIN ILLUSTRATION

(See No.4 of Dinops) Pelops Mihi Central & Northern regions of hills
Macacus **THEN A FURTHER SIX WORDS HEAVILY SCORED THROUGH**
Extra LXV111

TEXT BELOW STUDY OF HEAD

Macacus Pelops
(Measures & on drawing of Dinops as No.4)

PAGE 2 - REVERSE

2 ink studies of stomach parts numbered Smaller(1) Larger(2)

- (1) Stomach of Macacus ⅓ nat. size
- (2) Great Gut & Caecum full size

Note below: -(see separate delineations)

PAGE 3

This page has 2 studies. The main one is of a seated monkey. A smaller one shows a pencil study of a monkey's head

TEXT BELOW 'SEATED MONKEY'

Semnopithecus Schistaceus Mihi

A female junior Sept.

PAGE 3 CONTINUED

A male – ditto- Oct.

Semnopithecus Schistaceus Mihi from lower region of mountains Nepal

Habitat all 3 regions of mountains 2 or 3 noted on back of this drawing

1 big from Northern in other sheet.

**This page has some further notes which are very faint, these have not been transcribed nor the ones on Page 3 Reverse*

PAGE 3 - REVERSE

Table of Measurements

	(1)	(2)
Snout to vent	1. 9 ½	2. 4. 0
Tail only	1. 10. 0	2. 9 ½
Tail and Hair	1. 11. 0	2. 11 0
Length Head to curve	0. 7 ⅝	2. 7 ¾
- ditto - straight	0. 5 0	0. 5 0
Ear from Front	0. 2. 0	0. 1 ¾
Ear from Crown	0. 1 ¼	0. 1 0
Forearm	0. 5 ⅝	
Arm	0. 6 ⅑/16	
Palma entire	0. 4 ¾	0. 5 ¾
Thigh	0. 7 ¼	
Leg	0. 7. 0	
Planta entire	0. 6. ½	0. 8 ¼
Girth of Chest	1. 2. 0	1. 8. 0
Weight	8 ½ lbs	

Below this table is written

Male Oct. 7 Died here (Nepal) brought 7 months ago from Lower Hills. Fur abundant straight one sort shorter on tail and limbs longer on cheeks [radiated]? back so as to half hide ears. From edge of brow long black hairs shoot out or forward. From crown of head hair radiates like human. Tail tapering to tuft at end colour above uniform subpurpurescent Slaty of a brownish tinge & not darker on hands & feet. Below & the whole head flavescens white canines level with the other teeth junior

Dorjiling 11am 4000ft mas. junior changing eye teeth which are small at present.

Teeth 4 1. 1 5 front teeth large last 3 molars below each with 4 processes on
4 1. 1 5

crown above. Prepubescent slaty. Tail & hands concolorous below & whole head straw pale. No tuft to tail nor paled.

PAGE 3 – REVERSE – ADDITIONAL ATTACHED SHEET

SEMNOPIITHECUS facial angle 4.5 to 5.0 face flat, nose short with long narrow lateral nares, head depressed, limbs long, thumbs small, collisisters large, no cheek pouches 5[tubiacle] on last molar.

Note

3 Words written above the previous line are too faint to read

Canines variable, large only in grown males. Stomach sacculated banded as well as intestines. Tail very long & exceeding the length of the animal. Very agile, grave deportment, not docile, gregarious. Habitat Terai & Lower Hills.

Schistaceous Habitat of Macacus. Dark & slaty above below with their intire head whitish yellow. Hands & feet only somewhat darkened or concolorous with the body above. Tail longer than the animal and more or less tufted, face and last phalanges of anterior digits nude. Skin black, hair on crown short radiated on cheeks, long directed back & hiding the ears. 28 – 39 inches long. Tail 36 without the hair. Hand 6 ½, foot 8 ½. Females small with small canines.

N.B. The digits are [e.g.centrali subeq.]? by man and nearly to end of 1st phalanges

On reverse is a note

No. 7 feem. Casting canines, new are large and acute

March Snout to root tail 23 inches Tail 32. Lat. digit eg.and centrals subeq.

Thumbs at anti. Tail not tufted coloured as afore limbs concon.with body, hands not darker & feet even paler

Next line difficult to transcribe [Manners Sec. B.S. Ma. Augst.1836]?

Note:- Terai and Tarai both spellings appear in the texts.

PAGE 4

MACAQUES ILLUSTRATIONS

Main illustration shows a profile head

There are in addition 4 numbered studies of hands and feet

TEXT BELOW ILLUSTRATIONS

Semnopithecus Shistaceus Mihi Mas. Old

From Northern region of hills

Bara Langur Nat. Size

Kachar Jan^y No. 8

1. Hand
2. Foot of do.(ditto)
3. and 4 Hand and Foot of Macacus Dinops, Junior

Habitat in all 3 regions of mts.

Note under (1) 3 & 4 of young Bandur Macacus Dinops

PAGE 4 - REVERSE

Table of Measurements

Snout to Rump(in pencil)	3 0. 0	2 – 4 is 2 – 6 to forehead and 2 – 10 to nose round bend of head
Length of head	0 7 ½	
Length of tail	3 0 ½	
Bend of carpus to tip central finger	0 6 ½	
Bend of tarsus tip largest toe	0 8 ½	

Kachar Jan^y 10th male mature
Kachar is northern region of mts. near snows

*Pencilled notes next to this table
'from skin no. 8'*

PAGE 5

Completed illustration with 6 additional studies of heads

TEXT UNDER ILLUSTRATION

Semnopithecus Petrofilus Nob.
Lesser Nepalese Langur
Extra Mammal Sheet LXV11

2 heads on right hand side of sheet
Feem junior Sept 5th

Note at left hand corner

No. 2 feem Terai Jan^y 28

PAGE 5 - REVERSE

Table of Measurements

	(1)	(2)
Tip snout to vent(str.)	2 4 ½	1 10 ½
Head (d ^o .)	5 ¾	- 5 -
Tail(with hair 2.11.0)	2 9 ½	2 2 ½ plus 5
Height at shoulder	1 6 0	1 2 0
Girth of body	1 11 0	1 3 ¾
Ears length vertical		1 ¾
-d ^o - greatest width[free]?		1 13/16
Between the eyes		13/16
Elbow to wrist		7 5/8
Thence to end of long finger & nail		5 ¼

True knee to Oscalcis
Thence to end of long toe & nail
PAGE 5 REVERSE CONTINUED

8 0
7 $\frac{1}{8}$

Weight not noted

1)[Hitomida]? Feem seems old canines large and salient one broken, slight tuft of paler hue. General colour deep purplish dark slaty paler behind [hems]? & inside of limbs near body. Head only yellowish white.

(2)Young feem Sept. 5 died here dark as last, canines not enlarged or pointed, no tuft to tail, no cheek pouch. Hair full soft of one sort [margin]? or [marga]? quite straight but not adressed 2 – 2 $\frac{1}{2}$ inch long on body, on cheeks 2 $\frac{1}{2}$. On crown of head shorter radiated and adressed shortest on tail which slightly tapered. In forelimbs the thumbs are small and $\frac{1}{2}$ inch from end metacarpal pad or palm. other fingers all membraned at base & two antial & two lateral digits[respect] nearly equal but not as in our hand the index is[plainly]less than the outer one. In hind quarters the thumb is larger & reaches to end of palm or sole or metatarsal ball. All other digits neat as before & the four other digits are gradated as in human hand. In hands the palm is to digit(lowest) as 3 to 2 in feet, the sole is to digit as a good deal above 2 -1 or double

PAGE 5A

India House 1852

No.55

Completed illustration of 2 monkeys adult cradling a young one

TEXT BELOW ILLUSTRATION

Semnopithecus Shistaceus

feem and young No.1

~~Nepalensis Nob.~~(the larger variety) *A NOTE BELOW READS*

..canines very moderate on account of sex

AT FOOT OF THE PAGE

Another no. 7 feem. March. Canines small, casting, new, large tail tufted. Lat. Digits subeq & centrals. Do(ditto) thumbs as before & colours, casting-~~upper~~
~~incisors~~

Snout to root tail 23. Tail 32 1- 11 2 - 8

PAGE 5A - REVERSE

No. 5 March 1st mas. Very young snout to root tail 19 true tail 25. Teeth imperfect. canines small. Tongue with remote large rounded soft papilla not much raised. 3 of them larger disposed [trigonally]? near base of tongue. Thumb before hardly passing base of nearest finger. Larger behind and reaching $\frac{1}{2}$ way down 1st phalanx. No pouches calos full. buttocks hairy. Ears pointed above & partially from cheek tufts belly & inside limbs and having nude black skin. Nares long narrow & directed upwards towards eyes as usual. Nails cylindrical with tubular ends passing fingers. those of thumbs depressed & truncated. Colour as usual

purplish to grey brown with head & below yellow white. Limbs externally not darker than body & postialy even lighter, of shaded by yellowish of interior

PAGE 5A REVERSE CONTINUED

surface of body. Lesser gut ~~13 inches~~ 13 feet 3.9 caecum 3. Stomach & intestines both sacculate & banded. Caecum conic. N.B. Little finger is longer than index. Nr. 6 Mature male March 4 Tarai above. With the limbs externally & hands & feet purplish earthy brown & full. Head, neck & body below & inside of limbs & buttocks behind yellowish white [clear]? Hands dark & feet paler than body above. Skin jet black. Nude on face, ears and palms, partially so on limbs near body & generally traceable through the fur on whole lower surface. Ears hid, medial size somewhat pointed above the helix being reflected only in ascending & antea position. Callosities large but not raised. Buttocks thickly clad in curly fur, fore limbs to base only of proximal digit [hind]? to mid phalanx. Face longish & straight without depression at top of nose. Nares long ascending, canines large curved & [scarpit or scarfit]? Fingers nude in 2 last phalanges. Toes clad to nails. Nails of all fingers cylindric & produced of thumbs like human & truncate. Tail tapering, closely haired scarcely swollen by tuft at end wh. is pale. General structure robust & compact as much so as in Macacus. Head depressed with hair radiating from centre. Mouth largish, lips thin, chin large, orbits not salient cheeks fleshless. Gr. diam of coll. Longest finger is $2\frac{13}{16}$ D^o toe $2\frac{13}{16}$ Tongue with large soft blunt papilla. In hand annular rather exceeds big finger & the little one is much longer than index. In foot digits same size as in hand save thumbs wh. much larger than in hand. Its digits have same gradation as those of hands. No cheek pouches. 4 upper incisors ~~each separate~~ in close series but remote from canines. 4 lower in open series but c-----t with canines. Molars worn on crown. Last below without sign of 5th tubucle & indeed hardly of any. I suspect Nos.3 & 4 are separate series smaller with blunt canines. Semnopith? as Nos. 1 & 6(or it could be 5) Cereopith?)

Table of measurements

	No. 1 feem mature	No. 6 mas mature	No.8 mas mature	No.2 feem juv.	No. 3 feem	No.4 feem mature
Snout to root	2.3.0	2.1.0	2.4.0	1. 6 ½	1.10 ½	2.1.0
dorsal of tail						
Tail & Hair (3f)	2.10 ½	2 .6	3.0.0	2.4 ½	2. 6.0	
3. 1.0		+7	+3.1 ½	+2.6.0	+2.8.0	
+3. 2 ½						
Symp max. to jut	6 ⅓	- 6 -	4 10/16			
occip str.& leg curves	6 ¾	7 ½	-	6 ½	- 6 -	6 ½
Ear longit	1 5/8	2 1/16	-	1 11/16	1 7/8	
1 15/16						
Intire dimens.						

Ditto f.....e...	- 1 -	1 1/8	- - 1 - 1 -	1 1/4
from crown				
Elbow to top	1 1 0	1 1 5/8	- 11 3/4 1.0 3/4	1.1 1/4
long finger				
True Knee to ditto toe	1 3 0	1 4 0	- 1 2 0 1 3 0	1.3 1/2

PAGE 5A REVERSE TABLE CONTINUED

Intire hand along palm	- 6 -	- 6 -	- - 5 -	- 5 1/4	-6
-from posteaal jut to tip					
longest finger					
Jut oscalis to tip					
Longest toe	8 0 0	7 1/2	- - 6 3/4	7 3/8	- 8

RECHECK THIS TABLE

The general proportions & figure are similar to those of Bandur & hands & feet d° but thumbs rather less. Ears rather less & hid by bushy full spreading fur of cheeks & head. In the one as other the canines in old subjects very large, curved & grooved. In this profile almost straight. In Bandur concave by depressing at base of nose. ~~In both missing word angle much above but missing word~~ and crown of head depressed in this, a c-----t flat & broad. In Bandur more convex & rising higher. In this facial line almost vertical, chin & jaws only advancing, mouth large, lips thin, cheeks sunk fleshless. Orbits distinct but less salient than in Bandur. The colour is above a purplish deep slate in wh. the blue or brown hue of slate **missing word** prevails below with the whole head & neck & insides of limbs & buttocks being yellow [nearly]? hoary on front. Dark hue of upper surfaces where the colour is black brown but the rest of the extremities concolourous with body above. Face jet black, soles of feet purplish black, ears black collosities of both equal but Bandur has cheek pouches & this none? Tail dark as body above tip pale.

No.2 Tarai Jan^y 28

Paler than old & hands & feet above not darker than limbs. No cheek pouches whatever. Call distinct, buttocks hairy, canines not exceeding rest. Molars with 4 distinct conical points all alike! But anterior two on either side of each jaw have them blunter & reduced to flat tubucles.

No.3 Tarai Feb^y. 1st

Feem seems mature. Hands coned & no cheek pouch. call full, buttocks hairy, digits memb. as before. Ears quite hid, canines distinctly longer than rest but very modly (moderately) so. Molars much worn & nearly level on crowns. Last below has postially raised edge or 5 tubucles if you will.

No.4 Tarai March 1st

Feem mature? Purplish dusky or brown of an earthy tinge. Head & below with edge of buttocks yellow white, nearly nude on belly & insides of limbs where black skin in fully apparent as much so as on face & soles of feet. Canines worn to level of other teeth almost. Crowns of molars very flat the last below having the [pastcal]? cols raised into a sort of 5th tubucle. No more cheek pouch than in man.

PAGE 6

Illustration captioned **MACACUS SIKIMENSIS MIHI M.S.** unnamed in 2nd catal (catalogue)
Hab. Sikim

NOTE See skin in British Museum

PAGE 7

BATS

Completed illustrations showing bat facing to right wings fully outstretched.
Below this and to the right is a small illustration captioned Stomach

Text Below Main Illustration

PTEROPUS BADINS Mihi M.S. Nat. Size

Hab. Tarai of Sikim Nat. Size

Below this are pencilled notes 'copy original where'

And Pteropus pyrivorus Gray but not so. This is less and brighter colored(sic). These two notes are bracketed

PAGE 7 - REVERSE

Blank

PAGE 8

NOTE All from Valley of Nepal 4000

This page has completed colour illustrations and additional pencil drawings with a number of Sanscrit notes

FROM TOP OF PAGE

CENTRE

Colour illustration numbered(2)

Wings outstretched head turned to left

To the left of the above are two small pencil drawings of the head numbered (2)
but with no captions

lower down and to the left Colour illustration numbered (3)

Right wing outstretched, left folded, head turned to right

Captioned : V. Fuliginosa Mihi

Directly below the above also numbered (3) is a small pencil drawing of a head
Captioned : Scotophilus genus[Apud]? Horsf.

Below right Colour Illustration numbered(6)

Facing to front both wings outstretched

Captioned: Sub. Badins

Rhinol. Trochalotin? Mihi M.S.

Prosth. Memb. Sup. Transversa. hand pos. recto. hand sinn frontali. hand
mamm inguinal

Above (6) is a small pencil drawing showing head turned to right also numbered

(6)

NOTE : Home Nov. '41

This is positioned between the coloured illustration at the top centre of page and the following which is the largest colour illustration on the page

Largest colour illustration numbered (1)

PAGE 8 CONTINUED

Wings outstretched head turned to right tongue hanging out

Captioned : Pteropus Pyrivorus Mihi

Pencilled note below this Cynopterus Marginatus Gray

Passenger in Central Hills killed in Valley of Nepal August - September

Vespert Labiata Mihi

Noctulinia Lab. Gray

Pencilled note along edge of wing on r.h. side as facing

Arm $2 \frac{5}{8}$ forearm $3 \frac{3}{8}$ long digit 5.

Pencilled note next to left leg - tibia $1 \frac{1}{2}$ foot & nail $\frac{3}{4}$

Below and to the left of the largest colour illustration

Resting with wing folded and head facing to left numbered (5)

Captioned : July 14th Valley Nepal. Mature male of [4]?

Above and to the right of number 5 is a small pencil drawing with the same number.

Below and to the right of the largest colour illustration

Are three further studies of heads all numbered (4)

Captioned : Vespertillio Muricola Nob. M.S.

KEY at lower left hand side of page

1. Pteropus Pyrivorus, nat size Valley of Nepal rarely in Autumn
2. Rhinolophustragatus Mihi – Valley of Nepal 4000 ft permanently in outhouses
3. Scotophilus fuliai nons
4. Vesper Labiata ~~Muricola~~
5. Vesp. Labiata
6. Rhinol Sub. Badins

Underneath the key are some pencilled notes that are too faint to transcribe

PAGE 8 - REVERSE

Aug. 20 spec of (2) $4 \frac{1}{2}$ by $15 \frac{1}{2}$ head 1 inch tail $1 \frac{7}{8}$ teeth $\frac{1.1}{1.1} \frac{5.5}{5.5}$

Valley of Nepal 4500 ft

Up. incisors in skin only & obsolete lower, close. Canines large & sharp & curved grinders bristled with points reaching to the incisors. Up. inc. set only in cartilage of nose, tiny & flat crowned ~~low~~ separate low inc. pushed between canines set in **WORDS FADED** crown tridente---late **RED MARK ON PAPER** or trilobite, canines

short, curved much scarped within in contact with inc. and with[med]? up. cheek teeth 5. the 1st tiny & flat and pushed[pressed]? against canines (2) central largest equal, the post. one smaller. The ant. rather abnormal with but one large conical point, the rest many pointed and bristled. Skull with nasal portion wanting, that part being mere cartilage and the bone retiring into a deep arch from the inner & anterior edges of canines, forehead or face turned to the front flat above, longitudinal costa very large orbital arches wanting. Muzzle obtuse & broad lips

PAGE 8 REVERSE CONTINUED

full [simple]? nose with complicati double appendage. Ears lateral distinct rather less than head, broad at base acutely pointed and the speculum in front of them semicircular. The ears tremblingly sensitive & transversely striated. Tail considerable but decidedly shorter than body & head enveloped in inner b..... which angular and squared below. Wings ample, tongue smooth medial. The nasal apparatus is not fleshy & tumid but skinny & thin. It consists of a horseshoe plate of skin laid flat on the nose but a little sunk in the centre where there is a small precession either side of wh. lie the nostrils wh. are elongated, narrow and longitudinal. Above them and beyond the horseshoe is a small erect **BLOT** above it. The leaf or lance-head wh. also is erect & free. It is like a lance-head having two barbs on either side. On the other hand the nasal apparatus of R. Amiger mihi is fleshy & tumid. It has no distinct ~~horseshoe~~ lance-head nor any elongated elevated process. It is ample in size covering the whole face & most resembling a coat of arms. The nares situated as in the last are shorter & wider being **MISSING WORD** or oval in shape without the general outline of the nasal plate are three folds of thin skin placed on each lip & at the top of the apparatus, but included within it is a round tumid fleshy spot ~~wh~~ within wh. the skin is deeply reflected forming a little cavity on the forehead. But the continuity of the skin is not interrupted nor is there any apparent secretion. A small brush of hairs grows out of the bottom of the cavity & is apparent above the tumid skin of it. No. 2 wants this frontal cavity as well. As the plicated lip of armiger wh. latter species is also a third larger than no. 2

(2)Spec. of August 10 Valley fem. Junior? Snout to rump 3, expanse 15 1/2, Tail 1 1/2 Thumb free nailed 1st ph. joint rest 3. Another 2 valley mas. Intest 13 inches equal dia. St. a thin memb sac, liver 4 lobed, gall bladder ovate full of thin brown yellow liquid, lungs 2 lobed, tail 1/2 length of body. Envelop square with 2 cart[spars]? From tarsi. No pouch, Lips ample 3 folds of skin on either side the horseshoe plate.

(2)Mas. Junior October 10. Inside house. Pubic teats fore part of [helic] 2 longit stamina whence several transverse -ys answer to motion of ear. Antitragus large erect applicable to conch is as to close it. No tragus.

NOTE Most of the above is scored through with diagonal lines

July 2 $\frac{4}{6}$ $\frac{1.1}{1.1}$ $\frac{5.6}{.6.6}$ $\frac{6}{6}$ *The last fraction is crossed through followed by $\frac{2}{?}$*
then $\frac{5}{5}$

Incisors above in pairs laterally, below, close all round. Molars bristled with sharp points the 2 anterior simple tiny conical & in upper jaw close to canines. Tongue smooth more simple. For more particulars see the back of the rufous specimen dated July 25 wh is of the same sub genus with that. At least all the characters agree save the forms of the resp. skull this having the facial part [re-curved]? As it were pug-nosed & ascending suddenly to a very high forehead & encephalon. Both are versperilio. But cleaned skull shows only 5 molars above. 1st of wh.is tiny & pointed. One lobe. Molars have exactly the same character as in

PAGE 8 REVERSE CONTINUED

Rhinolphus. habits of both as to food same. The smallest bat has 6 molars above & probably the other two had but one of these petite dents may have fallen out.

NOTE Above smallest is written [Formosa]?

Table of measurements

	(2)	(1)	(5)	(2)	(3)
Snout					
To rump	0.2 ¾	Length(total) 0. 5 ½	0. 3 ¾	0. 4 ½	0. 3 ¼
	1. 3. 0	Breadth	1.10 ½	1. 3 0	0.9 1/10?
	1 oz.	Weight	4 oz.	1 oz.	1 oz.
	0.1 1/16	Head	0. 1 3/8	0. 0 7/8	0.1. 0
Ears from	0.0 15/16	Ears	0. 0 5/8	0. 0 5/8	0.1. 0
tragus					0.0 4 1/2
		Tail free	0 0 ½	0. 2. 0	0.1 ½

(3) Incisors 2 Canines 1.1 Molars 4.4 upper incisors cylindrical very small
 4 1.1 5.5
 flat crowned & level remote from canines & from each other not fixed in jaw but merely in flesh lower close pressed between canines, crowns flat & oblique tridenticated canines large incurved and scarified internally, molars pressed against canines furnished with several sharp procisors except the foremost pair below wh. are smaller with oblique flatted crowns all united. Nasal appendage complex double. Tongue smooth [not extensile]? Ears moderate as long as head, naked pointed, furnished with a valve attached to outer margin, placed on sides of head, separate. Tail ½ length of body. 5 joints enveloped in [interfem]? membrane which is intire & equal. Muzzle broadly rounded, bridge of nose depressed flat. Eyes very small. Thumb with 2 joints nail moderate. 1st finger **BLOT** joint no nail 2nd ditto 3rd ditto & 3 & 4 the same. Fur of an uniform earthy brown or dark mouse colour tinged with rust on lips, wings & ears dusky. Intestines 7 ¾ inc long uniform. Stomach ample[coats]? very thin & flaccid. Teats 2 ventral. Female & in womb a foetus just formed.(1)Head vulpine with a fine eye. Teeth 4 1.1 5
 4 1.1 6

Incisors all in the jaws upper close flat crowned, uniform cylindrical rather remote from canines. Lower close flat in contact with canines, equal canines moderate little curved or sharpened not scarified within very sensibly?, Molars with broad flat level crowns for the most part. The 3 backward pairs of the up and 4 pairs of

the low jaw quite flat & close. The 4th pair from behind in up & 5th in low jaw separate longer inclining to conic, foremost pair of up jaw very small conic same pair of lower jaw large & flat crowned. Both these pairs in contact with canines. Length of skull...**HERE THE WRITING IS VERY FAINT AND DIFFICULT TO MAKE OUT**.....breadth 7 1/2 in.

8

swell of the parietal portion full, showing an ample brain. [frontals]? flat nasals elongated straight, orbits large incomplete **missing word**.. of jaw straight **missing word**.of lower jaw on level with the junction of the crown of the teeth

PAGE 8 REVERSE CONTINUED

NOTE: THE LOWER PART OF THE MANUSCRIPT HAS SOME TEARS WHICH HAVE BEEN REPAIRED WITH WHITE TAPE THAT PARTIALLY OBSCURES SOME OF THE TEXT. THIS PAGE ALSO HAS A NUMBER OF BLOTS AND STAINS WHICH AFFECT THE TRANSCRIPTION

(5)July Valley of Nepal. Old male, head flat & broad [ears]? remote, low separate, head rounded, tragus & antitragus much d-----rounded former erect -----ing. Inner ear **missing word** produced to gape & folded in. Lips tumid, smooth nares lateral remote divided by broad groove. Incisors 2.2 allied to Barbastella Nostulai 6

NOTES AT RIGHT ANGLES TO MAIN TEXT
Top Left Hand Side

Table of measurements

	(2)	(3)	(2)	(2)	(2)
Total length	0.4 ³ / ₁₆	0.3.0	0.4 ¹ / ₄	0.4 ³ / ₈	0.3 ¹ / ₄
Expanse	1.3 ¹ / ₄	0.9 ¹ / ₂	1.3 ¹ / ₄	1.3 ³ / ₈	{ 1.1.0 { 0.0 ¹⁵ / ₁₆
Head	0.0	0.0 ⁵ / ₈	0.0 ¹ / ₁₆	0.0 ¹ / ₁₆	

NOTES AT LOWER R.H. SIDE OF MAIN TEXT

Another of (2) female 4 ⁵/₈ by 14 inches & 1 oz. July 22nd 1st[finger]? With 1 phalanx & no nail. 2, 3 & 4 with 2 ph. Each. Teeth 2/4 1.1 5
1.1 5

The first of up jaw very tiny & pushed out of line by canine. 2 up incisors separate tiny & [fix in gum] on 4 lower close tridentate feems large curved angular. Molar in union with canines & with oblique broad bristled crowns either foremost below with simply c-----Tail membrane rather more pointed at end of tail **blot** less squared on the whole **missing words** small [alsai anucli] s-enencular small. Plenty of fur of palest brown paler than male
July 23rd 2 more of (2) teeth as above. Molars 5 Tail long [invelope]?
5

not free lower incisors tridentate not bilobed. no warts on pubes. Yes warts discovered on close subsequent inspection **blot** very small

NOTES LOWER L.H. MARGIN

11TH Oct. Garden 1 spec of (1) largest sn. To rump 5 ½ Exp. 21 4 oz. all males uniform earthy brown, ears small, erect, simple. Nares lateral grooved above in front membrane near body furry. Intest. 3. 8. 0 no caeca. Liver 3 lobes & 1 lobule. Intes. thin. Last 3 inches wider. 1 caecum doubtful. Testes as big as tit's egg. Penis large and pendulous.

PAGE 9

Illustrations

INDIA HOUSE November 1852 No.3

COLOURED ILLUSTRATION

Bat with left wing outstretched and right wing folded in as facing

CAPTION

PTEROPUS LENCOCEPHALUS Mihi ½ size

Edwardsii Hab. The Tarai solely. Very rare in hills. Very common in plains or Tarai

Home Nov/41 with PRIVOROUS PTEROPUS LENCOCEPHALUS

N.B. This sheet has a number of notes in Sanscrit

PAGE 9 - REVERSE

Table of measurements

Tip snout to rump	0. 10. 0
Expanse of wings	3. 9. 0
Length of head	0. 3 ¹ / ₁₀
Greatest breadth of	0. 1 ³ / ₄
Wt.	1lb 5 oz

Jany. 31st Valley. Sleeping in tree a passenger never seen here before. Male

Teeth front $\frac{4}{4}$ Canines $\frac{1.1}{1.1}$ Molars $\frac{4.4}{6.6} = 32$

front above united & regularly formed.flat crown remote from canines below less regular & compressed between canines. Canines subequal conical grooved molars separated, low flat crowned.Two foremost of lower jaw very minute. Next pair elongated & pointed more or less as also the 1st pair of the up. Jaw between wh. The canines of that jaw a wide interval.

Thumbs free and hooked. 1st digit 3 phalanges & an obtuse nail. Hind limbs pentadactylous, fingers cleft & nails large & equal.

Head canine with broad convex forehead & small pointed narrow ears placed on sides of head.[mottled]? And transversely striated towards the base. Nares divided by deep vertical [foss]? Tongue moderately extensile, furnished with corneous papilla in centre.

No tail interfemoral mien[brave]! Small cleft nearly **BLot** angulated and furnished with cartilagueous radius at the posterior extremity of the soles or metatarsi. Neck shoulders & body below rufous yellow. Head redder with face dusky irides brown. Body above & arm chesnut(sic) Intestines 4.9.0 close to anus one capacious caecum 2nd long. Stomach membraneous empty. Gall bladder, spleen, kidney large Lungs 5 lobed, liver ditto
N.B. Sanscrit notes at the foot of this page

PAGE 10

INDIA HOUSE November 1852 No.4
 COLOURED ILLUSTRATION
 Bat with right wing outstretched. Numbered (1)V
 Caption RHINOLPHUS PERNIGER Mihi. Nepal Valley 4000
 Female Feb. 6th Nat. size. Forests.
 Prosthetic memb. Erecta lanceolata sinn frontali. Central region Forest of Hatiban In the Great Valley.
 Below this 2 pencil drawings of heads, one facing forwards the other in profile to left, and a small drawing of an anus . All three numbered (1)
 In a squared off section at the bottom right hand corner of the sheet a series of pencil drawings numbered (2)
 1 heads, 1 stomach, and 5 studies of jaws and teeth.
 Caption for this group is MEGADERMA SHISTACEA JUNOTAURIS Mihi M.S Sikim Tarai A.D. 1847.

NOTE There is also some faintly written information in both English and Sanscrit, this has not been transcribed.

There is some additional information to the left of the coloured illustration
 Half of bats taken out, the poor copies of my assistant artist being left July/65

N.B. Sanscrit notes

PAGE 10 - REVERSE

N.B. Sanscrit notes located between 1st & 2nd Columns below

Table of measurements

	(1)	(1)
Tip snout to vent	0 3 1/2	0 3 1/2
Thence to tip tail	0 2 1/8	0 2 1/8
Head to nape straight	0 1 5/6	0 1 3/4
Expanse	1 5 0	1 4 1/2
Ears from antial base	0 1 11/16	0 0 0
Ears from postal base or Cranium	0 1 6/16	0 0 0
Forearm	0 2 5/8	0 2 7/8

2nd longest finger	0 4 0	0 4 1/2
Leg	0 1 3/8	0 1 15/16
Foot from oscaris to end talons	0 0 13/16	0 0 0
Weight	1 3/4 oz.	

PAGE 10 REVERSE CONTINUED

Valley of Nepal. Forest of Hatiban. Female inguinal teats. Tongue smooth fleshy. Sub papillate backwards. Noseplate spready amply & passing laterally over edges of upper lip of its salient procepses the ~~mid~~ lower one is directed forwards like a knocker & the upper upwards & backwards parallel to the plate & is a graduated acute cone or spire. Ears very large much plus head with low remote bases, nearly nude ovoid with pointed sub inclined tips of a large rounded false ear which at base is antially attached to cheek & folds over the orifice of ear doubling on the base of the front part of helix but postially is not half so deeply cleft & cut out from the ear.

Tail 6 jointed shorter than the body & squared nearly between the tips of the spread radii or proper thumb free & hooked. 1st finger one jointed and no nail/. rest of fingers three jointed & simple. The fur is longish [lax]? & sub curly. brown black faintly touched or tipped silvery. The cutaneous portions of the animal or nude parts dusky black. Cup shaped sinus close behind the upper salient process of the nasal appendages Second at Darjiling March 1848 Intestines 9 1/2 inch equal all down [3/16] ? inch wide Killed in my house 75000 above sea. Nepal specimens at 4500 in woods round the valley. 2 inguinal teats in all.

PAGE 11

INDIA HOUSE 1852

No. 7

LARGE COLOURED ILLUSTRATION

Bat with outspread wings head turned to left

Caption in Pencil RHINOLOPHUS TRAGATUS Mihi

Repeated in Ink below with the word **COPY** in brackets.

Hab. Central Hills Region

Got at Darjiling 7000ft.

At lower R.H. Corner of page is a small study of a stomach

N.B. This page has some sanscrit notes

PAGE 11 - REVERSE

Table of measurements

Nose to vent	0 2 1/4	0 2 5/8	0 2 1/4
Head straight	0 0 7/8	0 0 7/8	

Nose to eye	0 0 ³ / ₈		
Eye to ear	0 0 ³ / ₁₆		
Ears from front	0 0 ³ / ₄		
Ears from back	0 0 ⁷ / ₁₆		
Expanse	1 0 ¹ / ₄	1 0 ³ / ₄	0 11 ⁷ / ₈
Tail	0 1 ¹ / ₈	0 1 ¹ / ₈	0 1 0
Weight	¹ / ₂ oz	¹ / ₂ oz	¹ / ₂ oz

PAGE 11 - REVERSE CONTINUED

Three specimens got at Darjiling 1856 -7. Intestines 6 ¹/₂ inch no caeca. Intestines thinning downwards ¹/₈ to ¹/₁₆ wide. Larger arch of stomach 1 ¹/₂ inch , lesser ⁷/₁₆

To the left of the table is one in Sanscrit. A further table appears at the lower L.H. corner of the page, below it are some *additional notes in Sanscrit*

PAGE 12

INDIA HOUSE 1852

No. 5

This page has 17 illustrations

LARGE COLOURED ILLUSTRATION

Bat with right wing outstretched the left slightly folded in

Below to Right

3 Heads:-

Largest numbered 1 - 2 Armiger

Next in size 3 - 4 Tragatus

Smallest 5 - 6 Muricola

Below to Left

Home Nov. '41

Heads 3 & 4 see No. 2 Rhin. of other sheet

Heads 5 & 6 - the Vespertilio drawn elsewhere as No.4

**BACK TO BACK WITH MAIN ILLUSTRATION FACING PAGE BINDING
RATHER THAN LEADING EDGE**

Six further drawings of heads the first scribbled through

From left to right

Tragatus (1)

Armiger (2)

Muricola(Unnumbered)

Rhin Tragatus Mihi(3 & 4)

Below the above are the following notes

(1) Prosthematics memb. super transversa, hand parietal sinn frontali

(1) Rhinolphus Armiger Mihi mature male nat size. 26th Sept. Valley of Nepal

- 1 & 2 Head of Armiger
- 3 & 4 Head of another species of Tragatus(No. 2 of large sheet)
- 5 & 6 Vespertilio Muricola (or 4 of large sheet)

OTHER NOTES BELOW MAIN ILLUSTRATION

(2) Prosthetic memb. sup erecta lanceolate. hand sinn frontali

Hab. Central region of hills. Got in Nepal

TO L.H. SIDE OF MAIN ILLUSTRATION

Group of pencil drawings showing jaws, a skull, teeth and stomach

PAGE 12 REVERSE

Note - Some of the text is written parallel with the leading edge of the page and some from top to bottom. An additional smaller format page has been overlaid **PARALLEL WITH EDGE**

1-6 Rhin. Tragatus male Sept. 26 Valley (of Nepal added in pencil)

Resembles the prior Rhinolphus No. 2 of other sheet save in nasal appendage wh. is wider squarer, more fleshy & complex & the procepses much less free on raised edges & intragal(TWO WORDS) opercule wh. is considerably less developed & is opposed to obsolete antigradus wh. others is not. Intestines 16 1/2 inches no caeca equal calibre. Stomach a thin uniform membraneous sack. This like all the other Rhinolphi of Nepal has molars 4.4 & not 20 as book says it had 4.4

warts on pubis, but very tiny & not traceable in lesser species. Nasal appendage large, square, complex, the procepses truncate & sinus at top & 3 extra folds of skin on each ~~cheek~~-n.b tip. I call it Armiger from resemblance of nasal apparatus & a coat of arms. Live in holes of rocks & come forth in small groups at twilight. Feed on insects. Uniform [medial]? brown membranes darker

(6) Sept. 26 Valley. Mas. Intest. 13 inches even. St. memb. sack. Liver 4 lobed. Gall bladder round, thin brown yellow fluid. Tail 1/2 length anim. 6 jointed envel. square when dilated sideways 2 [spars]? From tarsi.

ABOVE THIS TEXT AND ALSO PARALLEL WITH THE LEADING EDGE IS THE FOLLOWING

Table of measurements

	1	2	3	4	5	6
Snout to Rump	0. 4 1/4	0. 4 1/4	0. 4. 0	-	0. 4. 0	0. 4. 0
Expanse of Wings	1. 10. 0	1. 9 1/2	1.10.0	1. 9 1/2	1. 8.0	1. 9 1/2
Head	1 3/8	1 3/8	1 3/8	-	-	1 3/8
Ears	1 2/8	1 3/8	1 1/4	-	-	1 1/4
Forearm	3 1/2	3 5/8	3 3/8	-	-	-
Arm	1 15/16	2 1/8	1 5/8	-	-	-
Longest finger	4 1/2					

Leg	1 ½	1 5/8	1 5/8	-	-	-
Thigh	1 1/5	1 1/8	1 ½	-	-	-
Tail	2 1/8	2 1/8	2 ¼	-	-	2 1/8
Wt.	3 oz.	2 ½ oz.	3 oz	2 oz.	1 ½ oz.	3 oz..

REVERSE OF PAGE 12 READING FROM TOP DOWN

Incisors above bilobed, below trilobed. Tongue full subpapillous rounded below flat above extensile trivially only. Tail shorter than body nearly equal to. less entirely enveloped in an ample membrane stretched nearly evenly between[comeous]? Radii proceeding from the tarsi. 5 jointed. Wings ample, thumbs small free nailed. 1st finger with one & rest with 3 phalanges each. Ears nearly equal to head. Wide at base reclined & acute [acule]? at tips . helix anteriorly & tragus furred. Latter small & not forming even an embryo interior ear. Nares oval free. When the intire femoral membrane is stretched fully in a lateral direction it is nearly square below ordinarily, however the centre of the membrane & tip of tail project beyond the general line with an acute angle. The tarsal radii also form subangles. 2,3 & 4 procured together Oct. 1st 2 & 3 males 4 female. She is less considerably of a darker colour or sooty & has the nasal plate less developed especially on the upper part. Males are of a bright full brown. Intestines 15 ½ inches equable no caeca. stomach a thin smooth sack. insects only.

(5) female youngish? top of nose plate with its 3 round procepses the central hollow scarcely developed. Warts of pubis close to [symphysis]? clearly traceable. Intestines 12 inches, equable no caeca. Stomach pear shaped membraneous. Liver 4 lobes in procepses & gall bladder in midst like small berry. gall dark, spleen long tongue shaped, kidneys free layer Spec. of 1 less 4 in from snout to rump. 2 in wide feem. Novr 4 Valley. Skimming rice crops at eve. uniform dusky brown.

***EXTRA SHEET OF PAPER ATTACHED TO REVERSE OF PAGE 12**

Note. The upper part of this page consists of text. *The lower part at right angles to the text is written in Sanscrit and includes a table of measurements*

TEXT

Sept. 30 Val. Three spec. 2 mas. 1 feem. The larger male wh. seems mature has following dimensions

Snout to ~~rump~~ vent less 4 tail 2 ¼
 Head(straight measure) 1 3/8
 Exp of wings 21
 Ears from antial base 1 ¼
 Carpus 3 5/8
 Tarsus 1 5/8

Weight 2 ½ oz.

Colour uniform muddy brown. feem also appy. mature is less ¾ long by 20 wide & 2 ½ on **HERE SOME DETAILS ARE CROSSED THROUGH**

Third. Immature male like feem in colour or sooty brown. Upper portion of nasal plate (in the centre of the superior edge of which lies the puncture) very vaguely developed save in 1st spec. Pubic warts in all. Largest in feem. Something like gland at base. Exactly like pectoral teats & as large. Nares roundish, overt in centre of thin nude membs. Plate shaped like shield of coat of arms & margined

PAGE 12 REVERSE CONTINUED

laterally with 3 pleats or folds of skin occupying upper part of lips. above this the immediate nasal plate is transverse subtrilobate subfleshy low ridge & above it a freely [exserted][executed]? skinny process tripartite[ate]? truncate MISSING WORD to lance head of other species. Above it another simple plate square & applied to skull. This only comes with maturity. On centre of upper edge a puncture round & leading deep into skin has pencil of hairs and secretes liquid. Tail 5 jointed shorter than legs wholly enveloped in membrane. Hips to angle (sic.) 2 ¾ Tail 2 ¼ Post. nasal margin of ear dilated & bent in so as to form a sort of oreillon capable of closing and passage. anterior margin of ear covered with fur.

Oct 10 Valley Two males

Sn. to vent 4 thence to tip tail 2 ¼. Exp. 21 2 ¼ oz.

Head 1 ⁵/₁₆. Ears 1 ⁵/₁₆

June 16 Valley Mas. old 3 ¾ Tail 2 ⅛ Exp. 20. Sn. To occip. 1 ³/₈. snout to eye ⁹/₁₆ thence to lobe ⁹/₁₆ thence to tip 1 ³/₁₆

PAGE 13

2 Colour Illustrations numbered (1) and (2)

1 Pencil Illustration numbered (3)

Note Next to 3 See colored (sic) one on other sheet. Sooty Brown wings darker

This page also has some pencil studies of heads numbered (1)

Some unfinished studies of bodies and wing construction numbered (2)

At the foot of the page are Captions

(1) A line in *Sanscrit*

Below it:- 1857 Sept. 4 species of (1) sent home in spirits

1.2 Valley of Nepal 4000

3 Darjiling 7500

Below another line of *Sanscrit*

TRANSCRIBER'S NOTE *Darjeeling, Dorjeeling and Darjiling all appear in the Mss for that place name.*

Similarly various other words are misspelled or alternative spellings employed

i.e. Coloured and Colored

Entirely and Intirely

1.2 Nepal Cent. Reg.

- 1 Rhinolophus Macrotis Mihi M.S
 - 2 Vespertilio Pallidiventris Mihi M.S.
 - 3 Rhinolophus Fuliginosus Mihi M.S.
- Darjiling Oct. 1854 Male

PAGE 13 - REVERSE

Table of measurements

	(1)	(1)	(1)	(2)	(3)
Snout to Base Tail	0 1 $\frac{3}{4}$	1 $\frac{7}{8}$	1 $\frac{7}{8}$	0 1 $\frac{3}{4}$	0 1 $\frac{5}{8}$
Head to occiput straight	0 0 $\frac{3}{4}$	$\frac{13}{16}$	$\frac{3}{4}$	0 0 $\frac{5}{8}$	0 0 $\frac{11}{16}$
Ears from antear base	0 0 $\frac{15}{16}$	$\frac{15}{16}$	-	0 0 $\frac{1}{2}$	0 0 $\frac{9}{16}$
Interval of Ears nearest	0 0 $\frac{1}{4}$	$\frac{1}{4}$	-	0 0 $\frac{1}{2}$	0 0 $\frac{5}{8}$
Tail	$\frac{3}{4}$	$\frac{7}{8}$	$\frac{7}{8}$	0 1 $\frac{1}{2}$	
Arm	0 1 -	$\frac{15}{16}$		$\frac{7}{8}$	
Forearm	0 1 $\frac{1}{2}$	0 1 $\frac{5}{8}$		0 1 $\frac{3}{8}$	
Longest(2 nd) finger	0 2 $\frac{5}{16}$	0 2 $\frac{5}{16}$		0 2 0	
Femur	0 0 $\frac{11}{16}$	0 0 $\frac{11}{16}$		Caret?	
Tibia	0 0 $\frac{11}{16}$	0 0 $\frac{11}{16}$		$\frac{10}{16}$	
Expanse	0 9 $\frac{3}{4}$	0 9 $\frac{3}{4}$	9 $\frac{1}{8}$	0 9 0	0 8. 0
Weight	4 oz.	$\frac{1}{4}$ oz.	$\frac{1}{4}$ oz.	$\frac{1}{4}$ oz.	$\frac{1}{4}$ oz.

TEXT BELOW TABLE

June 30 Residency mansion Nepal. Comes into houses at night male mature. Ears plus head broad oval with pointed recurved summits & large rounded obtusely second ear. Tail less body & completely enveloped in square membrane. 1st digit with one and others with 3 joints. Incisors $\frac{2}{4}$ false above canines 1.1 sharp curved and scarped. 1.1

Molars acutely [spiculated]?

- (1) feem Residency July 11. no pubic teats

(2) July 5 Res^y House Mas. 1st finger one jointed 2nd - 4 , 3rd - 4th -3
That is counting not the joints themselves but the membra or spaces intervening as in our fingers where there are 2 of the former(omitting the knuckles) & 3 of the latter in each finger. This reckoning makes all our Vespertilio (save Formosus) & all our Rhinolphi alike quo ad hoc while the Pteropi differ having 3 joints to each of the four fingers as in human hand.

(3) Darjiling Oct. 1854 Male coloured entirely like (1) but the belly rather darker & the nose plate different. Male intestines 0.5 1/2 . stomach outer arch 1 1/2 inner 5/16

PAGE 14

Large study of a Bat part coloured, part(the head) in pencil

Note to right:- See other sheet uncoloured (3)

Directly below notes in Sanscrit

Male nat. size Darjiling(Copy. See uncoloured one) text in brackets written in pencil

CAPTION Rhinolphus Fuliginosis Mihi M.S.

Below this is written ' In colours and characteristics very like the larger or Tragatus

Further note to right 1857 followed by notes in Sanscrit

Below this 'Went in spirits to England 1857

PAGE 14 REVERSE

A drawing that is not recognisable as an animal

Note Sept. 27 1857 3 spec. sent home in spirits

PAGE 15

Coloured study with wings outstretched

Vespertilio Siligorensis Hodg. Nat. Size

Vesper. Hab. Tarai of Sikim(copy)

PAGE 16

Coloured study with wings outstretched

Vespertilio Siligorensis Hodg. Nat Size

Repeated in pencil underneath

PAGE 16 - REVERSE

Table in Sanscrit

Table of measurements

Snout to end Tail 0 2 7/8

Snout to Vent 0 1 3/4

Head straight 0 0 9/16

Ear from inner base	0 0 $\frac{5}{8}$
Tail	0 1 $\frac{1}{4}$
Spread of Wings	0 8 $\frac{3}{4}$
Weight	1/8 oz

PAGE 16 - REVERSE CONTINUED

Sept 4th 1849 Siligori, Sikim Tarai. Male, intestines 4 $\frac{1}{2}$ inch. No caecum. Stomach soft membrane. Full of flying small insects

PAGE 17

Study of small bat folded up on a branch. The bat only is coloured
To the right is a small pencil drawing captioned Stomach.
Pencilled notes below

Sikimensis [Catal]?

Vespertilio Darjilingensis Mihi. Nat. Size(Copy original where?) The question in the brackets is written in Pencil whereas the caption is written in Ink.

Also in Pencil is written

Vespertilio Darjilingensis Hodg. [An & Mag]? Nat. Hist. Augst. 55

PAGE 18

Home Nov '41

Main illust. Ginger coloured bat in flight

Caption Vespertilio Formosa Mihi [Kerivoula]? Formosa grey Nat. Size Valley of Nepal 4500.

2 illustrations of heads with tongues extended – **NO CAPTIONS**

3 unfinished illustrations of heads - **NO CAPTIONS**

1 showing a stomach *Caption in Sanscrit*

1 illustration captioned ' **TAIL SPREAD LATERALLY AS FAR AS POSSIBLE**

PAGE 18 REVERSE

Face convex inclined nose & lips simple. Nares lateral simple on a small naked muzzle. Ears rather shorter than head lateral distinct narrowish & pointed as well as the speculum in front of them. Skull void of christae Tail nearly equal to body & head. Enveloped in thin membrane wh. is of an angular cruciform shape. No cheek pouches, no long groove down nose. Tongue smooth medial. Wings ample.

Table of measurements

Brachium or arm 0 1 $\frac{1}{8}$

Cubitus or forearm 0 1 $\frac{5}{8}$

Longest finger 0 3 ¾

Femur or leg Caret

Tibia or Foreleg

Or shank Caret

Tip of snout to ditto tail 0 4 ½

PAGE 18 – REVERSE TABLE CONTINUED

Head $\frac{6.5}{8}$

Wing to Wing 1 0 ½

Ears 0 0 $\frac{5.5}{8}$

Tail 0 2 0

Incisors $\frac{2.2}{\frac{4}{6}}$ Canines $\frac{1.1}{1.1}$ Cheek Teeth $\frac{6.6}{6.6}$

~~Bristled with points~~ Up. Inc in pairs laterally, close to canines, fixed in the bone. Inclined towards each others points, unequal, the incisor large & lobated. Canines mod. Internally scarped. Lower inc. 6 pressed between canines -----in ½ circle. Crowns trilobite cheek teeth close occupying whole jaw. Pressed against canines. 2 ant. in both jaws aberrant simple unequal, the 2nd of them being very minute & placed interiorly to the rest in the up. Jaw. Rest in lower. Rest of molars bristled with many points save the anterior most of them which has little more than 1 conspicuous apex. Skull has the facial part convex simple gradually descending from cerebral part.

PAGE 19

Coloured illustration

Written below in **PENCIL**

Copy original where?

Plecotus Darjilingensis below is Gray's writing

Is this my Pl. Homo Chroas

It seems compound of Muricola & Labiata

Written in INK

Plecotus Darjilingensis Mihi

Hab. Darjiling

Plecotus? Dorgilengensis Mihi The Vaskan

Further **PENCIL** note

Plecotus Homo chroas H. Where?

On this page are 2 additional drawings of a head and stomach

PAGE 20

Main Illustration in Colour – rear view

Further pencil studies of heads and teeth

PENCILLED note – Copy, original where?

Megaderma? Megalotis Mihi M.S.

Hab Sikim

PAGE 20 CONTINUED

Caption in INK

Megaderma megalotis Mihi

Hab. Sikim

Nat. Size

PAGE 21

Two Coloured illustrations showing front and rear views of a bat hanging from a branch

CAPTION Megaderma Schistacea Nob. (Copy)

Hab. Tarai of Sikim

See Teeth, Skull, Stomach etc in other sheet with Rhinol. Perninger

Nat. Size

Pencil drawing of stomach

Additional notes in pencil

This is a copy original where?

Lasiurus formosus where? Nivicolus where?

Formosus with wings like Vesp. Formosa

PAGE 22

Two large illustrations of bats

One with outstretched wings – rear view

the other wings folded head to left. plus additional drawings of stomach and teeth

CAPTION Lasiurus Pearsonii

Nat size Horsf.

Noctulinia Lasiurus Mihi

Pencilled Note

Copy, original where?

Further notes

Lasiurus Formosus where, Nivicolus where?

Formosus with wings like Vesp. Formosa

To the right of the main illustrations are 2 small drawings

Showing a stomach and some teeth

PAGE 23

Coloured illustration of a Mole

Pencilled note above

Talpa Micrura where?

CAPTION Talpa Macrura Nob. M.S.

Dorjiling

Size of life

N.B. Note different spellings Micrura and Macrura

This page is signed Raj [lei]?

PAGE 23 - REVERSE

Table of measurements

Tip snout to base tail	0 4 0
Head	0 1 ¹ / ₈
Tail and Hair	0 1 ¹ / ₄
Tail only	0 1 ¹ / ₁₆
Palma & Nails	0 0 ³ / ₄
Planta & Nails	0 0 ³ / ₄

Dorjiling. Colour slaty black with canescent gloss much smaller than Micrura & distinguished from it by length of tail. The tail is about an inch long cylindric & covered well with soft hair that extends a little beyond its tip.

PAGE 24

India House Nov 52

No. 79

Two coloured illustrations of Moles one above the other

The upper mole which faces to right is a light taupe colour

The lower mole which faces to left appears to be black

CAPTION

Talpa Micrura Nob. Nat. Size

Dorjiling March

Hab. Central & Upper Regions of Himalaya

There is a pencilled note halfway down the page to the right of the main illustration India House June 48 No. 6

More Illustrations

To the left of the two moles are some smaller studies of

A stomach

A head - profile to left

2 footpads

There is a pencilled note next to them Home Nov. 41

At the foot of this page are a number of notes in Sanscrit

PAGE 24 – REVERSE

Table of measurements

		feem	mas	mas
Tip snout to root tail	0 5 ¹ / ₈	0 5 ³ / ₈	0 5 ¹ / ₂	0 6 0
Head length to nape str.	1 ³ / ₈			
Ditto – width – calist.	¹³ / ₁₆			
Girth behind shoulder	4 ³ / ₈			
Forefoot along sole with nail	⁷ / ₈			
Hind foot along sole with nail	¹³ / ₁₆			
Width of former	³ / ₄			
Width of latter	¹ / ₄			
Weight	2 ³ / ₄ OZ.	2 ¹ / ₄ OZ	2 ¹ / ₄ OZ	2 ³ / ₄ OZ
Tail	³ / ₁₆			⁵ / ₁₆

N.B. To the right of this table are further columns of figures with Sanscrit headings and categories

Dorjiling March female 8 teats Structure typical save that the tail is tiny & nude. Is velvety black with a silvery gloss when it is wet. Naked snout hands & feet & tail fleshy white. Eyes seem hardly traceable, muzzle acute and conic ⁵/₁₆ inch plus teeth. No neck, nor legs both being enveloped in body. Forehands very stout directed obliquely outwards covered with nude leathery skin wh. envelopes MISSING WORD bases of nails & blends digits into a palm. Nails 5 of subeq. size depressed rounded above flat below, hind foot like a plantigradus feeble 5 toed

directed obliquely out. Tail rudimentary. Intestines $3\frac{1}{2}$ feet. No caecum or inequality. [St.]? membranes like segments of a circle with terminal orifices or bow shaped.

N.B. Here a banana shaped illustration is inserted

Snout size $\frac{11}{16}$ thence to ear $\frac{9}{16}$

PAGE 25

A single illustration of a dark coloured shrew facing to left

CAPTION

Size of nature Darjiling 1855

Sorex Tenuicauda Nob.

Hab. Central region of mountains of Himalaya

Small illustration of stomach with two areas labelled lower and upper

Sanskrit notes at bottom of page

Additional note Home in Spirits 27 Sept. 1857

PAGE 25 – REVERSE

Table of measurements

Snout to rump	0 3 0
Tail	0 2 $\frac{1}{2}$
Head straight	0 1 $\frac{1}{16}$
Ears from inner base	$\frac{5}{16}$
-ditto- outer base	$\frac{3}{16}$
Snout to eye	$\frac{9}{16}$
Eye to ear	$\frac{5}{16}$
Fore leg	$\frac{7}{16}$
Fore foot	$\frac{6}{16}$

Hind leg	$\frac{5}{8}$
Hind foot	$\frac{5}{8}$
Girth of chest	$\frac{3}{4}$
Weight	$\frac{1}{2}$ oz.

N.B. Another table written in Sanscrit is positioned to the left of the one above

Page 25 - REVERSE CONTINUED

Further notes

1855 October 20 Darjiling. Female. teats not found. Intestines 1.0.0 *Binding tape slightly obscures this figure*

Home in spirits. Sept. 1857

PAGE 26

Colour illustration of Shrew facing to left

CAPTION

Dorjiling Sept. 22 female procured close to the house

Sorex Macrourus Caudatior new Mihi

Home in spirits Sept. 27 1857

Hab. Central region of Himalaya got at 7500 feet

Additional illustrations numbered 1 – 3

KEY

1. Ear

2. Feet

3. Stomach both sides

Sept 27 1857 sent 5 home in spirits.

PAGE 26 – REVERSE

Upper part of page Table with Sanscrit categories

Lower part of page Sanscrit notes

Centre of page

Table of measurements

	Inches				
	<u>feem</u>	<u>feem</u>	<u>feem</u>	<u>mas.</u>	<u>doubtful</u>
Length from snout to rump	$2 \frac{3}{4}$	$2 \frac{1}{2}$	$2 \frac{3}{8}$	$2 \frac{3}{8}$	$2 \frac{1}{2}$
Head straight	$\frac{15}{16}$	$\frac{15}{16}$	$\frac{15}{16}$	$\frac{15}{16}$	

-ditto-by curve	1.0				
Tail	3 $\frac{3}{4}$	3 $\frac{3}{4}$	3 $\frac{1}{2}$	3 $\frac{1}{2}$	3 $\frac{1}{2}$
Snout to eye	0 $\frac{7}{16}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{7}{16}$	
Eye to ear hole	0 $\frac{7}{16}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{5}{16}$	
Length of ear top to bottom	0 $\frac{5}{16}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{5}{16}$	
Length of the free flap	Illeg.	$\frac{3}{16}$	$\frac{5}{16}$		
Palm to end nails	0 $\frac{7}{16}$	$\frac{6}{16}$	$\frac{7}{16}$		
Weight	$\frac{1}{2}$ OZ.	$\frac{3}{8}$ OZ.	$\frac{3}{8}$ OZ.	$\frac{1}{4}$ OZ.	$\frac{1}{4}$ OZ.
Girth of chest	1 $\frac{5}{8}$	1 $\frac{5}{8}$	1 $\frac{5}{8}$		

Dorjiling September. House Female. Intestines 6 $\frac{5}{8}$ inches, no caecum. Stomach 1 $\frac{3}{4}$ by $\frac{5}{16}$ along outer and inner arches. Black with more or less of hoary glisten. Tail vastly longer than body. Tetragonal nude. Body full. Nose sharply elongated with simple lips

1856 May 23rd Darjiling. Teats not found. Tail quadrangular. Intestines 10 inches. No caeca. St. membranes 1 $\frac{3}{4}$ by $\frac{1}{4}$ inch along arches

1856 June 22nd Darjiling female

Sept 22 Darjiling. In the house

Oct 21 [Jalapahar]? upper part of Darjiling 7400 ft. Intestines 7 inches. No caeca. Stomach 1 $\frac{3}{4}$ by $\frac{5}{16}$ on greater and lesser arch.

PAGE 27

Colour illustration of 2 Shrews facing each other

CAPTION

Sikim – snowy region of

Sorex Leucops Mihi

White Lipt(sic) Shrew. Nat. size

No. 84 India House Nov. 52

Hab. Central & Northern regions of Himalaya 4 to 16,000 ft.

Spec. got at Kedum & at Dorjiling

Sanscrit notes signed Raj Ban Sing

PAGE 27 – REVERSE

Note – This page has many Sanscrit notes and a number of tables with sanscrit categories

Table of measurements

Snout to vent	0. 2 ³ / ₈
Tail	0. 2 ³ / ₈
Head –straight	⁷ / ₈
Snout to eye	³ / ₈
Eye to ear	³ / ₈
Ear from front base	³ / ₈
Ear from outer base	³ / ₁₆
Fore leg	³ / ₁₆
Fore foot	⁵ / ₁₆
Hind leg	¹⁰ / ₁₆
Hind foot	⁹ / ₁₆
Girth of chest	0. 1 ¹ / ₂
Weight	1/4 OZ.

Sex doubtful - young

Additional Table	Inches
Snout to vent	3. 00
Tail	3. 00
Head	1. 00
Palm & Nails	0. ⁷ / ₁₆
Plant & Nails	0. ¹¹ / ₁₆

PAGE 27 - REVERSE CONTINUED

Female got near snows ~~Oct.~~ Aug/50 at Kedum in Sikim. Female another Darjiling Sept. 26 1855 youngish 2 3/4 inch without tail.

Below this table are 2 further tables written in *Sanscrit* one has the number 6 above it & the other a faint cross. The longer second table is crossed through. Two lines of notes below refer to the tables one is preceded by the number 6 and the other by a cross.

PAGE 28

India House 1852 No. 81

Colour illustration of shrew facing to left

Measurement along his back 4 5/8

Measurement along his tail 2 7/8

Smaller pencil drawing of head to the left of the above illustration

Additional pencil drawings of soles of feet, stomach and skull

CAPTION BELOW MAIN ILLUSTRATION

Darjiling June 1852

Sorex [Saturator]? Mihi

Male killed in Fowl House

Size of nature

Hab. Central region of Himalaya

Pencilled note below

81 India House

No. 52

& another in spirits Sept. 1857 sent home

Sanscrit notes next to this also show the year 1857

PAGE 28 - REVERSE

Table of measurements

	(1)	(2)
Snout to rump	0. 4 5/8	0. 4. 0
Head – straight	0. 1 7/8	0. 1 7/16
Tail	0. 2 7/8	0. 2 1/2
Ears from inside	0. 0 1/2	7/16
Ears from outside	0. 0 1/4	3/16
Snout to eye	13/16	7/16
Eye to ear	1/2	----

Fore leg	$\frac{3}{4}$	$\frac{11}{16}$
Fore foot	$\frac{5}{8}$	$\frac{9}{16}$
Hind leg	$\frac{7}{8}$	13/16
Hind foot	$\frac{7}{8}$	13/16
Girth of chest	0. 3. 0	2 1/2
Weight	1 1/4 oz	1 oz.

To the left of this table is one in Sanscrit. Below are three lines of *Sanscrit notes*.

- (1)1852 June11 Darjiling. In fowl house. Intestines 1. 5. 0 . No caecum.
Intestines thicker above thinner below circuit of stomach 0. 2 1/2 on greater and
3/4 inch on lesser arch.
(2)1856 May 4 Darjiling Female. Intestines 1. 3. 0 No caecum. Stomach 2 1/8
On greater 3/8 on lesser arch.

PAGE 29

India House Nov^r 1852
In Spirit

Written below in pencil

Sept. 1857 in spirits – 2
Small coloured illustration

CAPTION in *Sanscrit*

Below is written
Sorex Pygmaus

MAIN CAPTION

Sorex Pygmaus nat. size copy **MISSING WORD** original
Hab. Central region of Mts.
Got in Valley of Nepal 4000
and at Darjiling 7500
Chhupichi of Tibetans
Chhichunder of Indians
Sent home in spirits 1857

LOWER RIGHT HAND SIDE OF PAGE

Three further illustrations

1. Head enlarged

2. Feet

3. Stomach

Size of nature

Some sanscrit notes

PAGE 29 – REVERSE

Table of measurements

Tip snout to base tail	0. 1	3/4
Head	0. 0	11/16
Tail	0. 1	5/16
Ears from crown	0. 0	5/16
Ears from forebase	0. 0	1/8
Palma		
Planta		
Radius		1/4
Palma		3/16
Tibia		3/8
Planta		5/16
Girth Chest	0. 1.	3/16

House Dorjiling, female 6 teats

Below in Sanscrit a more detailed multi columned table

PAGE 30

No. 80 Nov^r 52 India House

This page has numerous illustrations in both colour and pencil.
They face either to the top, lower edge or bound edge of the page.

There are 6 in colour and 2 in pencil

ILLUSTRATIONS PARALLEL WITH BOUND EDGE

Mouse with forepaws resting on a block

CAPTION

House and garden Mus. Dubius (4) nob.

Below

Mouse on all fours

CAPTION

Field Mouse of Nepal(2)

To the left of this

Study of the mouse's head in pencil(2)

CAPTION

Valley field mouse May 31 Male

Mus. Cercicolor.miki

ILLUSTRATION PARALLEL WITH LOWER EDGE OF PAGE

Main illustration in colour with a blot on one of the hind feet.

An additional study of the head is shown above

(1) LXXVI

Sorex [Myosurus]? Or Murinus

Nepal [var] of ? Hab Central Region of Mts. Got in Valley of Nepal

Above & to the right of this illustration is once captioned

(6) Sorex Pygmaeus nob. Above this are two small sketches numbered

(1)Forefoot from above & side view of teeth

ILLUSTRATIONS PARALLEL & REVERSED TO UPPER EDGE OF PAGE

Large colour illustration(3) Mus Rattoides Valley of Nepal

Note under the above (3) see other sheet .common- valley. Male July 1

(3) Black Rat Rattoides Hab. Valley of Nepal

Illustration below

(5) Mus Nepalensis

BOTTOM RIGHT HAND SIDE OF PAGE FACING BOUND EDGE

KEY

2. Mus Cervicolor Nob.
 - (2) Mus. Dubius Nob.
 - (3) Mus. Nepalensis Nob.
- 3 Mus Rattoides Nob.
4. Sorex Myosurus Nob.
5. Pygmaeus Nob.

Transcribers Notes

This page as well as the multi directional illustrations has many randomly placed notes. Next to the above key is a pencilled reminder'to be sent yet Jany [37]?

PAGE 30 – REVERSE

N.B. Old Memo . species wrongly applied to the drawings (3) Rattus
Spec. Aug. Male – snout to tail 7 in. Tail 8 in mature has scarcely any [ruddy] tinge above being of a very dark colour below & bluish hoary tinted rusty. This is M. Rattus, the 2 following M Deumanus

(3)Spec. of Nov^r 30 male old total length 17 ½ in. of head 2 ⅛ of tail 8 ¾ - 9. nape – anus 6 ½ above rusty & black end of hair black below pale rufous. a horse shoe of white on chest thighs inside Do. feet pale wt. 14 oz.fat

(3)Spec. of June 12 male young? snout to rump 5 ¼ rump to tip tail 6 very dark black varied with sub rufous gray. Beneath wholly white from snout to tail & pure Tail longer than body & head. See large sheet June 12 2 ¼ oz – feet & ears fleshy white. This is young of black rat? No Niviventer (3) Same day mature male snout to rump 7 ¾ rump to end tail 8 ¼ dark rufous gray below dull rufous yellow or dirty pale orange Wt. 7 oz young have no ruddy tint above or below

(1) Spec. of Ap 10 valley male. snout to rump less 6 inches & tail 3 ⅛ grey slaty with the lips, feet & tail fleshy white. Tail round thick tapered & covered with short applied & with long divergent hairs both sorts soft. Penis long retracted in sheath no part bony. Testes internal. Intestines 28 inches. No caeca St. of mere membrane hardly distinguishable from gut. 2 orifices proximated. Illustration of gut numbered 1, 2 & 3 to left of description. 1 upper, 2 lower orifice 3 stomach flattened out. Lungs with 2 large and 5 smaller lobes. Gall bladder hangs free atween the latter, is aqueous & brown yellow. [optica] BLOT tongue shaped large. Glands anal wholly internal close to testes of thin size & form

(2) Spec. of 2 fields and valley. Feem snout to rump 3 ⅜. tail 2 ⅜. Teats 6 pectoral & 4 inguinal. Ruddy brown above whitish below & limbs & ears

(1)April valley feem snout to base of tail 5 ½ tail 3 rounded tapered and covered with long soft divergent hairs. 5 perfect digits fore & aft 2 metacarp & metatars balls & 4 termini digital toes cleft wholly plantigrade & limbs nude ¼ inch above wrists & ankles(sic) ears short round nude helix towards postial attached inflected & furnished with 2 very prominent transverse memb.

[procepses]the lower of wh can be applied to the auditory passage so as to wholly close it.

(6) Valley Feb^y 1st a tiny musk shrew mas evidently mature no musky smell form typical not size of young of common sh. when born this very active & 1^{3/16} Head str. 11/16 snout to eye 5/16 thence to ear less 3/16 sooty brown pale below & limbs & tail dusky flesh hue. Length ear(vertical) less ¼ depth free of scull(sic) 1/8 oscalcis to long toe 3/8. wrist to long finger ¼

(2)Total length 6 in. of head 1 in. of tail 2 ½ forefeet caught with trouble. Snout to root tail 2 inch Tal

4 toed, hind 5 toed tail nearly nude finely [accumulated]? Pale rufo –fuscous ^{fulvous}
ABOVE THE LAST WORD IS WRITTEN fulvous? gray above white below &
on the cheeks confluent. Fields of the valley.

(3) snout to rump 0.6 ½ rump to tip 0.6 ½ junior thumbs of fore feet obsolete. 4
afore 5 behind cleft naked in hind feet whole tarsal joint naked. Whiskers large
divergent tail naked. Scaly rings dark above pale below colours black (tips) red
above no black below. A female of (3) July 1 Wt. 8 ½ oz snout to rump 8 in
. Rump to end of tail 9 ¾ in. Fawn coloured or rusty obscured by tint of dusky fur
within. Pale below above with long dark hair, limbs & lips so far as naked fleshy
white. Ears duller fleshy. iris deep brown pupils black eyes very prominent
largeish. Ears fan shaped naked high up erect simple. Tail longer than whole body
& head [annululy] scaled & clad scantily with short closely applied hair. Is larger &
redder & less dark than drawing former ~~probably!~~ in fact is M. Decumanus. Other
drawing M. Rattus Another ~~Ditto-Ditto-Ditto~~

(1) snout to vent 6 inches. Head by the **MISSING WORD** 1 7/8 Tail 3 Palma 11/16
planta 15/16 July 19 Valley sexes alike mas.

*Note. A small piece of paper with Sanscrit writing has been inserted between
pages 30 & 31*

PAGE 31

INDIA HOUSE 1852 in spirit

ILLUSTRATIONS

One facing to left another forwards

Of unfinished appearance

CAPTION

SOREX SOCCATUS MIHI

Habitat Central region of Mts.

Nat size

Below this two lines of sanscrit

& a note - copy incomplete see original on the other sheet

- (1) Valley April 28 female mature 6 teats disposed in regular series from the
groin backwards & approximating as they near the tail, the 2 postea being in
the line of the centre of the vulva. Snout to rump 5 1/3 tail 3 1/8 Wholly of a
dull slaty blue. feet paler & **MISSING WORD** gray(sic) 1/2 the tibia nude. tail
covered with fine short adpressed hair & scattered soft divergent longer hairs.
Mustache (sic) full divergent & soft. Ears rounded nude wider than high. The
helix towards its postea attachment folded inwards & furnished with two
large transverse processes, the lower of wh. represents the anti tragus &
~~answers to~~ closes out another smaller vertical process representing the tragus
opening of auditory passage defined by a clear transverse process lying very
low. Feet pentadactylous & cleft. Weight 1 ¾ oz Intestines 2.4 larger above
gradually diminishing very thin coated capaceous 3/8 wide in upper part 1/4
- (2) in lower. St. pure transparent. mien brave. equally wide at either end & the
oesoph. entering at the edge with **MISSING WORD** 3 inches along gr. Arch ¾
- (3) inch along lesser. Liver 5 lobed the gall bladder half imbedded (sic) in central
lobe the kidneys simple the bile colourless.

May 1 House. Snout to rump less 3 inch, tail $3\frac{1}{2}$ annulated & covered with small soft adpressed hairs. Ears nude & ovoid 4 cleft digits & a wart before. 5 behind cleft. Above rufous brown. dull & dusky. below rufous but dull & dusky. Lips & feet dusky toes white, a male & mature whiskers soft divergent ample & dusky colored(sic) Has the colour of Decamanus(5) Another feem mature House May 4th $3\frac{1}{2}$ and tail 3 has proportions of 2 but color of 4 rufous brown above, rufous below, limbs & lips dusky toes white, teats 10. 4 inguinal & 6 pectoral before 4 [toes]? & wart behind 5 all cleft. Intest. $17\frac{1}{2}$ inch caecum $\frac{3}{4}$ simple not wider than large gut near it.

(5) July 24 House. mas. mature root tail 3 inches thence to tip tail[5]?

NOTE: This page has a small piece torn out here.

Wt $\frac{1}{2}$ oz ruddy brown dusky above[rufous]? **MISSING PIECE**

below hands & feet & inside ears nude & **MISSING PIECE**

[feet]? white toes cleft 5 behind, 4 & a wart before.

July 28 Valley mas. mature, snout to rump 6 inches, tail $3\frac{1}{4}$ pentidact toes cleft lateral toes subeq. spec. in hind feet, tail short round tapered from thick base [annuli vague]? hairs soft & divergent whiskers ditto ears short round nude with huge anti tragus free and applicable to conch & a transverse proceps. above it. 2 oz. Intes. 1.9 no Caeca st. memb.

(5) Oct. 30 House Snout to root tail 3, tail $2\frac{7}{8}$ Ears equal head. Feem above tawn[y]? brown below fawn or rufous yellow pale, feet grey

(2) Novr. 15 Valley fields. mas. sn to rump 3, tail $2\frac{1}{4}$ weight $\frac{1}{2}$ oz.

Head $\frac{15}{16}$ (str.) ear $\frac{9}{16}$ fawn brown above whitish below

16

(4) Ap. 1st fields near house mas. jun.? $2\frac{1}{2}$ & tail $3\frac{1}{8}$ $\frac{1}{4}$ oz Head $\frac{7}{8}$ Ear from lobe to tip plus $\frac{1}{2}$. Color of Decum. toes cleft blunt tupercule for thumb.

(4) Ap. 16 Valley fields mas. mat. Snout to dorsal base of tail $3\frac{1}{8}$ tail $2\frac{7}{16}$ fawn above white below, a cross on neck & chest the transverse arms of wh. spread over insides of arms. Another May 4 Valley fields feem.mature [bright]? fawn above, white below. Pectoral mark very vague. Teats 10, 6 afore from armpit to pit stomach. 4 ahind inguinal. Snout to base tail $3\frac{1}{8}$. Thence to tip tail $2\frac{6}{16}$ Head $\frac{15}{16}$ Ears $\frac{9}{16}$ Eye midway from snout to lobe of ear. Has all character of nemorivagus but eye backwarder & ear larger. Small gut $2\frac{1}{2}$ inch great $4\frac{1}{2}$ Caecum $1\frac{3}{8}$ Simple treble drain of small & double that of large gut. St. pure membrane (2) three together two mas. $3\frac{1}{2}$ & tail $2\frac{7}{8}$ Ditto none have a **MISSING WORD** cross. Head 1 snout to eye $\frac{7}{16}$ thence to lobe.ear ditto. thence to tip ear $\frac{9}{16}$ feem with 10 teats. Ratters has 12.

(4) House June 28 mas. sn. to rump $2\frac{1}{4}$. Tail $2\frac{3}{4}$ Sn. to occip. $\frac{13}{16}$ to eye $\frac{6}{16}$ to lobe $\frac{5}{16}$ to tip ear $\frac{8}{16}$. Ducky brown touched with fawn above. Sordid fawn below

(4)[feem]?spec. House July 5. coloured like last noted $2\frac{1}{4}$ to $2\frac{3}{8}$. Tail $2\frac{3}{4}$ Head $\frac{9}{8}$ Sn. to eye $\frac{6}{16}$ thence to lobe of ear. Ditto thence to tip of ear $\frac{1}{2}$

(5) July 14 House feem junior $7\frac{1}{2}$ and tail $7\frac{3}{4}$

(5) Aug 18 five old feem 4 young in belly 5 teats. 4 ing. 2 opp pit of st. 12 under armpits $3\frac{1}{2}$ inches long & tail nearly ditto. Sn. to occip $1\frac{1}{16}$ sn. to eye $\frac{1}{2}$ thence

to lobe $\frac{1}{2}$ thence to tip ear $\frac{9}{16}$ fawn brown above, fawn white below. hands & feet white fleshy caught in house(5)

PAGE 32

This page has a series of illustrations of animals and parts of animals

Top of Page

Two completed studies numbered (2)

CAPTION [Jhiba]? of Bhoti is chhichnunder of Hindus.

Above this caption is another in *Sanscrit*

Below and to the left is a squared off section(2) containing 4 small studies of A stomach, an ear and two of feet.

CAPTION From a Darjiling spec. got Dec. 1848

CROSSED OUT BELOW ‘ but the spec. is S. Arboris’

Below (2) two studies of ears – one open the other shut

CAPTION Ear magnified

Numbered(1) next completed studies one in colour, another in outline

CAPTION First SOREX NEMORIVAGUS Mihi. M.S.

Second SOREX SOCCATUS Mihi M.S.

Both natural size. Hab. Central region of Himalayas. Next to this is written Habitat central region in woods.

There are above the last studies two of stomachs which are numbered(1)

Bottom L.H. Side of page

Two more small studies of ears one marked shut, the other open

ADDITIONAL NOTES

(1.2) Hab. Central Region of mts. Many got of both in woods & valley of Nepal 4500. Some of (2) in woods of Darjiling 7500, if our S. Arboris be not distinct. Part of the lower edge of this page is missing so a reference to – Pygmaeus is incomplete.

PAGE 32 REVERSE

Table of measurements

	(1)	(2)	(1)	(1)	(2)	(1)	
Snout to vent	0.3 $\frac{5}{8}$	0.3 $\frac{1}{2}$	0.3 $\frac{1}{2}$	0.3 $\frac{1}{2}$	0.3 $\frac{5}{6}$	0.3 $\frac{1}{4}$	
Head straight	0.1 $\frac{1}{4}$	0.1 $\frac{7}{8}$ *	0.1 $\frac{1}{4}$	0.1 $\frac{1}{8}$	0.1 $\frac{1}{4}$	0.1 $\frac{1}{16}$	* recheck
Tail to vent	0.2.0	0.2 $\frac{1}{8}$	0.1 $\frac{7}{8}$	0.1 $\frac{5}{8}$	0.2.0	0.1 $\frac{1}{2}$	
Ears	$\frac{5}{8}$	$\frac{6}{16}$	X	X	X	X	
Forearms							
Palma & Nails							
Tibia							
Planta to Oscalcis							
Girth of Chest							
Weight							

N.B. This table must be rechecked to verify details and make any additions, Alignment makes interpretation difficult

(1) Mas. & old[Thankote wood]? Intestines 13 inches. No Caecum. Tail tetragonal with divergent hairs like Murimus [Marinus]? & no adpressed ones. Sooty black with vague reddish oversmear. Differs from Murimus [Marinus] and from Pygmaeus by stouter less developed ears more clad with fur & by the angularity of tail. Killed Jany 4 in woods of Valley of Nepal.

(2) The Valley of Nepal. Remarkable for its feet dressed in fur to the nails & also for its depressed head & tumid cheek mystaceal region. Its tail is rounded. Its tail is nearly covered with short fur besides the long thin divergent hairs as usual & its feet are large. Ear large round the helix posteaally folded in and upwards so as with the transverse membrane bounding the conch nefariously to form a cup in the posteaal part of ear below which lie the adpressed vertical parallel tragus & antitragus. This is the usual ~~form~~ structure of the ear wh. has a complex apparatus of membranes in & is of large size tho' furnished with but a short truncated development of the helix wh. does not form an internal funnel to catch sounds as in Rats. Colour slaty as in Murimus[Marinus]

(1)Valley of Nepal. Intestines 13 inches. no caecum. colour dull black with faint reddish(sic) gloss. Put in spirits is a male & mature.

(1) Darjiling two females mature. Teats 6 inguinal. Tail less half of animal 4 sided nude scaled Some minute soft hairs. Caught in my own grounds in rotting trees in holes at base. Sooty black with silvery variable gloss. Head depressed cheeks not swollen. Snout acute and nude. nares lunate, ovoid, lateral & divided by groove. Moustache fine. Ears short rounded nearly hid by fur. Helix complex & cupped. A large free [antinasal]? process closely the basal orifice & capped posteaally . Antihelix distinctly defining conch but no tragus. Hands & feet small, nude, digits cleft andromorphous 4-digital and 2 palmary & plantary balls. Intestines 13 inches. No caecum. Stomach globose with upper orifice central & lower terminal membranous. Not the same as 1? wh. larger & tail with long divergent hairs like Murimus[Marinus] whereas is a Sikim one (1) is our Nemorivagus (1) or the ***MISSING WORD*** now in question is our S. Arboris wh. sec.?

PAGE 33

India House November 1852

No. 82

Pencil drawing of Sorex

CAPTION

Male:sexes alike

Note: on the drawing and above the caption are further notes in Sanscrit

Below the pencil drawing is a completed colour study with the information

Darjiling Sept. 1848 Size of nature

Sorex Sikimensis nob.m.s.

Chika Newari Chuchunder Hindi

(See Horsf. Cat of my [beasts]?)

Hab. Sikim 7500 feet

To the left of these two illustrations are seven lines of *Sanscrit* and the numbers 759 and 760

To the right is a pencil note India House June 48 No. 7

Two drawings one labelled ear open, the other ear shut

Below are four small drawings of stomach, feet and jaw.

Note Darjeeling Aug 15th

To the right enclosed in a box are three further drawings of jaws and teeth

CAPTION Largest species or (not of) MURINUS for comparison

Further *Sanscrit notes* below this

To London India House June 48 the pair No. 7 in spirit. Sept. 27/57 twelve.

PAGE 33 - REVERSE

Along the length of the L.H. Margin are *Sanscrit Notes*

Table of measurements

	PAIR			
	Male	Mas	Feem	Male
Snout to Vent	0.3 1/2	0.3 1/2	0.3 1/8	0.3 3/8
Tail	0.1 3/4	0.1 3/4	0. 5/8	0.1 9/16
Head Str.	0.1 1/8	0.1 3/16	0.1 3/16	0.1 3/16
Snout to eye	0.0 11/16	0.0 9/16	0.0 9/16	0.0 9/16
Eye to ear	0.0 8/16	0.0 1/2	0.0 7/16	0.0 5/16
Forearm	0.0 1/2	0.0 9/16	0.0 9/16	0.0 9/16
Palma & nail	0.0 1/2	0.0 7/16	0.0 7/16	0.0 7/16
Leg.tibia	0.0 5/8	0.0 11/16	0.0 11/16	0.0 11/16
Planta & nail	0.0 5/8	0.0 5/8	0.0 5/8	0.0 9/16
Weight	1 oz.	less 1oz	3/4 oz	1 1/8 OZ.

Garden Darjiling Jany 15 Male. Dusky or smoky black with silvery grey lustre
Below. Figure compact. Head elongated conic with flat crown & long sharp
muzzle, nares lateral divided by groove wh. runs up muzzle or nose. Lips not
tumid moustache moderate fine. Eye very minute & much nearer occiput than
snout. Limbs short equal the extremities wh. are nude. Hands gradated
andromorphously with free toes & [compr]? sharp nails moderately bent. Foot
similar longer & less wide. Nails are large as on hand almost. Tail less the body
subquadrate & slightly furnished with very fine adpressed hair. Palm with 4 balls
for bases 2 digits and 2 for carpus. Planta with 4 for toes & 2 for metatarsa remote
from heel. Many more varying from 3 1/4 to 3 3/4 inches in length. Sexes alike.
Intestines 12 – 13 inches. No caecum. St. Membraous 2 to 2 1/3 along greater arch
5/16 on lesser. Food [comminuted]? Pulp like grain. Ear hid by fur. helix rounded
short ending in large mobile tragus that closes the aperture. Teats 6
Darjiling garden August 15 Intestines of male 11 1/2 inches of female 11 inches.
Stomach 2 inch by 5/16 on greater & lesser arches. No caeca. A pair together alike.

save feem rather less brown-black thick make, head & body short quadrangular nude tail. Ears part visible. Delicate divergent mustaches (sic) moderately elongated & lips not swollen. Upper incisors embrowned. Garden Sept. 4 Brown black or smoky male. Mature stout make. Tail short. Sub tetragonal. Nude or with very minute soft hairs. Ears nearly concealed. Snout moderately elongated. Front teeth white & curved in.

Table of measurements

	Female	Female	Female	Male	Male	Male	Male	Female
Snout to vent	0. 3 3/8	0.3 7/16	0.3 3/4	0.3 3/4	0.3 5/8	0.3 1/4	0.3 1/4	0.3 1/4
Head	0. 1 1/8	0.1 1/8	0.1 3/16	0.1 1/8	0.1 3/16	0.1 3/16	0.1 3/16	0.1 1/8
Tail	0. 1 5/8	0.1 7/8	0.1 5/8	0.1 3/4	0.1 3/4	0.1 3/4	0.1 3/4	0.1 3/4

The following part of the table is written in Sanscrit and this continues for approx. 10 lines

Weight	3/4 OZ.	3/4 OZ	3/4 OZ	-	3/4 OZ	5/8 OZ	5/8 OZ	5/8 OZ
--------	---------	--------	--------	---	--------	--------	--------	--------

PAGE 34

India House Nov 1852 in spirit
 Written in pencil 'Darjiling only'
 Below completed colour study of two animals nose to nose
 CAPTION

Sorex Nemorivagus Mihi
 Sorex Arboris Mihi M.S.
 Hab. Sikim in woods 7500 feet
 Central region of Mts. (Himalaya)
 1 Male 2 Female size of nature

5 drawings with *sanscrit* notes
 3 showing feet
 1 showing head
 1 showing stomach

PAGE 34 - REVERSE

Upper part part of page table and note in *Sanscrit*

Table of measurements

	(1)	(2)	(3)	(4)	(5)
Snout to vent	0.3 3/8	0.2 3/4	0.3 1/2	0.3.0	0.3 1/4

Head	0.1 $\frac{3}{16}$	0.1 $\frac{1}{8}$	0.1 $\frac{1}{8}$	0.1 $\frac{1}{16}$	0.1 $\frac{1}{8}$
Tail	0.1 $\frac{9}{16}$	0.1 $\frac{9}{16}$	0.1 $\frac{5}{8}$	0.1 $\frac{5}{8}$	0.1 $\frac{9}{16}$
Palma & Nails	0.0 $\frac{1}{2}$	0.0 $\frac{7}{16}$	0.0 $\frac{7}{16}$	0.0 $\frac{7}{16}$	0.0 $\frac{7}{16}$
Planta & Nail	0.0 $\frac{5}{8}$	0.0 $\frac{10}{16}$	0.0 $\frac{10}{16}$	0.0 $\frac{10}{16}$	-
Ear (vent)? from lobe	0.0 $\frac{3}{8}$	0.0 $\frac{3}{8}$	0.0 $\frac{3}{8}$	0.0 $\frac{5}{16}$	-
Ear free from crown	0.0 $\frac{3}{16}$	0.0 $\frac{3}{16}$	0.0.0	0.0.0	-
Weight	Less $\frac{3}{4}$ oz.	$\frac{1}{2}$ oz.	$\frac{1}{4}$ oz.	$\frac{1}{4}$ oz.	$\frac{1}{4}$ oz.

(1 – 2) Darjiling woods near house. Two males and a female. Males alike females less in body but extremities much the same. Rather of stout make & very near our nemorivagus wh. however has tail tetragonal more or less & long divergent hairs on it & nostrils more salient & divided bitubular as it were. Whereas here tail quite round in 2. Hardly angular in 3rd. No long salient hairs in it but minute adpressed ones & nares not segregated. The limbs are partially clad in small close hair to nails. Beneath sole nude to heel. Complex ears as Nimor. Complex membranes & nearly hid by cheek hair. Smoky brown inclining to black with lips and chin white. Fur abundant & of moderate fineness. Intestines 11 $\frac{1}{2}$ no caecum. Stomach membrane globose with the 2 apertures close.

Got a nest & young in March two young well grown, nude & blind. Nest saucer shape made of [org.]? leaves & found nearly a foot below the surface of the soil (3) Intestines 12 $\frac{1}{2}$ inch Decr. 46 Darjiling wood near house. Nares termino lateral short, roundish & divided by a groove above in front & below yet not saliently bitubular

(6) Feby. same place & site mas?

(7) Sept 1855 Darjiling. Intestines 11 $\frac{1}{2}$ inch. St. 1 $\frac{3}{4}$ by $\frac{5}{16}$ on either arch. Sex doubtful

All specimens got at Darjiling 7500 ft.

PAGE 35

Large completed picture of a Bear

CAPTION

Ursus Isabellinius

Hab. Northern region of Himalaya & Tibet

Ricch & Dub of Paharias

Tom khama of Tibetans

Notes at side

Kachar = Northern Region

See: Phy. Geog. XXVIL of selections from records

Additional sanscrit notes below picture

To the left of the above illustration written in pencil

m.s. The long lipt bear or melursus lybicus drawn also

where is it? It is the bear of the lower region. Tibetanus of the central & Isabellinius of the Northern?

PAGE 35 - REVERSE

Table of measurements

Tip nose to root of tail	4. 0 0
Tail with [term]? Hair	4. 0 0
Head from snout to occiput	7. 0 0
Snout to pre-angle of eye	4 ½
Height at shoulder(by curve?)	2. 7 0
- ditto at haunches	2. 6 0
Length of ears	- 4 -
-ditto- with term hair	- 5 -
Circuit of muzzle	7 ½
-ditto- of head widest part	1 3 ½
-ditto of trunk -ditto-	2 4 0

A female 4 years old. Colour dirty yellowish white, darker and tinged redish in head, neck limbs & mid line of back. A white mark like Y on chest, the prongs of fork passing up to base of ears. Lips paler than body, fur of mean length woolly & matted. The base of head not ruffed as in Labiatus & Tibetanus. Longest claw 3 ½ inches long by ¾ deep on hind feet only 1 ¼ inch. Head conical and [Quicks]? narrowed. Forehead nearly flush with nose. Upper lip fuller & lying over under one. Eye small midway from snout to ear. Ears large passing [vertex]? of hind leg 3 ¼ inch. Irises brown small mustache, neck short body & limbs robust. Line of back horizontal on the whole but with a swell over the withers, no mane 2 pectoral & 2 ventral teats

PAGE 36

India House November 1852 No. 38

Main illustration completed study in colour of a bear

Caption below Helarctos Tibetanus

Hab. Himalaya

Central Region

In a different hand below this caption is written

Ursus Tibetanus

Young male

June 29

At the lower edge of the page are a number of sanscrit notes

In addition to the main illustration there are two drawings of stomachs, one of a bear on it's haunches, one of a bear's head & a further one showing the pectoral mark.

PAGE 36 - REVERSE
Table of measurements

Height	1. 10. 0
Nape to rump	2. 6. 0 A year & 5 mths
Nape to snout	0. 11 ½

Head conical rectilinear from occiput to snout. Muzzle dog-like very moderately moveable round. Nares opened out & laterally. Ears backwards high up. fan-like (there is a drawing to illustrate this feature) half hid by hair of head, eyes small and pig-like. Pupil undistinguishable. Limbs stout, fore & hind equally so & equally elongated too. Toes & nails ditto latter moderate & sharp. Tongue smooth very little extensile. Plantigrade palms naked. A little hair between them and balls of toes. Lips very moderately flexible & extensile but creature fond of twisting them every way out of their ordinary shape.

Incisors $\frac{6}{6}$ laterals rather longer

Canines $\frac{1.1}{1.1}$ large conical, separate from all the rest

Molars $\frac{5.5}{6.6}$ the first 2 false, the rest true the hindmost
nearly flat topped, others more or less varied
with points on the crown

Teats 2 pectoral 2 ventral 2 doubtful, widely separated

Drinks by lapping like dog, climbs trees alertly. Fed with rice, sweets MISSING WORD Hair long harsh & shining save on head before the eyes where it is short. Black muzzle & all. Chin or end of low. Jaw yellow white. Pectoral mark the same mere margins of the gape on both lips slightly paled[or palid]? Pectoral mark thus occupying the chest only.

Note There is a drawing to illustrate this.

PAGE 37

Completed colour illustration

CAPTION

Ursus Tibetanus

Home Nov. 41

PAGE 37 - REVERSE

N.B Two large bears from [Bisouleeah]? Supposed to be[spoils]?

of U. Labiartus. Black with a crescent of yellow white across breast. Face as far as eyes including lower lip hoary puce white in female- dirtied with a brown smear in male. Hide very shaggy on head beyond eyes & on neck. Ears nearly hid by this hair, nasal cartilage seemingly moveable elongated & depressed or flat above.

Note. There is a table below this with all headings and notes in Sanscrit

PAGE 38

5 Illustrations. The main one shows the animal with his left forepaw resting on what appears to be a book?

CAPTION

Ursus Tibetanus male of 2 years

Feb. 20

Home Nov. 41

Below is written:- Helarctos Tibetanus Central Hills

Two further illustrations show Bear heads one in profile, the other from the front

There are also studies of paws

PAGE 38 - REVERSE

Written faintly in pencil

Feb. 20 2 yrs old male

Male 2 yrs & female 2 y. 3 months

Table of measurements

Head long on curve	1. 3 ½
-ditto- girth, before ears	2. 1. 0
Snout to rump	4. 6 ½
Girth of body, behind shoulder	3. 9. 0
Tail (& hair 0.4 ¼)	2 ¾
Elbow to end of fore toe	1. 5 0
Knee to -do-of hind-do-.	1. 4 ½
Ears from base ant.	4 ¾

Q Male 2 years old Feby.

X Feem 2 years & 3 months old far from mature, has 6 teats extending on each side from underarm to lowest end of ribs. 3 on each side.

April 28 Black with tip of lower lip, white & a wide crescent on chest with a point downwards reaching nearly pit of stomach thus

Note There is a drawing to illustrate this feature

..& white. Edge of upper lip scarcely red, or different from general hue. White star on nose.

X Snout to rump	5. 10 ½
Height at sh.	3. 0 0
Tail & hair	0. 5 0
Girth of body	3. 9. 0

X Mature male[sp. Mag.]? March 35 Simla

Called Rich & Bhalu very numerous

PAGE 39

From top of page a table with Sanscrit categories NOT Copied

At right angles to this are 2 lines of Sanscrit notes followed by a table.

PAGE 39 - REVERSE

Table of measurements

	(1)	(2)	(4)	(3)
Olecranon to tip long toe less talon	0. 0. 0		1. 6. 0	1. 6 ½
Tip of Tibia – ditto-	0. 0. 0		1. 3 ¾	1. 7 ½
Snout to root tail	4. 8 ½	4.10. -	5. 5 ½	6. 5. 0
Height before ?	2. 0. 0	2. 1. 0	2. 7 0	2. 6. 0
Height behind ?	1.10. 0	1. 10 ½	2. 4 ½	2. 4. 0
Snout to occiput straight	1 - -	1. 2 . 0	1. 3 0	1. 5 ½
Snout to fore angle of eye	4 ½	5. 0	5 ¼	5 ½
Thence to base of ear	7 ½	7. 0	7 0	7 ½
Girth of the chest	2.10. 0	2. 11 0	4. 6 0	5 6 0
Tail less the hair	4 ¼	- 4 (4 ½)	3 ½	0. 3. 0
Greatest girth of forearm	1. 3. 0	1. 2 ½	1 6 0	0. 4. 0
Ears from crown less hair	- 5 -	- 5 -	5 -	0. 5 ¾
-do.- with the hair	- 6 -	- 5 ½	- 6 -	6 ⅛
Length of palm less talons	6 ½	- 7 0	7 ¼	8. 0
Width of palm less talons	- 4 -	- 4 -	- 4 ¾	5. 0
Length of planta less talons	- 8 ¼	7 ¾	- 8 ⅜	9. 0
Width of planta less talons	not recorded in notes			
Weight (thin)	192 lbs	200 lbs	254 lbs	

Text below table

(1) male of 3 years

(2) male of 4 years shot in the forests of Sivapooora above the great valley & about 7000 feet high. Hair short & smooth (for bear) same on neck & shoulders where it is fullest & rougher beginning like a ruff just at bases of ears. Average length of

pelage 2 ¾ inch. On shoulders 4 ¾ . mark on chest & also chin. Yellowish white all else black. When arms full spread chestmark is simple segment of circle. When half spread obtuse & angular.

(3) Old male central hills July 15 in good case. Structure massive but falling off considerably behind. Head large blunt nose moderately elongated straight. frontals flat & broad. Eye small and somewhat nearer the snout than the base of the ear. Muzzle bare rounded not mobile with the nares opened to the front ---- gonally & a small linear curve to sides. Gape [fully]? Wide ½ inch less fore angle of eyes, lips adpressed

Teeth 6 1 worn dark brown. Great canine nearly 2 inch long rounded not much .

6 1 curved

Ears small rounded very mobile filled inside with hair so as to blend with that of cheeks but not above 1/3 hid by the latter hairs. Anterior limbs much stouter than posterior with 4 toes nearly equal but somewhat gradated to sides & more so towards outer sides. Thumb slightly retracted about 2 inch less the 3rd of longest digit. Ends of digits only free from palmary mass & supported by full ball between wh. & the **MISSING WORD** is a thick patch of hair. Palm nude & full nails strong compressed moderately acute mainly equal that of mid digits largest. Hind foot less & gradated less towards outside having the 4th digit from thumb longest & 5th equal the 3rd inner or thumb less retracted only 1 5/8 inch palm nude & full. Interdigital hairs as in fore foot. Is all black with half a diamond

Drawing of v shown or broad U of 4 inch wide across chest reaching up sideways as far as ears & the chin yellow white. Hair short, harsh, hairy moderately applied. Longest on neck where it is 4 inch long. Not above 1 to 1 ½ generally. Penis bony cylindric—gonal

glans very small & curving down. Testes.....

MISSING LINE UNTRANSCRIBED

(4) Male, mature Central Hills. Hair very moderate & straight hardly longer on neck where ¾ inch long. Immensely massive in make and depressed rather than compressed in the body. Short limbs and claws moderate curved blunt & channelled below that of the index[scadutim] of digits

Small incisors 5 or 6? pressed together. Canines long strong curved blunt and

6

channelled below that of the index [scandium] of digits

The alternating **MISSING WORD** small free perfectly clad inside & out & not hid by cheek tufts. Tongue extensile to 7 inches beyond round immobile[musle] in wh. nares open to front with angle to sides. Intestines

80 feet long of very equable diameter & thick coated. St. 40 inches long along greater & 15 along lesser arch. Gall bladder bent large 14 inches along, greater & 8 along lesser arch. Spleen 8 inches long. St. full of Indian Corn only

6

PAGE 40

Illustration of two Red Pandas one twice the size of the other

CAPTION

Ailurus Fulgens showing its manner of sleeping

L11

The Wah as sent home in 1835

Sansrit notes on this page

PAGE 40 - REVERSE

WEEDS

Cynoglossum

Mysiactis?

Siegesbeckia

Urtica

PAGE 41

India House Nov. 1852

No. 23

3 Illustrations of the Red Panda 1 in colour

CAPTION

Ailurus Fulgens Vulgo Wah

Another illustration of a stomach

CAPTION

Stomach natural size of mature animal

Sanscrit notes across leading edge of page

Extra Mammal Sheet L11

Ailurus Fulgens? Ochraceus Nobis

[Sanum Lepcha]?

PAGE 41 - REVERSE

Coloured drawing of a cat which looks like a Lynx. The head has been obliterated by a table. *The categories for this table are all written in Sanscrit and the page has extensive notes in Sanscrit*

PAGE 42

Large coloured illustration of a Red Panda

CAPTION

‘Wah’ *Sanscrit notes* and a pencilled note which reads ‘ see manu[scripts] on back

PAGE 42 - REVERSE

Tho’kye Limbu tongue found in central hills pairs. Woker Bhotia tongue. Lives in wilds never comes into cultivated places. Breeds in June. 2 young in holes of rocks. Eats grains, roots, steals milk from herdsmen’s huts. Young male about 6 months – Dec 30th Penis porrect with large base. Testes long & narrow in the groin. Intestines 9.4.0 long equal. No caeca. Stomach a large membranous smooth

sack. Lungs with 6 & liver with 7 lobes. Spleen gall bladder. Eyes with variable pupils but round. A third lid at fore corner capable of being spread over the whole eye almost. Active by day climb up & down the smoothest trees excellently. Have action precicely of Bears & use paws in the same manner. Sleep rolled up in a ball or with the face doubled between the fore paws & body.

In standing position when rolled body reclined laterally of course. Not active by night. Said to be omnivorous but mine would not touch anything but milk & fruits boiled in it.

Male very gentle,female cross tempered. Plantigrade almost exclusively, but at speed rest on toes only & go so fast that a man at $\frac{3}{4}$'s speed can barely overtake them. Tongue smooth teeth 5.5 for the most part tuberculous & flat but the tuberculous prominent & 6.6

large. Of skinned carcase head $4 \frac{1}{8}$ in. Nape to rump $11 \frac{1}{4}$. Young female snout to occip. $4 \frac{3}{4}$. Occ. To root tail 13" tail 13" 8 teats 4 of them forward or pectoral or quasi pectoral & 4 others remote or inguinal or quasi inguinal. Ears $3 \frac{1}{4}$ in. with hair 2 without it. Medial pointed erect placed on sides of head, remote but high up margin all round provided with fur & longer fur springing from base of cheek half hiding the ear. Margin united below from either side & compressing in face. No fissure in it. Anus simple pudendum ditto feet 5 toed all toes in a line almost. The inmost being scarcely more remote than rest. Fores rather larger than hind, united almost to MISSING WORD? By membrane. Talons feline but only half sheathable. 13 pairs of ribs whereof 5 are false. Pencilled note Tragus & antitragus distinct & [lip]? between them

PAGE 43

Large completed colour illustration of Red Panda

CAPTION

The Wah young nat. size Ailurus Fulgens

Two illustrations of stomachs one more detailed & in colour, the other in outline.

CAPTION under **less** detailed illustration

Stomach of a youngish female

CAPTION under **more** detailed illustration

Stomach of maturity

Notice to right of page Wah of Nepal

Auktengka of Tibet

Hab. Central & Northern Region & Tibet

In addition to the above this page has some Sanscrit notes and figures and A further note Ailurus Fulgens extra sheet L11

PAGE 43 REVERSE

Whole nasal portion of face or upper jaw as far forward as the eyes white. Tip of lower jaw or chin ditto. A semicircular band passing from behind either eye to the lower angle of lower jaw ditto. Body below & limbs black **MISSING WORD**

HIDDEN BY REPAIR TO MANUSCRIPT. Tape-----ing of ears & tufts of ditto white. Ears behind black. Body above head **MISSING WORD** brown red. Tail the same with paler yellowish rings & black tip. Head broad & flat. Face sharp, short muzzle small simple. Ears largish tending to point, erect rather high up. [Lining]? Very long & loose reaching to the top of ears and mixing with the tufts on top of ears. If tufts consist not rather of mere lengthenings of the hair within & without both surpassing the tips of ears. Feet pentadactylous soles hairy, nails short sharp retractile. Action plantigrade. Tail very full & bushy as long as body & neck cylindrical subtapered. Fur very thick nearly **MISSING WORD** 2 sorts both copious. Limbs short & very stout. Body longish & very full. This is young 3 more from [Bazar]? skins of old animals. By comparison of the three 18 to 21 inches from nape to rump & tail from 15 – 18 & length of head about 6 inches. Two of them are coloured like drawing only the face more paled & the dark **Pale is written above dark** mark proceeding from under the eye vaguer, also the back having the hairs tipped yellow & in all three Soles & feet whitish & tail with 7 or 8 bands. The third has a very different aspect but chiefly from the **MISSING WORD** a lustre of all the colours. Ears have no fissure on posterior & interior margin, they are well developed placed **MISSING WORD** & considerably transcend the top of head. Hair out & inside very [long]? base making the ear seem tufted Teeth $\frac{6}{6}$ $\frac{1.1}{1.1}$ $\frac{5.5}{6.6}$

the molar broad, the crowns of up descending directly on those of lower jaw bristled with numerous conical joints as in the insectivore but the points less acute & prolonged. Great carnivore not distinguishable. Head short & rounded as in Felina? 2 post molars of up jaw on either side of it with a flat heel on inner side.

Written in pencil below
Large round raised edge. Articulation of jaws so deep & coronoid processes so large that jaws in the prepared skull will not separate spontaneously or without dexterity. Coronoid processes remarkable not only for size but for their **MISSING WORD** & even forward bend so unlike the backward slope & this part of the skull in most of its allies.

Table of measurements

Dimensions of a mature male	Inches	Female
Tip snout to tip of tail	37 1/4	Snout to vent 1. 10 0
Length of the body & neck	16 3/4	- - -
-ditto- of the head	5 1/4	Head by curve 6 1/2
		Head straight 5 1/4
-ditto- of the tail	16	Tail & hair 1 6 0
		Tail only 1 4 0
From sole of foot to cusp of scapula	9 1/2	Snout to eye 1 5/8
		Thence base of ear 3 3/8
		Ear & hair 3/4
Greatest circuit of the head	10	Width of ear 1 7/8
		Arm 5 -
Length of humerus	5	Forearm 4 1/2
		Palm & nail 3 1/8

-ditto of forearm	4 ½	Femur	4 11/16
Wrist to tip mid finger	2 ¾	Length to os calcis	
		On tibia	5 3/16
Length of femur	4 ½	Planta & nail	4 3/8
		Weight	7 lbs Very thin
Length of tibia	5 ½		
Oscalcis to tip of mid toe	4 ¼		
Girth of body round thorax	12		
From tip of snout to anteorbitary edge of orbit of eye	1 ½		
From tip of snout to external opening of ear	3 ¼		

Male[Cush]? 2 fem. Dorjiling. Teats 8 ventral. Anus large & nearly nude all round but no sign of anal glands or pores. Intestines 9 feet of [great]? Equal diameter about one inch. No caecum. Stomach 11 ½ by 4 ¾ inches along either arch. Gr. diameter 3 inch. Hemispheroidal orifices terminal. The lower one for about 3 inches thick & glandular like a [proventricle]. [proventricular]? Spleen deep red, tongue shape 5 ¼ by 1 ¼ [5 or 6]? Lobes & a lobulus. Gall bladder enormous big as bantams. Edge occupying whole centre of largest lobe & passing quite through from side to side. Eye medial pupil round. Tongue smooth simple. Had 2 alive some time & several in Nepal. Very quiet creature specially in day more active by night?

Note. 'no' is written above night

Sleeps most of day, rolled in a ball, on side like dog or on feet with head tucked under fore feet. Is slow of foot with action of a bear, climbs well. Silent, spits like cat if angered. Louder tone, harsh & bear like, a grunt rather than a roar. Has mostly two

young often of very unequal size early in Spring

Note 'Summer' is written above spring

Confined to snowy region? Easily taken & easily tamed. Mine refused rats **TEAR IN PAGE** Ate flesh & fruits latter greedily, drank milk & liked eggs very much. Gave it a small ti.....**TEAR IN PAGE** in it's cage. Ran angrily at with a grunt & struck with fore paw but would not kill **TEAR IN PAGE** & quitted it's hold on presently. Drinks by lapping with tongue. Fond of eggs & milk.

TEXT AT RIGHT ANGLES

Nearest to top of page

Thus in 2 perfect skulls(sic) of well grown but young animals, in that of a 3rd wh. was old molars 5 there being no pre-molar below.

5

TEXT NEXT TO THE ABOVE

So in two very perfect crania 1 of mature & the other of a young animal 3rd old $\frac{5}{5}$

NOTE: THE NEXT LINE IS VERY PALE AND INTERSECTED BY A TEAR
Following this are two lines written in Sanscrit

PAGE 43 - REVERSE

Limbu Thokye & Thongwa. Seknam Lap

Uktongka Photix & O Wakar

Panda Wah Ye. Nigalya Ponya

Sol(itar)y or pairs around vales lives on tops Lachar? forests. Eats young sprouts of Chinese Bambu[sic] Hence last name. Young born in June in month can shift **MISSING WORD** & **MISSING WORD** from mother
Flesh not eaten, skins made into caps.

July 25 Sinchal top 8000feet. Mother & young taken in hollow of large forest tree. One young perhaps 10 days or 15 days old. Eyes not opened. Red colour above & on tail very pale, reddish white or sandy colour, lungs 6 lobed. 4 right, left 2 & a lobulus. Gall bladder in deep cleft of largest right lobe. Enters gut by duct of 1 inch 2 ½ inch from lower end of subcent[suscent]? stomach. Spleen 5 ½ by 1 inch lies along outer arch of stomach. Pancreas 7 by 1 half attached to stomach, half to adjacent gut. Intestines 10 feet of large uniform width. 1 to 1 ¼ inch and no caecum. Gut simple & stomach. True stomach 10 by 4 along arches. False stomach 5 in [6 in]? by 1 ½. Gut shaped. Both membranous & smooth lined but the outer coat of latter thicker & tougher. Full of green [communated]? Leaves of small bamboo in huge green trees & nothing close whatever.

NOTE There is no page 44

PAGE 45

India House November 1852

No. 17

Completed illustration of a Badger and 3 studies of feet

CAPTION under main illustration

Meles Leucurus Nob.

Pseudomeles Newgen.Nob.

Olim Taxidea Leucurus. The Tumpha of Tibetans

Tibet Badger. Hab. Tibet

1/3 size of nature. Drawn at Darjiling

Hab. Tibet

To left of caption a note referring to the artist

Rajman Sinh Nepalya fecit

1. Forefoot

2, 3 Hind, size of nature

At the top L.H. side of page are the 3 drawings referred to. No. 3 has an added note

Oscalcis

Note in pencil at lower L.H. side. Labradorica. belly & throat white. Black bar down cheek from ear. Two more encircling muzzle then pass longwise above eyes to mid back where meet & have all within them white. Tip of tail black. Claws fore and aft large.

PAGE 45 - REVERSE
Table of measurements

	(1)	(2)
Snout to end tail tuft	3. 1. 0	
Tip snout to anus	2 . 2 ½ - 3	2. 2. 0
Head to occiput str.	less 6 . 0. 5 ½	
Snout to fore-eye	2 ⅛	
Thus to fore base of ear	2 ⅛	
Tail only	7	0. 6 ¾
Tail & tuft	10	0.10. 0
Girth behind sh.	1 . 6. 0	
Palma & nails	3 ⅛	
Palma only	-	
Planta & nails to oscaricis	4	
Planta only	2 ½	
Long talon	1 ⅛	
Length of hair gr.	4 ¼	
Length of wool	2	
Length of ear	1 ¼	

NOTE: *The following table appears in the manuscript to the right of the one above*

Scull	Inches
Length, interm to occ. crest	less 5. 0
Width 'tween 3 & 9 arches	2 11/16
Width gr. 'tween parietal	less 2
Height at frontals	2. 0
Upper jaw to end of teeth	2. 0

Lower jaw to end of teeth	2. 0
Gr. Width 'tween upper molars	1 1/2
Gr. Width 'tween lower molars	1 3/16

Skin from a Bhotea [Bhotia]? Said to come from Tibet. Female teats 6 ventral. Head above & lateral white divided by a black brown line through eye from snout to ear. Ear white inside black out. Below head neck body of whole free. Limbs black brown. Tail white. Body above & laterally pepper & salt caused by hairs which are white above half towards base but have a large black sub terminal & a white small terminal ring. Pelage very long of two [sorts]? Hair which is long straight elastic, rather harsh & of free set or not adpressed- wool copious long & fine below. Head & limbs dressed in close hair. Belly is scanter & longer but short. Head conico depressed with - -----molish ears -----ges & elongated sharp muzzle ending in a rather piglike nude muzzle truncated to front where nares open but have a narrow curve to sides.

Teeth $\underset{6}{\overset{6}{\text{I}}}$ $\underset{1.1}{\overset{1.1}{\text{I}}}$ $\underset{4}{\overset{4}{\text{I}}}$

Eye small midway from snout to ear. Ear smallish & somewhat pointed & tufted. Helix not fissured, aperture basal. Interior simple body pretty full & seems more so from long hair. Limbs short strong, plantigrade palms nude 4 digits nearly equal. Slightly crescented to front thumb drawn back a little & less than any finger. Talons for digging, those of digits nearly equal, of thumb less blunt moderately curved round backed entreated below & scooped near tips. Hind foot & digits smaller & talons yet more diminished. Planta nude save 3/4 inch next as calcis. Tail like body with very long. Real tail 3 inch less hair. Very like badger in colours & form too, but tail longer & teeth different. Differs from prior specimens of **MISSING WORD** by greater size, different colours, different habitat & teeth, but of them where? Extract skull & see. Tongue covered with very small subcorneous papillae like prionodon. Top & sides of head yellowish white divided from moustache to ear by brown black line. Ears black below both sides, white above in and out & thin tufts, neck and body yellowish peppered salt, above more pepper, on sides more salt. Tail & postea part of buttocks or genital & anal region white, hardly shaded on upper base of tail with dark hue. Below from chin exclusive to anus exclusive black & the whole limbs the same. The chin or tip of lower jaw is pale like upper save on moustache. Double coat of hair & wool. Wool wholly & 2/3 of hair yellowish white. Last 1/3 of hair black with a pale tip so that each hair has 3 very [unequal]? rings. Hair long above 4 inches, elastic straight or slightly wavy, not course. Wool fine & long 2 inches or more, face & limbs dressed in close simple hair. Belly in longer scanter & woollike hair through which black skin visible. Nails horny dusky, pads and nose skin dark.

1857 Chebu Lama gave me three skins

PAGE 46

Pencil drawing of a full bodied long clawed mammal crouching

CAPTION

Mellivora[melivordi] Ratelus

Ursina

Ursitaxus Nob.

Ur. [Inauritus]? Nob type

[Vulgo] Bharsia of Nepal

Hab.lower region of Mts.

Note Extra mammal sheet as 111 sent home

PAGE 46 - REVERSE

Large, part drawn, part painted illustration of a bird *unfinished*
& *head missing*

Faint pencilled notes below

The ~~Kokalia~~ large as life Lam Putchiah

Feb^y woods of Nepal ^{coral}

Legs & bill a ~~scarlet not crimson red~~

a small bird.

Red billed Jay Cuvier 11 335 China

PAGE 47

India House November 1852

No. 18

Helictis 2 sheets

Illustration with underdrawing and later overpainting

~~Gulo orientalis~~

Banks of the Rapti Decr. natural size

~~Gulo~~

Helictis Nipalensis Mihi

a word crossed through

Habitat lower region of Mts.

Some Sanscrit notes on this page

PAGE 47 - REVERSE

Note: The text on this page has been written back to back to face both top and lower edges

Text facing lower edge of page

Another stuffed specimen. May Nr. 33? about two feet long to end of true tail beyond wh. The hair extends about 2 ½ inches ending in a point. The head is about 4 inches & the tail (minus tuft) 7 ½ or about ½ length of body & neck. The animal is of a long but not cuniformed make both body & neck being thickish & the neck rather short. The head is conicodepressed & the

face rather prolonged & sharp ending in a small round well defined muzzle with nares chiefly lateral. Whiskers moderate applied to cheeks. Ears truncate wide remote, not topping crown of head. Helix short & fissured posteriorly, the edge of it not reflected in or out but erect interior complex hid by cheek tufts. Exteriorly the ears are clad in fine short hair & the rim of the interior likewise, rest of interior naked. Legs very short of medial strength, the anterior stronger especially the hands & nails. Pentadactylous forefeet quite nude below the wrist, the skin soft. 5 full balls at ends of fingers 4 at their bases & 2 to wrists. Round the outer larger 5 digits gradated as in human hand for comparative length. Palmated to the balls at ends of finger, the nails truly[fossorial]? Sub compressed rounded a---cultrated below. Hind feet small with short obtuse nails. 5 balls at end of digits 3 round ones at their bases & 2 narrow ones running longitudinally from them, 1/2 way to ocalcis, the remaining 1/2 of metatarsus and tarsus being thickly furred & the structure of the animal consequently not typically plantigrade & it can in fact use the digitigrade step at [pleasure]? & can run with considerable speed. Tail cylindrical 1/2 length of body & neck subtapered with a base by no means thick. Hair not disshevilled but rather longer than that of body & increasing in length downwards so as to exceed true tail considerably at tip. Coat of animal is very warm consisting of a copious undergarment of fine wool or fur & an upper one of hair wh. exceeds the fur in length by just sufficiently to hide it. Hair medial length, nor fine nor course loosly applied to skin & forming a covering rather rough than smooth. Soles of feet & nose flesh coloured, whiskers & [iris]? brown. Hair not [annulated]? a pale purplish brown above, yellowish white below. Several hairs on flanks & more on buttocks tipped whitish, hairs of tail the same. The terminal half & more of each hair becoming whitish towards its tip where the apparent colour is consequently that, not brown. From top of forehead white line reaching **2/3rds** to tail. Tips of ears white, a transverse band across bottom of forehead proceeding from cheeks wh. & edge of up. Lip are yellowish white like inferior(sic) surface. Generally insides of limbs ditto outsides & feet brown like body above

TEXT FACING TOP OF PAGE

Teeth 6 incisors 1.1 canines 5.5 molars

6 1.1 6.6

in a very perfect skull of same character as in [mus hardwicki]? & both remarkable for being far less bristled with sharp points than the little mongoose.

Tip[Bill] to tip tail 2. 0. 1

Length of tail(end of hair) 0. 9. 0

? of head about 0. 3. 3/8

Ears broad widely rounded at tip, placed low on sides of head. Muzzle [accuminate] body long, spare, rather fuller behind, legs very short plantigrade. Forefeet stouter than hind & longer than they are. Soles entirely naked, toes semi palmate 5 toes on all feet ~~indies~~ thumbs not clearly separated. Nails of forefeet strong rather obtuse. Tail cylindrico tapered, fur very soft, hair ordinary, equal all over body ~~tail rather longer~~

Teeth $\frac{6}{6}$ incisors $\frac{1.1}{1.1}$ canines $\frac{5.5}{6.6}$ molars

Brown above yellow white below, dorsal line white & a band of same across forehead, cheeks, top of [nose]? lip & whole head & neck below white like body & insides of limbs. Tail rounded tapered hair longer than on **PIECE OF PAGE MISSING...** but not bushy there being no divergence **MISSING PIECE...** of the hair wh. is au contraire applied... **MISSING PIEC**

PAGE 48

Part 3 pl. V111 of drawings sent home in *No further information*

Large completed drawing & additional smaller studies numbered 1 & 2 of feet and claws, also an incomplete and un numbered one of teeth.

CAPTION UNDER MAIN ILLUSTRATION

Helietis Nepalensis Nat. size

Pencilled addition below

Olim Gulo type of Helietis Gray

Found in China size of nature

Helietis Nipalensis Mihi

Hab. Lower region of mountains(Himalaya)

Lower L. H. Side of page

(sent home 1/2 natural size May/37)

Nipalensis Nob. Collected March March/37

Helietis Olim Gulo Mature Nat. size May /33(see back of other drawing)

Sanscrit notes on this page

PAGE 48 - REVERSE

	Urva	Gulo Helietis
Snout to vent	1. 6. 0	1. 4. 0
Head to occiput	0. 4. 0	
Tail only	0.11. 0	0. 7. 1/2
Tail & Hair	1. 1. 0	0. 9. 0
Elbow to long finger	0. 5 3/8	0. 3 3/4
Oscalcis to long toe	0. 2 3/4	0. 2. 1/4

Longest digit	0. 1 ⁷ / ₈	
Longest nail	0. 1 ¹ / ₂	0. 0. ⁵ / ₈
Ear from lobe	0. 1 ¹ / ₄	0. 1 ¹ / ₈
Ear from crown	less ¹ / ₂	
Weight	4lb	

See as Jour. July 1837, & Ap. 1836 **Above this note is a pencilled statement followed by 10 lines of sanscrit which include measurements**
 Another feem mature 16 inches from snout to rump, 4 teats[displaced]? in a large square in hindmost part of belly. 2 properly inguinal & 2 ventral [colours]? Saturnii brown above, below & the marks bright yellow of a golden tinge, the dorsal stripe runs from the brows nearly to beyond centre of back, nearly to hips. The internal edge of ears & intire(sic) margin of upper lip are [concolorous]? with body below: the transverse facial band is confluent on cheeks with colours of interior surface which covers the whole internal surface of the limbs down to hands & them too, more or less. But in the hind extremities it ceases short of oscalcis. The body is cylindric but rather full: the limbs rather short & stout, the head somewhat oval with pointed snout, rounded well defined muzzle in wh. nares are opened to front with narrower prolongation to sides. The hands & feet subequal in size. Soles of hands quite nude, fingers gradated as in man. 3 central nails subequal & much longer than other two of wh. WORD MISSING thumb is decidedly the least. These nails are distinctly fossorial round blacked deep based comp. blunt, very little bent & sharpened below save near tips where channeled. In hind extremities salient but halfway to oscalcis. The central two are equal & 2 lateral subeq. the thumb rather more remote. Nails smaller subeq. simple blunt & compressed **MISSING WORD** balls support base of fore fingers **MISSING WORD** of thumb being nearly equal to and **MISSING WORD** in series with the rest. Two ovoid ones support wrist disposed sub- transversely & obliquely touching postially & spreading apart anteally outer one 2 as big as inner, in hind feet the balls answering to these are much more elongated & approach forwards the baso-digital ones. A strong membrane unites all the digits to postial edge of termino-digital balls Feby. 27 1852 Got another from Bazaar of Darjiling. Colour rather deeper.

PAGE 49

India House November 1852

No. 54

Main illustration in colour at lower bound edge of page

CAPTION

The Balasur or Sand Hog Arctonyx Collaris

Sikim Tarai Feby 1846

Next to the name of the species is another name Isonyx Taraiyensis & some

Sanscrit notes

In addition to the main illustration there are two further sets of smaller illustrations
 Feet, stomach, anal parts in situ & dissected off of Arctonyx all numbered 1.

Anal parts in situ & dissected off stomach and caecum of the civet all numbered 11.

Note Each of the smaller illustrations have further individual captions

PAGE 49 - REVERSE

Table of measurements

Snout to rump `	1.10 1/2
Head to occiput straight	0. 6 3/8
-ditto- curve	0. 7. 0
Snout to fore-angle of eye	0. 2 5/8
Thence to opening of ear	0. 2 1/8
Length of ear from forebase	0. 1 1/4
Ditto from hind base or hand	0. 0 3/4
Tail only	0. 5 1/2
Tail & hair	0. 6 3/4
Girth behind shoulder	1. 2. 0
Foreleg from elbow to base of claw	0. 5 3/4
Length of palma and claws	0. 3 1/8
-ditto- longest claw	0. 1 1/8
Hind leg tibia	0. 3 1/4
-ditto- tarsel to base of claw	0. 3 1/8
- ditto- longest claw	0.0 5/8(could be 6/8)

Weight 12 lbs.

TEXT WRITTEN AT RIGHT ANGLE TO TABLE

Comparing the posterior of the Balasur & Zibet. In their exterior appearance, we note that the whole region about the anus & vulva present a smooth uniform naked space with no division & no sign of the bag or pore whereas the same space in the Zibet is divided into two distinct spaces each thickly covered with short soft hair, viz the anus & the perineum 2nd that the peroneal part of Zibet forms a tumidity having a central longitudinal cleft 3rd that the perineum is very short in Balasur but long in Zibet. In neither animal do the anal glands make any appearance outside the sac gland & pore being internal [all]. The small sac of the zibet is quite similar in form & position to that of the Balasur & has a similarly placed pore just within the sphincter. But the sac is much smaller in the zibet, not larger than a big pea & is glandular throughout. The neck of the sac is short & thick & the pore centro lateral in both. The special peroneal sacs of the zibet have nothing analogous in the Balasur. They are peroneal wholly, two bags of the size & shape of an almond, lying on each side of mesial line of the perineum with glandular walls & lining throughout hairy. They are thick & turgid externally & not like the anal gland & sac externally level. What is odd is

that the hairy zone round the zibets anus is so large tho' the anal sacs be so small.

Titalya Sikim Tarai Feby 10 Female

Teats 6-4 ventral and 2 post inguinal. Anal & genital region & base of thick tail forming a large nude smooth flat space on either side (centrally) of anus, one large pore leading into a large, rounded cavity wherein is secreted a foetid liquor. Vulva & perineum simple. Seems young & has never bred. Is a thick bodied massive but elongated animal with broad ovoid head. Long sharp mobile pig like snout extending much beyond the teeth. Small pig-like eye placed nearer to the ear than to the snout & having a round pupil. Nares terminal with a curve to the sides or apico-lateral opening. Nose all round them nude. Ears short broad wide ovoid simple covered in & out with hair. Simple no processes save one resembling the ant. Helix wh. is short. Neck thick, body longish heavy, tail short 4th to 5th of length on animal rounded & tapered from a thick base. Limbs short & heavy sub.plantigrade. Fore limbs stouter with larger fossorial claws. Palm quite nude smooth with trilobite large ball at base of toes & round large carpal one. Planta ¼ covered with hair next the os calcis & a trilobate basodigital ball. Five digits before & behind with thumbs little retracted. The four digits of anteal extremities near equal & their nails quite so. 2 central digits with nails equal & 2 lateral also equal, thumb & its nail much smaller. Digits not free but nearly blended into palmary mass wh. however is not much cushioned or fleshy. Hind toe gradated like the anteal & nail also. Foreclaws large fossorial compressed moderately curved, rounded over[cultrated]? Below. Hind claws smaller & groove below. Pelage thick course, moderately adpressed not much elongated. 2 sorts of stuff one hair harsh & straight the other more woolly & wavy & shorter but very course. Long hair 2 ½ to 1 ¾ inch long. Snout, anus & soles of feet nude all the rest of animal clad. Colour is dull straw yellow shaded with black & the limbs & sides of the head all black divided by a broad white line along the top of head & a large white patch on each cheek. Ears black with white anteal edge. Chin black & thence a curving black line to ears wh. envelopes [white]? cheeks, throat white. The long harsh hairs have a white base & black tip. Each part large the longest sometimes with a small **MISSING WORD** bit of white or rather straw yellow. Lungs 6 lobed – 4 right – 2 left. Liver six lobed thus: right 2; central & largest divided, 2 more (or 1); left, 2 whereof the outer is small or lobulous. So we may reckon 4 chief, or 6 total divisions. full bladder elongate & 2 inches by half an inch placed in deep cleft of large central lobe & half embedded. Bile green & thin. Gall duct 2 inches long enters intestines one inch below stomach tongue shaped deep red 4 ½ by 1 inches (sic). Pancreas elongated 6 inches by ¾ inch, pale. Lowest end for 1 inch attached close to intestines with attachment beginning where gall duct ends or bile enters gut. That is 1 inch below stomach. Rest of pancreas free. Stomach 9 inches by 5 along outer & inner arches, elongate, or nearly equal width throughout & simply solvent for the most part though there be a thickening of the coats towards the lower end but

without folds or processes or [rings]? on inside. Intestines 17 feet long, of small uniform caliber & no distinction of great & small gut & no caecum but last 8 inches widened to double or treble the width of the rest & $\frac{3}{4}$ wide but no processed on inner coat here. Some remains of ground insects such as found in dung. Kidneys ovoid, dark 1 $\frac{1}{2}$ inch long. Outercoat not hard or cortical nor any lobular divisions within. Heart 2 inches by 1 $\frac{1}{2}$ dark & muscular (orifices of stomach terminal) of a Zibet killed with the Balasur the stomach is 9 inch by 4 along arches is less long & of less even width & thicker coated & has the orifices less terminally & the lower end more decidedly thickened in the coats. There is in Zibet a distinct fundus, the upper orifice being an inch off the end of the organ. Zibets intestines are 10 $\frac{1}{2}$ feet long, much shorter & wider than the Balasur & have the terminal enlargement more marked. Average width of those of Zibet $\frac{7}{8}$ & last 11 inches are 2 $\frac{1}{2}$ inch wide.

Average of Balasur's gut but $\frac{3}{8}$ of the wide terminal wh. is 8 inch long, $\frac{3}{4}$ inch only. No caecum in Balasur, in Zibet a nipple like caecum 2 inches wide part of gut simple in structure in both, in Zibet full of [Bair]? Fruit, in Balasur of insects & stomachs of both alike empty. The Zibet has lungs with 7 lobes or one more, one of the left ones being deeply divided, not so in Balasur. Zibet's liver is 7 lobed 2 left of central, so deeply divided as to count for 2. Right 3 including lobulus. So here also is one lobe more than in Balasur & Zibet's gall bladder is wider & shorter or less 2 inches by 1. Spleen of both similar. Zibet's 6 inches by 1 $\frac{1}{2}$ inch. Heart 2 $\frac{1}{4}$ by 1 $\frac{1}{2}$ Kidneys 2 inches by 1 & same form & character in both. Tongue of Balasur smooth not [intensile]? Roof of palate with a series of large [arcuate]? Ridges. Mustaches(sic) small in Balasur large in Zibet. Tongue of Zibet rough & extensile. It's palate papillate as well as ridged & the ridges nearer & less developed. The Zibet has the anal & genital parts quite different. They are not nude but covered with close soft short hair & clearly divided into anal & peroneal parts whereof the latter has a mesial division(inside) & is reversile but the anal not & the pores & the anal glands are less palpable in Zibet tho' similarly situated & the secretion much thicker & less fetid. The anal apparatus of the Balasur when dissected off the animal shows two bags or sacs one on each side the anus about as big as a sparrow's egg. Ovoid about $\frac{3}{4}$ inch by $\frac{1}{2}$. The basal part surrounded by a zone of glands, the apical part mere skin thin & smooth. Each bag has a short thick neck wh. is also free of a gland & opens by the large pore before noted into the side of the anus. The lining membrane of the bags is very fine and smooth.

PAGE 50

Coloured illustration facing bound edge

CAPTION

The Bharsia of the Nepalese

Hab. Lower region of the mountains

Sanskrit notes below

Note nearby

Same as the Biju of Hindosthan(sic) OR Mellivora Ratellus

Pencil illustration of a head facing leading edge of page

CAPTION

Ursinee

Genus Ursitaxus Nobis

Sp. U. Inauritus Nob. Type

Ursus Indicus. Indian Badger Pennant

[Guls]? Sub. Genus Rattel

Variety of common species

Muckwanpur April 30 Mature male

Ursitaxus Mauritius Mihi

Bharsia of hills Biju of plains

NOTE

This page has additional illustrations of a skull, jaws, soles of feet and a Ratel with head resting on it's paws

PAGE 50 - REVERSE

Table of measurements

Tip nose to base tail	2. 8. 0
Tail	0. 5. 0
& Hair	0. 6. 1/2
Carpus to largest finger	0. 4. 1/8
Heel to largest toe	0. 4. 1/2
Head length of	0. 6. 3/8
Nose to fore angle of eye	0. 2. 0
Thence to bottom of eye	0. 3. 1/4
External opening of ear	
Circuit of body	2. 5. 0
Longest nail before	0. 1. 1/2
-ditto - -ditto- behind	0. 0. 5/8

Text directly below the table

Forefeet very stout & massive with huge digging nails, digits solidly blended together like metacarpus, the forward 1/2 only of the last phalanx being free.

Whole [interior]? surface perfectly nude to carpus, the rest being full & fleshy suitable to keep such huge nails off ground. Pentadactylous gradation as follows

largest central, then index, then annular & these 3 & their talons subequal, then little digit gradated as in our hand, considerably feebler than the above, it's nail so also, then the thumb sub-remote as with us and far inferior in

strength & size of it's nail to any of the others. There is a full ball to end of each digit but the bases of all 5 rest on one common large full ball just behind wh. is another as large almost & round for metacarpus. Hind feet considerably smaller the nails conspicuously less & all 5 of them nearly equal, the external digits less remote & the internal also. The nails of the former the stoutest & the rest diminishing in strength[regularly] from it tho' the difference between them be trivial. The balls of these hind toes resemble those to fore digits but there is no metatarsal one answering to metacarpal. Nude to oscalcis. Nails are typical diggers on fore feet i.e. sub arched, not acute stout & long, with broad convex backs & sharpened edge below. Thick set massive animal with short thick neck & broad heavy head, head obtuse conico depressed, crown broad & flat. Nose short & conic, muzzle small rounded ungrooved clearly marked with nares opening chiefly to front. Eyes small browless, pupils round piglike rather nearer nose than ears. Ears vertically opened, low down external conch obsolete. Marginally indicated oval shape interior unprotected. Limbs short & hairy fore considerably stouter & feet & talons –Do- - Do – plantigrade purely 5 toed nude to carpus & to tarsus, membranes almost obsolete above, toes gradated as in our hands and thumb sub remote & the smallest & feeblest of all. Talons – Do – stout, typically diggers little arched obtuse round edged above, sharp below. 5 balls for ends of fore toes, that of thumbs vague one large unbroken one for **Metacarpus base of digits** written above & one – D^o- for Metacarpus placed on outer side. Balls of hind toes – Do – same that no metatarsal ball. Tail short rounded tapered, fur of one sort bristley applied to skin wh. is very thick & half exposed on belly & the insides of limbs. Tongue sub papillated not horny or aculated back, soft & small. Feet as in Bears precisely except that inmost digit or thumb subretracted in our animal and not in Bears and that the interval between the balls at ends of toes & the great one at their insection(sic) is nude in our animal, covered with soft hair in the Bears. Anal pouch as in TWO WORD SPECIES NAME? & Mephitis(-----Horsefield) rather than in [Taxus]? agree with former, point by point, save only, that excretory ducts are rather longer & their termination in the rectum nearer it's orifice.

PAGE 51

India House Novr. 1852 No. 24

Main Illustration

One animal standing(coloured) and one reclining(uncoloured)

CAPTION

Malsampra

Martes Flavigula 1/3 size of nature
 Hab. Central region of mts.
 Mall Sampra of the Nepalese

An additional 8 illustrations of
 A Penis, Testes, Anal Glands, Penis Bones
 Stomachs- 1 young, 1 mature and, the underside of a Foot

This page has some Sanscrit notes

PAGE 51 – REVERSE

Table of measurements		Mas. Old	Mas. Junior Fem. Junior
Snout to vent	1. 9. 0	1. 8. 1/2	1. 7. 3/8
Snout to occiput	0. 4. 3/8	0. 4. 1/2	0. 4. 1/8
Snout to foreangle eye	0. 1. 1/2	0. 1. 1/2	0. 1. 3/8
Thence to forebase ear	0. 2. 3/16	0. 2. 3/16	0. 1. 7/8
Ear from forebase	0. 1. 1/2	0. 1. 1/2	0. 1. 1/2
Ear from parietes	0. 1. 1/8	0. 1. 0	0. 1. 0
Tail only	1. 3. 1/2	1. 3. 1/2	1. 3. 1/4
Tail & Hair	0. 5. 0	1. 5. 1/2	1. 5. 1/4
Height before	0. 7. 1/2	0. 7. 5/8	0. 6. 3/8
Height at ?	0. 9. 1/2	0. 8. 1/2	0. 7. 3/4
Arm	0. 3. 1/4	0. 3. 3/8	0. 3. 1/4
Forearm	0. 3. 3/8	0. 3. 1/4	0. 3. 0
Palm & Nails	0. 3. 0	0. 3. 0	0. 2. 3/4
Thigh	0. 3. 3/4	0. 4. 0	0. 3. 1/2
Leg to Oscalcis	0. 4. 1/16	0. 4. 0	0. 3. 3/4
Planta & Nails	0. 4. 1/16	0. 4. 0	0. 4. 0
Girth behind shoulder	0.10.1/4	0. 9. 1/2	0. 7. 1/2
Weight	6 1/2 lbs	less 6lbs	4lbs

Note: There is a 4th column to this Table which is written in Sanscrit

- (1) Dorjiling July 6. Shot together mid day in wood by house whence came to plunder in fowl house whence had previously carried off geese, ducks & fowls innumerable climbing the great trees & eating spoil at top where flat created by forking of branches. Climb famously & run well but not equally to proper Weasels on foot tho' climb better . Large heavier animals with more of the plantigrade about their whole structure & action. Move with whole wrist on ground but not whole metatarsal hardly any part of it being plantigrade before, digitigrade behind & hence hind quarters are tilted up & back much curved. Run by leaps like rodents not like

dogs and the tail raised curvewise as drawn. Form cylindrical & elongate. Head conicodepressed with short conic face & long flat forehead & head. Nares with dip along mesial line and mesile swelling on each side of it. Nares wide lunate, lateral in a clean round [muffle]? Having a dividing line in front & a bone with no groove. Lips compressed moustache small & tufts above & behind eye & on cheek & chin also small. Eye small not prominent pupil rounded. 3 lid **MISSING WORD** drawn greatly all over & has black edge. Ears medial remote, wide ovoid. Helix with large fissure behind. Tragus & anti-tragus very vague. Three or four parallel processes answering to and helix in interior of ear the conch of which is low & orifice basal. Neck & body thick cylindrical elongate[d]. Limbs short very strong equally so but hind longest. Hands large with big palm nude to end of wrist. 4 large soft confluent pads support & envelope bases of toes, taking in the first phalanges. Two large pads for wrist, outer larger & between them a round spot in [mid]? Metacarpus covered with hair which also covers membrane of toes leaving their tips only bare & there are full round pads for end of each toe. Pentadactylous fore & aft & all the toes in line, the 2 central equal & the 2 lateral[intense]? & the thumb least & most retired. Digits long stout united to edges of terminal pads by an elastic spreading membrane as big as otters. Nearly. Hind extremities like fore but foot rather less. Hand & planta thickly haired save large baso digital pads & termino digital also nude.[interstices]? & p----- b----- **MISSING WORDS** of toes as of fingers hairy. Talons raptorial scansorial compressed curved acule or reversile as in cats but not sheathable at all scarcely. Tail long **TWO MISSING WORDS**

Teats in these males very small & only four traceable wh. are ventral. Anus large, on either side a round gland as big as tits egg whence duct leads to pores one on each side nipple like within the orifice opening obliquely at their tips. Secretion subaqueous dark brown & very fetid & copious. no other glands or pores prepuce peronium & groins being hairy & simple. Penis & testes dog like. Penis bony & long cylinder 2 ½ by 3 inches long tip bent down & ending in 3 small knobs in region of glans. Testes round moderately pendant. Tongue with very minute corneous papillae. Intestines seven feet equal all the way ½ to 5/8 wide. Stomach curved ellipse long & narrow with orifice terminal & [coats]? rather thick but on the whole membranous. Liver three lobed each sub-divided, the 2 large each into 2, the 3d into 4 or 5, gall bladder large in cleft of largest lobe. gall aqueous greenish dark. Lungs 6 divisions gr. of stomach 7 ¼ inch by 3 3/8 Intestines of lesser 8 ¼ feet no caecum. Diam. ¼ inch. Stomach gr. arch 8 ¾ inch by 3 ¾. Empty & flattened on table. The arm is 1 bone 3 ¼ inches long. Fore arm 2 bones widely separate 3 1/8 inch. Wrist has 8 bones 3/8 inch long.

Metacarpus 5 bones [1 $\frac{1}{16}$ longest]? digits 5 each with 3 joints save thumb which has 2 long digits 1 $\frac{1}{4}$. There is a fine elbow projection & others on either side wrist & the limb has very fine lateral motion equal to half pronation & half supination. Femur is 3 $\frac{1}{2}$ inch. Tibia 3 $\frac{1}{2}$. Fibula quite separate. Tarsus 8 bones 1 inch long. Metatarsus 5 bones max $\frac{15}{16}$. Toes 3 phalanges save inner wh. has 2. Longest toe 1 $\frac{1}{4}$ [inguinal]? phalanx very mobile as much as cats so that talon can be turned quite up but not at all sheathable.

Teeth $\frac{6}{6}$. $\frac{1.1}{1.1}$ $\frac{5.5}{6.6}$ (besides calcareum)

Cervical vertebra 7. dorsal 14 & ribs 14. lumbar 7. sacral 4 [caudal]?

Intestines = 4 lengths of animal.

- (2) Young female shot at Sonadah (7000 feet) in a tree. Teats 4 inguinal Lungs 5 lobes & a lobulus. Left 2 right 3. Lobulus attached to lowest right lobe wh. is largest. Liver 7 lobes, 4 left, 3 right upper the larger, right upper much largest. Lower ones angulated or lobated much. Gall bladder purse shaped half attached to big lobe in cleft between it & next wh. basally attached. Spleen long & flat & deep and attached [loosly]? To greater arch of stomach. Pancreas same shape & size but while attached one inch below stomach to inner side of gut where gall duct enters gut. Pancreas no duct in contact with gut. Gall duct one inch long & enters gut as much below. Stomach membraneous elongate, equal width remote MISSING WORD Upper terminal lower subterminal 9 inches by 3. Intestines 6 ft 3 inch of Consid. equal width $\frac{5}{8}$ inch. No.....

The account ends at this juncture

TEXT ON LEADING EDGE OF PAGE WRITTEN AT RIGHT ANGLES TO THE PRECEDING ACCOUNT

... the toes are completely united by MISSING WORD dilatable membrane wh. is furred below the termino-digital & baso-digital or metacarpal balls full MISSING WORD also the carpal. No tarsal one metatarsal 4 lobed confluent like metacarpal. Talons not at all sheathable much compressed grooved below reversile as much as cats. Papillae of tongue not spinous

PAGE 52

6 ILLUSTRATIONS showing Skulls & Jaws separated into two groups

1. BALASUR $\frac{2}{3}$ NAT. SIZE (3 angles)

Top - Full on view

Middle - Profile

Lowest - Vertical view of upper jaw (captioned thus)

2. CIVET $\frac{2}{3}$ NAT. SIZE (3 angles)

Top - Full on view

Middle - Profile
Lowest - Teeth

The caption describes both animals as young

PAGE 52 - REVERSE IS BLANK

PAGE 53

MAIN COLOURED ILLUSTRATION

Himalayan yellow-throated Marten

CAPTION

Martes Mustela Flavigula Mall Sampra of the Nepalese region

Hab. Central region of mountains

There are some additional pencil drawings

Fore and hind foot – size of nature

Head seen from above

NOTES N.B. See other drawing for anatomy

Extra Sheet V111 as sent home Dec. 1835

Further notes in Sanscrit

PAGE 53 - REVERSE

This page is written in two sections. One where the text faces the bound edge and the other where it faces the outer edge

UPPER SECTION OF PAGE TEXT FACING LEADING EDGE

Table of measurements

Part of this may have been obscured by binding?

Snout to rump 1 .8. 0

Tail less hair 1. 4. 0

Head (straight) 4 1/4

Ears to ant. Base 1 1/2

[Cubit to sole]? 3 1/8

Knee to heel 4 1/4

Wt. 3 lb 14 oz.

Feem. Valley Novr. 20 shot in tree whence several were eating pulpy fruits.

Tongue 3 inches covered uniformly with close pointed incurved cornious papilla. Anal apparatus within the sphincter a glandular sack on each side opening to nipple pointed to thighs. Uterus [biomis.]? horns ending each in small oval ovary. Corpora lutea visible ergo

mature ovientum fattish reaching to pubis. Spleen bright sanguine tongue shaped 2 1/2 by 3/4 t pyloric end Stomach bagpipe gr. arch[2]? Inches, lesser 2 1/2 when emptied & undilated. Within smaller arch 1/2 inch from pyl. Orifice. Glandular body size of french bean. Coats of st. thickish equally so contents pulpy fruits & a nut. Pancreas white threadlike 5 inch long attached to duodenum. Gall bladder 1 1/4 by 1/2 inch. Bile watery yellow. Gall duct enters canal close beyond Pyl. Orifice of belly. Lungs 6 lobed left much largest. Between right & centre lobes gall bl. is bedded. Kidneys void of fat nearly cylindrical & incurved[uncurved]? in longit extent. Intestines 5.5.0 uniform calibre no caecum tough thickish coated.No sacculi in larger. No cross or long bands in either. 3 lobes to right & 2 to left. Lung small central under [A---r] of heart. Aggregate of left lobes greater than of right. Heart is 1 1/2 long & 3 in circuit at base. Head conico depressed nostrum shortish ending in small round clearly defined muzzle wh. is subgrooved to front. Nares opening to front with curve to sides. Whiskers small & slender those of lips not stouter than the rest wh. are 2 on cheeks behind gape one on chin, 2 above each eye. Molars 5 . 5 incisors 6
6 6 6

upper level to front close free of canines, trenchant, lateral, larger, the lower pressed between canines & intermediate ones within the line of the rest. Canines sharp long curved & smooth. Lge, small oblique nearer nose than ear. Pupil round in dead, ears medial rounded remote hairy in and out. Helix attached to head high up near eye of sup. Surface large simple fissure behind antehelix [clear and conch]? Bounded above by its transverse process wh. is large & free or salient. Limbs stout, hind longer. 5 digits in one series. Plantigrade before digitigr. behind. Digits medial membraned to edge of terminal balls. Memb. lax and very dilateable. Sole fleshy & full. 2 carpal & 4 baso-digital balls no tarsal 4 baso-digital behind as before. Nails equal compussed [compressed]curved and sharp, retractile not sheathable. Tail subequal to animal. Head below white, neck below & breast golden yellow, belly shoulders and ant. part of back dirty **MISSING WORD** tipped yellow. Head and neck above, limbs, hind quarters & tail black.

NOTE *This page has a number of tears which have been repaired, in general this does not affect the text.*

PAGE 53 - REVERSE

Text facing bound edge

Female. July Valley. Snout to hip (jut of ischium) 1.7 1/2 Tail 1.3 & hair 1.5 1/2 Head (curve) 4 3/4 . snout to fore angle of eye 1 3/8 thence to basal opening of ear 2 1/4 thence to tip of ear 1 3/4 . Elbow to tip long finger 5 1/8 **MISSING WORD** to long toe 7 1/8. Wt. 4lb 1 oz. 4 teats in parallog. 2 sub inguinal two central intestines. Liver with 4 lobes extreme right split into several thin tongue like procepses. Next

largest deeply cleft & gall bladder at base of cleft half embedded bile pale green. Two next in left lobes intire. Lungs 6 lobed 6 small. Spleen deep red & tongue like. Subtir--- 1 $\frac{3}{4}$ by $\frac{7}{8}$. Heart very muscular ~~spleen~~ pancreas 6 inches by 1 of utmost [drain]? $\frac{1}{2}$ attached to apron of stomach, half to gut, gall duct enters gut about 1 inch from stomach kidneys simple. Stomach 11 inches on gr. & 1 $\frac{3}{4}$ on less arch, coats of small equal thickness with however a clear muscular aspect on surface. On both ends nearly [9 $\frac{7}{8}$] wide & having the oriface sub approximated. Intestines [6.4] thick coated ea. diameter of $\frac{1}{2}$ inch. No bands, sacs or other app of retardation. No caecum. Fur **MISSING WORD** seems young. On either side the anus embedded in the cellular membrane a pear shaped gland, the walls of wh. are almost $\frac{1}{12}$ inch thick & lining tough but smooth. Each opens laterally into the rectum by small nipple- like process pointing towards thighs & closely in contact with the gland so that there is no apparent duct from gland to nipple. Secretion deep yellow rather thick not oderous nor offensive.

May 1st feem junior Central Hills. Great gut & small uniform equable thick coated. No caecum. Liver 3 lobed. Left & smallest cut deeply in 5 parts. Central & larger into three parts between 2 larger of which pyriform gall bladder half embedded , gall dark green. Stomach bagpipe thick coated large longitudinal[plicee]? within & less cross ones. Snout to dorsal base of tail 18 $\frac{1}{4}$ Tail 15 or 17 $\frac{1}{2}$ with the hair cylindric. face short & conic. Head broad & flat. muzzle medial. definite engrooved Nares lat. & antial. eye medial nearer snout than ear. Ears broad oval, as wide as high helix freely moveable with large simple fissure behind. Both **MISSING WORD** of antihelix clearly defined & of consequence the [arch] at bottom of wh. has round opening of and passage. Whiskers small purely digitigrade but feet large equal fore & [aft]? Toes long lats. do. antea. thumb not much withdrawn. Interdigital memb. to postial edge of terminodigital balls large lax hairy. Talons equal strong tearing comp. acute **MISSING WORD** [erigible]? & sub [stretched]? Anus small simple, semblance of lat.pores but vague. June 15 two young $\frac{3}{4}$ ths. grown necks very orange body rather sordid.

PAGE 54

LARGE COLOUR ILLUSTRATION OF MARTEN

Caption

Martes Flavigula

Mall Sampra

Nat. Size

(1st drawing)

See others

2 SMALL DRAWINGS

1. Side view of teeth – size of nature
2. Front view of the teeth magnified

Pencilled note to left of the main illustration – very faint

Mal Samprah Mustela Hardwickii

Zol. Jour 1V 230

And in pen

Mustela Hardwickii large as life woods of Nepal

Mustela Flavigula **MISSING WORD** Martes Malsampra

Note: This page has some words in Sanscrit. It also has some damage and a piece is missing

PAGE 54 - REVERSE

Note: The leading edge of this page has 3 lines of Sanscrit written along it's length

Muzzle to nape 4 in. Nape to insertion of tail 16 in. In. of tail to tip of tail (end of hair) 17 in. **MISSING WORDS**

...this animal in Western Hills 20 $\frac{3}{4}$ inches from snout to rump and 19 $\frac{1}{2}$ for tail there called [Tutarate]? & [Kosiar]? Lives in holes & rocks & in trees. Climbs latter admirably, preys on mice, rats, hares & fawns of [Kakar]? Or [Ratura]? i.e. Cervus [Mantjac]?

Is an animal of great fierceness, energy & intelligence, gregarious in packs of 6 or 7 to 10. Often hunt pheasants thus, some of them following them up the trees, others chasing on the ground. Eat lots of wild fruits too. Saw 6 or 8 on a wild Loquat tree eating the fruits can be tamed & trained to hunt. Teats 4.

Teeth $\frac{6 \text{ ins}}{6}$ $\frac{1.1}{1.1}$ Canines. Molars $\frac{5.5}{6.6}$

Above: 3 false molars, 1 [carnic]? & one large flat tuber. one
 Below: 4 false molars, 1 carn. with flat heel & 1 med flat tuber. one
 Muzzle divided by a groove[acuminated]? Ears of only [m----ate] width & inclined to pointed form. Not set on low down on sides of head. Neck rather long. Body elongated thickened behind. Tail very long cylindric rather bushy the hair being divergent. Legs not very short fore & hind of equal strength. Has hind longer motion plantigrade 5 toes on all feet ~~indies~~ thumbs not separated. Nails sharp semi-retractile & [subvaginate]? Soles of feet hairy between the balls & between the phalanges judging by action & formation of feet. I should say this (like mongooses) ~~and other weasels~~

A crease in the page makes it difficult to transcribe next 2 words

...plantigrade before – digitigrade behind. Before the whole palm carpus & metacarpus is denuded & balled & there are besides the 4 anterior balls of the palms, two posterior ones whereas behind, only half of the tarsus & metatarsus or space from heel to end of fingers **toes written above fingers** (the space answering to what called palms of fore hands) is naked & the two posterior balls of the soles are wanting. In fore feet there are 5 terminal balls to fingers to

keep nails off ground **two words written above the line**
[beside is]? 4 balls at the anterior, & 2 at the posterior part of the
palms. In the hind feet there are 5 balls to ~~fingers~~ toes as before, and
4 anterior balls to soles but not posterior balls – why? Because the
ordinary action is plantigrade, before, digitigrade behind? The
animal no doubt at its pleasure can go digitigrade before &
plantigrade behind in a limited degree but it is not formed for such
action. That it is however plantigrade before behind in its [
structure]? **At this point a tear in page cuts off the next word** & in
its ordinary action appears clear to me from noting
its movements. examining the form of its feet & hence I suspect the
extreme curve **part of page missing here** as well as the distinctive
character of its rapid movement & of its st---**part of page missing**
... has a strong odour, but not extreme. The hands are larger than
part of page missing **THREE WORDS MISSING** ..to edge of terminal
balls & the equal nails **MISSING WORD** tearing & somewhat
sheathed

**NOTE: This page has a number of crossings through and
substitutions. In addition a missing corner section affects 7 lines
of text.**

PAGE 55

PART COLOURED UNFINISHED ILLUSTRATION OF A
MARTEN

CAPTION

Martes Toufeeus Mihi

1/3 Nat. Size Habitat Tibet

See Cat. Of Tibetan Mammals in Journal Asi Soc. Beng. Toupfi of Tibetans

Home May [42]?

Pencilled note Gray says it is a Sable!

Top L. H. Side of page above illustration Mustelinus Species & as
follows:-

- (1)Toufeeus
- (2)Flavigula 3 sheets
- (3)Strigidorsa
- (4)Tibetanus
- (5)Kathiah 2 sheets
- (6)Subhiniachalana
- (7)Temon [as separate]
- (8)Canigula
- (9)Erminea

PAGE 55 - REVERSE

NOTE Trader's skin got from Tibet called Toufee sent home in 1842 from Nepal

PAGE 56

Note :Transcriber unable to make out details above table i.e. 1 line

Table of measurements

Tip snout to root tail	1 .8 ¼
Head [etc] to occip. Jut	4 ½
Nares to foreangle of eye	1 5/8
Thence to base(lobe) ear	2 ¼
Length of ear[free]? From scull (sic)	1
Breadth of ear 'tween bases fore and aft	1 ½
Girth between shoulders	10 ¼
Elbow to t----carpus	3 ½
Thence to tip of long finger	2 7/8
Knee [t]? To oascalcis	4 ½
Thence to tip long toe	4 ¼
Tail & Hair	1 .7 ½
Tail only	1 .4 ½

Head broad & [depussed?depressed]? with remote eyes & ears, short thick neck, long body & powerful limbs, & tail nearly as long as animal, cylindric & rather fuller furred than body

PAGE 56 - REVERSE –BLANK

PAGE 57

The perinaeum & scrotum of ordinary appearance & hairy like the promimate parts, the latter pendulous like a dog. On pressing the anus a quantity of foetid blackish matter exudes from a pore situated on each lateral side. The penis from base of scrotum to [front]? Is 4 inches long & covered with thickish hairy loose skin & the penis is of a bony structure ending at the front in 3 [crooked]? knobs of bone[pointed]? with cartilage & turned downwards. The liver of a red colour interspersed with yellow spots – it consists of 6 lobes the right one being by much the largest. The gall bladder small & situated between the right & middle lobes. Pancreas long & thin of a dark red colour & lies behind the stomach. Length 4 inches-breadth 1 inch Stomach large – length of greater **MISSING WORD** 7 ½ inches lesser **MISSING WORD** 2 ½ - Do – coats of stomach thick inside[are]? pale & smooth with slight[stratus]? of red. On opening the stomach it was found partially filled with the remains of fruits & intestines of some small animal. Spleen very small of a bluish colour length 1 inch, breadth ½ inch Intestines from pyloric orifices of stomach to end of rectum 8 feet 9 inches long – for first 8 feet the coats of intestines are thin & almost transparent after which they are very thick. General breadth of intestines for first 8 feet about ½ an inch. The remaining 9 inches about ¼ inch. **MISSING WORD**

OR WORDS....inch long by 1 inch broad – colour pale blue interspersed with yellowish spots. Situated at lower part of the anus at each lateral side there is found a small bag about the size of a small garden bean but of a round shape which secretes a large quantity of dark coloured foetid matter of a fluid consistency which fluid is sent forth by a pore on both sides of the anus

Note; a crease in paper makes it difficult to make out the next word or part word – tertial coat of bag of a grayish colour very much puckered

PAGE 58

India House November 1852

No. 67

COLOURED ILLUSTRATION WITH PENCIL BACKGROUND DETAIL AND A SMALL OUTLINE DRAWING OF A STOMACH

CAPTION

Mustela Strigidorsa Mihi

Sikim August 1849

Gymnopus Strigidorsa Gray $\frac{3}{4}$ natural size

Hab. Central & Northern regions of mts. (Himalaya)

With stomach

Note: This page has some sanscrit notes

PAGE 58 – REVERSE

Table of measurements

	<u>OLD</u>	<u>YOUNG</u>
Snout to rump	1. 0 0	0. 9 $\frac{1}{2}$
Head –straight	0. 2 $\frac{3}{4}$	0. 2 $\frac{5}{8}$
Tail only	0. 5 $\frac{1}{2}$	0. 4 $\frac{1}{2}$
Tail & Hair	0. 6 $\frac{1}{2}$	0. 5 $\frac{1}{8}$
Palma to end of nails	0. 1 $\frac{3}{4}$	0. 1 $\frac{1}{2}$
Planta from ocalcis	0. 2 0	less 2.0
To end of nails		
Snout to fore angle eye	0. 0 $\frac{15}{16}$	0. 0 $\frac{3}{4}$
Thence to base of ear	0. 1 $\frac{1}{4}$	0. 1 $\frac{1}{16}$
Ear length	less 1. 0	0. 0 $\frac{7}{8}$
-Do- free width	0. 0 $\frac{1}{2}$	less $\frac{1}{2}$
Girth of chest	0. 4 0	0. 3 $\frac{3}{4}$
Weight	7 $\frac{1}{2}$ oz.	5 $\frac{3}{4}$ oz.

Sikim Aug. 4 Old dead, young alive differs from Kathia by a golden dorsal stripe & by the gold of belly being much less broad or nearly linear (sic) Anus large nude. On either side a pore exuding very fetid whey like stuff.

The young taken alive was one of 4 at Takvor The young has cut all the teeth save the hindmost grinders below and is $\frac{2}{3}$ grown and is probably 3 – 4 months old. Teats 4 sub-inguinal. Tongue rough. Lungs 6 lobed – 4 right 2 left. Liver 6 lobes 3 right 3 left. Gall bladder on left side in a very deep cleft ~~making the~~ **MISSING WORD** ovoid. Gall duct half inch long enters intestine $\frac{1}{4}$ inch below stomach. Pancreas ~~small & missing word~~ 2 inch long lies along inner arch of ~~stomach & laterally~~ & along side of it. The tongue like spleen $1\frac{1}{4}$ long by $\frac{3}{8}$ inch wide. The pancreatic duct vague, lower part of organ attached to gut. Intestines 3. 8. 0 of small subequal calibre & no caecum. Stomach narrow quasi-cylindric, orifices remote but the lower not terminal there being a considerable blind end as wide as the rest, outer arch 4 inch inner $1\frac{1}{4}$

PAGE 59

MAIN COLOURED ILLUSTRATION

SHOWS TWO ANIMALS FACING IN OPPOSITE DIRECTIONS

THEY ARE NUMBERED 1 & 2

ABOVE: A SMALL UNFINISHED ILLUSTRATION OF A HEAD

BELOW: 2 STUDIES OF JAWS – Do – SOLES OF FEET

CAPTION

1. Mustela Subhemachalana Hodg. Nat. Size
(Vison Subhem Gray)
2. Mustela Temon Hodg. ~~Patorins Hemachalanus Nob Nat Size~~
Himalayan Weasel

1 senior, 2 junior less $\frac{3}{4}$ nat. size Home Dec. 1835

As extra sheet XX1

Hab. Northern region of mts.

Temon Bhotia names generic is now given **HERE A SECTION OF THE PAGE IS MISSING**... other dark one as $5\frac{1}{2}$ name?

N.B. For Temon see separate drawing

Note: This page has some sanscrit notes and other pencilled additions

PAGE 59 - REVERSE

Table of measurements

	(1)	(2)	(3)	(4)
Snout to vent	$11\frac{1}{2}$ to 12	$13\frac{1}{2}$	$10\frac{1}{2}$	$11\frac{1}{2}$
Head	2	$2\frac{1}{2}$	0	0
Tail only	$5\frac{1}{2}$	6	4	$5\frac{1}{2}$
Tail & Hair	$6\frac{1}{2}$	$7\frac{1}{2}$	5	$6\frac{1}{2}$
Palma & Nails	$1\frac{1}{4}$	0	0	0
Planta & Nail	$1\frac{1}{2}$	$1\frac{3}{4}$	0	0

(2) May 1840 another skin much larger than preceding ones $13 \frac{1}{2}$ from snout to rump & $7 \frac{1}{2}$ for tail or 6 exclusive of the terminal hair.

Head $2 \frac{1}{2}$ oscaris to tip longest toe $1 \frac{3}{4}$. Coloured as before i.e. bright [bay]? Or brown red. Edge of upper lip whole chin & spot on middle of neck below, white. Bridge of nose & last $\frac{1}{3}$ of tail brown black

(3) Another junior of a dark smoky hue like young of [Duansii]? wh. too In maturity is full red is about $10 \frac{1}{2}$ from snout to rump & tail 4 or 5 with the hair. Tail less $\frac{1}{3}$ of animal procured from [Kacha]? October 10th. Tail much less. Is it sep.sp.?

(4) Another $11 \frac{1}{2}$ & tail $5 \frac{1}{2}$ or with hair $6 \frac{1}{2}$. Lip & chin grey & altogether like drawing & 1st measured specimen. This however is a skin.

(1) $11 \frac{1}{2}$ to 12 inches long from snout to base of tail. Tail $5 \frac{1}{2}$ to $6 \frac{1}{2}$ with the hair. Head from jut occip. to snout 2 greatest width $1 \frac{1}{16}$ gr. depth $\frac{7}{8}$. Snout to foreangle of eye [$\frac{9}{16}$] thence to base of ear(lobe) $\frac{15}{16}$. Hand from jut of wrist to tip longest finger $1 \frac{1}{4}$. Foot from jut of oscaris to tip longest toe $1 \frac{1}{2}$ vermiform with conical depressed head somewhat arched from snout to occiput. Face [shut]? Somewhat truncate. muzzle small round well defined nares forward & to sides with a curve, a small antea groove but none superior, eyes & ears remote. Eyes medial oblique elongated with round pupils. Ears large, truncate transversely developed. Helix running a short way along superior edge of head & then suddenly turned down with large simple fissure behind clad with short soft fur on outside & on margin of inside & nearly hid by hair of cheeks. Mustaches moderate. strong lesser tufts on chin, cheeks, above eyes & behind wrists. Legs & feet short & small 5 toed [purely]? digitigrade. The intire soles being clad except the termino digital & three [buso-digital]? Balls. Fore & hind extremities of equal size. nails compressed, falcate & acute erigible but not at all sheathed fitted for climbing & running not for digging nor tearing. Tail cylindric $\frac{1}{2}$ length of body somewhat fuller haired towards end but without tufting. Colour uniform bright brown, darker along mesial line above. Nose, upper lip & forehead with 2 inches of end of tail black brown [mere]? edge of upper lip & lower jaw to gape, hoary, a white longitudinal stripe sometimes

N.B. 'or patch' written in pencil above last statement

on front of neck & some vague spots of the same on neck above. Feet frequently darker than the body a dusky brown, whiskers ditto. Fur close, glossy, shining & soft of 2 sorts, fine hair & soft wool. Latter & hair [basally]? of dusky hue. Externally bright brown. Hair longest $\frac{1}{2}$ to $\frac{5}{8}$ inch closer & short on head, ears & hands & feet. Has all the characters precisely of other species which see.

Teeth 6. 1.1. 4.4 upper incisors ranged straight to front, the 2 extremes

6 1.1 4.4 being larger, subcurved & [scaipt]? on outer side by action of lower canines. Incisors below crammed between canines with flattish level crowns wh. work on internal oblique crowns of upper series. Canines rounded large curved & acute, lower rather stronger with internal heels of molars 2 on either side above & 3 below, are false, the carnassials

above have an internal heel, a little antea to the central cutting lobe & behind, these teeth are largish transverse tuberculars (one on each side) subparallelagamic in shape & deep sunk in the centre as well as constricted either end being somewhat dilated, flat in general, but furnished on crown with tiny conical process. In lower jaw carnassial tooth has the 3rd or postal process somewhat heel-like & behind this tooth is a small round-bodied, flat-topped tubercular. Toes united by crescented membranes to the postal edge of the termino-digital balls of the digits. The membrane **MISSING WORD** but slightly dilateable 7 covered with fur. 2 central toes equal. 2 laterals also equal & rather less **MISSING WORD** thumb small & remote.

NOTE in a different hand

(See Asi. Journal Dec 35 for Auriventer vel Kathia and the same.....July 37 For HEMACHALANUS we must leave SUBHEMACHALANUS as the published name.

See Proc. Zool. Soc. Jany. 65 p. 118

PAGE 60

INDIA HOUSE November 18—rest of date covered by ink blot
1852 written above in pencil. No.66

Coloured illustration of two animals standing of a tree branch they are numbered 1 and 2

CAPTION

Mustela Temon Mihi M.S.

1.Mas. Size of nature

2.Feem – Junior

Darjeeling

To the lower left of main illustration are 4 smaller ones showing
A head and three studies of foot pads

CAPTION

Pads fully furred

To the lower right of main illustration another smaller one of a stomach

CAPTION

Lower & Upper

Hab. Northern & Central Regions of Mts

Killed at Darjiling 7500

NOTE This page has some additional pencilled notes and some in Sanscrit

The Caption under the main illustration has 3 subsequent lines of alternative names which have been crossed out.

PAGE 60 - REVERSE
Table of measurements

	JUNIORES(sic)	
	1 (Mas)	2(Feem.)
Snout to vent	0.11.0	0. 9 ¼
Tail only	5 ¼	4 ⅛
Tail with hair	5 ¾	4 ¾
Head to occip. straight	2 ½	2. 0
Snout to foreangle eye	$1 \frac{11}{16}$	$\frac{9}{16}$
Thence to base of ear	$1 \frac{3}{16}$	$\frac{13}{16}$
Vertical extent of ear	1 -	$\frac{11}{16}$
Extent of free development of ear	$\frac{9}{16}$	$\frac{7}{16}$
Girth of chest	3 ¾	3 $\frac{5}{8}$
Length of foreleg from elbow to end of claw	$2 \frac{7}{16}$	1 $\frac{7}{8}$
Length of hand from carpal ball to end of long claw	1 ¼	- 1 -
Length of hind leg to end claw	$3 \frac{5}{16}$	$2 \frac{9}{16}$
Length of tibia	$1 \frac{3}{16}$	$1 \frac{5}{16}$
Oscalcis to end of long claw	$1 \frac{15}{16}$	$1 \frac{9}{16}$
Weight	9 oz.	5 ½ oz

Dorjiling Nov. 1 Killed in the house at dawn male junior smoky brown with face & tip of tail blackened. The whole lips & chin & a large spot on neck below white. Structure typical. Fur close thick fine. The woolly or furry piles far exceeding the hairy wh. are scant & rather longer ¾ inch long paled towards bases rest black nearly. Tail ½ length of animal cylindric slightly tapering & not fuller of hair than body. Head broad & depressed with short snout. Muzzle nude in front only & with a faint vertical groove between the dog like nares. Eyes small full nearer snout than ears. Ears rounded truncated with the free portion hairy in front internally but nearly nude elsewhere & a large fold of the skin posteaally. Mustachios fine also the tufts over eyes under chin & behind the forearm. Body long & cylindric. Neck moderate & thick as body. Limbs moderately strong digitigrades. Pads hairy save on the balls wh. are nude & smooth. 5 toed fore & aft. 2 centrals equal & 2 laterals also. Thumbs retracted & small. All toes enveloped in membrane to posteaal edge of terminal balls. Great pad or ball a trefoil. There is also a small round carpal ball to forefeet & a smaller vague one at base of inner digit of hind feet. Nails acute(ule)? With deep compressed bases like cat but not retractile nor so sharp. Suited to climbing & in a less degree to digging. Margin of anus with the turgid peroneum & scrotum hairy on either side of anus a distinct pore whence exudes on pressure a thick pus like foetid secretion. Intestines 4.9 ½ No caecum or medial diameter & subequal save last 4 ½ inches wh. wider with width of 3/5 Liver large with 7

lobes & lobuli. Gall bladder nearly free attached at base only & forming something more than half a sphere. Spleen red, tongue shaped long $2 \frac{5}{8}$ wide $\frac{3}{4}$ & more. Stomach pure membrane outer arch $4 \frac{3}{4}$ inner 2 inch as flattened on table. Apertures terminal & remote of course.

(2)feem Dorjiling. House Nov.5 drowned in a water jar in servant's house whence came to steal. Junior darker hues than male or blackish brown. Lips & chin similarly white. Small white patch on foreneck. Intestines 3.9.0 no caecum, of equal diameter. St. membranes crescent shaped with tips of horns truncated simple with orifices terminal & very remote. Outer arch $3 \frac{5}{8}$ inches. Inner $1 \frac{1}{2}$ width $\frac{3}{4}$ inch. Is this Grays. In. Horsfieldii from Bhutan describes as uniform blackish brown hardly paler underneath middle of front of chin & whole lower lips white whiskers black. Tail slender blackish at tip $\frac{1}{2}$ the length of body & head. An. & Mag. X1.118. Cited in Cat.[E.I]? Mus. 1. 103 where M. Hodgsonii Gray Hab. Himalaya & Affghanistan(sic) is also described. Dr. Gray subsequently in Proc. Zool Socy Jan 1865 suggests that this one is identical with canigula that is Hodgsonii, but I doubt it. See drawing of Canigula.

PAGE 61

Top L.H. Text

An & Mag X1, page 118 Dr Gray describes Mus-a Hodsonii thus 'Fur yellowish brown paler beneath. Upper part of side of head much darker. Face lips chin & throat varied with white. Tail more than $\frac{1}{2}$ as long [of]? body & head & bushy at end.' This in 1843 from a Nepal specimen therefore. In 1865 he makes Hodgsonii a variety of canigula adding 'Fur darker ~~chest~~^{face} less white chest brown & white mottled' and Horsefield in E.I.H. Cat accepts & adds Cabul(sic) as another habitat

COLOUR ILLUSTRATION OF WEASEL CAPTION

Mustela Canigula Michi CHECK THIS

Hoary necked weasel Michi

$\frac{2}{3}$ natural size

Hab. Northern region of Himalaya & N **here there is a blot** Tibet

Initials JAS B X1 279

Text to the Left of the illustration

Proc. Zool Soc. Jany 65 p[117]?

Vison canigular Gray. A var. fur darker face less white. Chest spotted brown & white. Nepal described by him as M. Hodgsonii

An. & Mag X1 & Mus. List.

N.B are additional pencilled notes and a brief note in Sanscrit on this page

PAGE 61 - REVERSE

Table of measurements

Snout to vent	1. 3 ½
Tail only	0. 7 ½
Tail & hair	0. 9 ½
Head	0. 2 ¾ ½
Palma with nail	0. 1 ¼
Planta with -do-	0. 0. 0

Skin from Kachar Feby. Character of Auriventer & Hemachalanus but paler & yellowish red than the latters & ***MISSING WORD*** or cinnam[on]? ***BINDING CUTS OFF WORD*** colour. Whole muzzle & head & neck below [Canescent]? & [no]? ***BINDING CUTS OFF WORD or WORDS.*** dark tip to tail. Hab. Northern region (for Geography & geographic distribution see XXV11 of Selections From Records of Govt. of Bengal also Bengal Asi. Journal.

PAGE 62

India House November 1852 No.68

Table of measurements

	(1)	(2)
Snout to Rump	0. 10 ½	0. 10. 0
Snout to occiput(st.)	0. 2 ⅛	0. 2 ¼
Rump to tip tail less hair	0. 5. 0	0. 5 ¾
-do- & hair	0. 6. 0	0. 6 ½
Upper[flexure] to centre toe fore	0. 2 ⅛	
-do- hind	0. 1 ⅝	
Weight	0. 0. 0	6oz
Palma & Nail	0. 1 ½	
Planta & Nail	0. 1 ⅓	

N.B. The above two measurements were positioned between columns 1 & 2. No weight was listed in column 1.

[verm]? Short plantigrade equal limbs conico depressed. Head cylindric tapered, tail mody. Haired small round muzzle ungrooved & nares wholly lateral & lunate. Ears with shortish helix not [reflected]? with large simple fissure towards base. Inside two large transverse membranes & tragus & antitragus. Toes half palmate, nails short sharp stout equal afore & ahind. ~~No sae~~ Testes in small scrotum & penis long & semi bony within sphincter 2 sacs secreting most powerful thin pus emitted by single orifice on each side & close to anal opening.

(2)Central Hills Tame mature male anus slightly swollen & granular on edge with 2 lateral pores wh. exude a whey like fetid(sic) secretion. Rest of the parts simple & hairy semi nude & in subpendant scrotum.

Penis directed forward in hairy sheath like dog & bony throughout with point curved scimitarwise upwards. Head depressed[depressed] with flat crown & rims to ears & eyes. Eyes much nearer muzzle than ears. End of muzzle nude & round with small groove in front & lateral lunate nares wider at forward end. Eyes medial with round pupils. Ears large with truncate rounded helix fissured behind & slightly clad, scarcely reaching beyond crown of forehead. Whiskers long fine, body & neck long. Limbs short stout toes 5 connected by nude membrane to termini digital balls & palm thence nude to carpal ball ahind, clad closely behind the former, fur fine & short hand longer on subeq. [cylindric]?tail. Intestines 3.2.0 No caecum[St.]? Membranes 4 inches by 2 ½ as filled with water & [flatted]?

THIS PAGE HAS A LARGE COLOURED ILLUSTRATION

UNFINISHED. It shows one animal looking out of a log, another animal is standing on the log.

CAPTION BELOW

Putorius Kathiah Michi Gymnopus Kathia Gray

To the left is written:-

The Kathia Nyul of the Nepalese

Putorius Auriventer

Vel. Kathia Nob.

Hab. The Cachar

Nat. Size Kachar

Home Nov/41

N.B. Some Sanscrit notes at the foot of this page below the illustration

PAGE 62 - REVERSE

July 24 from Minister live specimen 2 years old male exceedingly active on ground & very blood-thirsty in habit. Tiny as it is it can kill in a moment the fowl or duck wh. seizes by tail creeping up the back & fixing its teeth in MISSING WORD the artery behind the ear. Sucks the blood seldom touches the flesh, sometimes eats brains also. Kept tame in houses as a famous rat & mouse killer. Kills snakes also it is said. Runs by bounds with all 4 feet together & back arched. Most resembles our Mangusta(Javanica) but has smoother hair, a shorter tail, ears of wh. the margin is not curled back in the anterior part & is possessed of the fissure in the posterior. In both the interior of the ear is complex but diversely so. The thumbs also are less remote than in the mongoose & the nares have a shallow groove wh. M's have not. Two examinations of teeth gave $\frac{4.4}{5.5}$ for molars with $\frac{2}{3}$ false ones

the carnivorous broad & trenchant & 1 small tubucolor only behind, it belongs therefore to mustelidae appd. to subs.[Pitorius]? Burrows does not climb trees. Body & neck long & slender head small conico depressed with broad forehead & parictes & short nose. Eye large & full rather nearer to nose than to ears, pupil round, low wide ears not [t----ing] crown of scull, helix short erect posteriorly fissured, interior complex. Tho' helix small. External organ large with a vertical development as in man, fur close & soft rather longer on tail. Limbs short anterior & post. Of nearly equal length but

latter longer considerably. Structure purely digitigrade, the toes alone of hind feet being nude. 5 toed thumbs sub approximated semi palmated. Toes & fingers shortish capable of **MISSING WORD?** freely spread The palms of forefeet quite nude & soft skinned. 4 balls in semi circle of fingers & of toes & one round tubucle on outer side of each palm. None such to sole. Nails straightish medial [compressed]? not retractile or sheathed [fossorial]? but not typically so. fore & hind subequal. 3 central digits subequal thumb shorter than external digit but clearly developed & capable of strong **MISSING WORD** & free lateral play. Palmated like fingers & membranes quite nude. Muzzle small round well defined marked afore & above by shallow groove dividing the nares wh. are opened laterally & anteally- chiefly to front, whiskers not rigid, copious divergent. Testes large long oval in a pendant scrotum. No anal pouch nor the least semblance of anal glands. No foetid odour. Is 16 inches long wh. the tail (to end of hair) is 6. Tail tapered 1/3 of animal's intire length & whole upper surface & intire limbs & tail uniform full [clear]? red brown below golden yellow, paled to white on chin & edge of upper lip. Whiskers & irides brown like body above & naked part of nose & ears the same but rather paler. Sometimes seen with whole lower surface white like chin.

MUNGASTA

Helix reflected anteriorly
& intire posteriorly
Pupil of eye vertical & linear
Hind legs with a naked central strip reaching almost to heel
Thumbs remote & small
Obsolete anal glands
Muzzle ungrooved
Tail long

THE ABOVE

Helix not reflected
before, fissured behind
Round
Quite furred to
the balls of toes
Subapproximate & medial
No vestige of such
Grooved afore & above
Tail sub medial

N.B. Sanscrit notes along leading edge of this page

PAGE 63

Pencil drawing
CAPTION
Mustela Cathia Vel Auriventer
Kersiang in Sikim 4500 feet
March 20
Additional illus. of stomach

N.B. Sanscrit notes

PAGE 63 - REVERSE

2d cont.d Intestines 3.6 1/2 subequal diameter of 1/2 inch. No caecum. Near anus a dilatation simple. diameter there 3/8 inch
3d got alive at Dorjiling 2nd Augt. Probably 6 months old, another also alive

in spring younger still. Both probably born in March, April. Only 2 teats traceable inguinal. Digital membrane large & elastic reaching to inner edge of terminal or nail joint of digit. Intestines 3.7.0 no caecum. Stomach [lunate]? With terminal orifices. MISSING WORD membrane 4 inches round outer arch. Inner arch 2 inch.

Table of measurements

Snout to vent	0. 9. 0	0.10.0	0. 9 ¼
Tail & Hair	0. 6 ⁷ / ₈	0. 6 ³ / ₄	0. 6 ½
Tail only	0. 6 ½	0. 6. 0	0. 5 ³ / ₄
Head, straight	0. 2. 0	0. 2 ¼	0. 2 ¼
Ear, vertical length	0. 0 ³ / ₄	0. 0 ⁷ / ₈ ?	0. 2 ⁵ / ₈
Ear, free width	0. 0 ³ / ₈	0. 0 ½	0. 0 ³ / ₈
Snout to foreangle of eye	0. 0 ½	0. 0 ³ / ₄	0. 0 ³ / ₄
Thence to opening of ear	0. 1. 0	0. 1 ¹ / ₈	0. 0 ⁷ / ₈
Forearm	0.1 ¹ / ₈	0. 1 ³ / ₈	0.1 ¹⁵ / ₁₆
Palma, wrist to end of nails	0.1. 0	0. 1 ³ / ₈	0. 1 ¼
Leg or tibia	0.1 ¼	0. 1 ⁵ / ₈	0. 1 ¹¹ / ₁₆
Planta, os calcis to end of nails	0.1 ½	0. 1 ³ / ₄	0. 1 ³ / ₄
Girth of wrist	0. 4. 0	0. 3 ⁷ / ₈	0. 3.0
Weight	6 oz.	6 ½ oz	6 oz.

Karsiang in Sikim 4500 feet March 20 female, junior, teats 4, inguinal (possibly more in maturity none in this) margin of anus nude & Swollen with a lateral sac & pore on each side centrally. Secretion between pus & whey & very fetid. Peroneum & pudendum simple & [nudish]? Intestines 2.0.0. no caecum stomach membranous purely & smooth within. Elongate, nearly equal width at each end. Orifices terminal outer arch as emptied & collapsed 5 inches. Inner 1 ³/₄ inches. Long [vermiform]? Habit with sharpish short face depressed [depressed]? Head medial eye nearer snout than ear. Large remotely lateral subanthropomorphous ears having their principal development vertically & not free. Helix short rounded not folded in or out upon its edge but having a large simple fissure postially & internally. The ear has 2 large transverse membranes situated in upper part of conch but none over the basal aperture of the ear. Helix subnude, neck longish, body very long, tail one third of body & head, limbs short clean, anterior shorter and plantigrade. Posterior longish & digitigrades. Palma quite nude with a large ball to the outer side of wrist & a small one to inner side. 4 basodigital balls, 5 digits gradated as in human hand free of palmary mass but united by a dilatable membrane even to the last joint or edge of terminodigital balls. Nails compressed, acute, curved erigible but not sheathable. Planta more than half furred. The basodigital balls & digits being nude. 4 full soft nude balls to bases of digits or metatarsus but not tarsal ball. Digits as in fore extremities. Fur short fine, of 2 sorts, or hair &

wool & scarcely longer on tail than on body. Tail cylindrical tapered
 myotacial tufts small as also those behind gape[musle or muzle]?
 small distinct with canine nares opening freely to front but showing only
 linear prolongation to sides. Above & laterally with the limbs & tail deep
 clear brown. Below from chin to vent & then insides of the limbs near the
 body golden yellow, edges of the lips & the chin white.

(2) Dorjiling 7400 feet. April 4 Mas mature. Teats 4 inguinal as in the prior
 specimen. Intire head conicodepressed with a sharpish short muzzle neat
 round[musle] grooved in front but not above & lateral nares
 opened[curvatyly]? & widish at fore end thus: smallish unprominent eye
 with round pupil & white nictit membrane drawable $\frac{2}{3}$ over the eye. Large
 vertically developed ears with a short rounded helix the edge of which is
 anteally not folded in or out but simply erect & not much [produced]?
 towards the eye but the postea part of which has a large simple fissure
 upper fore part of **MISSING WORD** well clad. Conch of ear exhibiting
 several skinny processes analogous to anti helix tragus & antitragus & all
 nude but hid by hair of cheeks. Eye nearer nose than ear. Neck moderately
 & body much elongated & latter compressed. Very vermiform. Limbs short
 & compact plantigrade afore, digitigrades ahind. Palma wholly nude(to
 wrist). Planta half nude (to base toes) Forelegs shorter than hind. 5 toed fore
 & aft. Toes[nervous]? clean, free of pulmory mass but enveloped in
 dilateable membrane crescentwise to hind edge of terminodigital balls.
 5 terminodigital & 4 basodigital balls fore & aft. Also before 2 carpal balls,
 a large round one & a small one on its inner side. No analogous balls to hind
 feet they being purely digitigrades & consequently the metatars or tarse.

MISSING WORDS ... touching the ground & thus above half the planta is
 fully furred while all the palma is nude 5 toes have the 2 central equal & the
 2 laterals also but still with an anthromorphous [andromorphous]? bias to
 inequality: inner digit or thumb about as much the shortest as in human hand
 but not strengthened as in it. Nails compressed curved & acute but not
 specially suited to tearing, climbing or digging less so than in Martens. Tail
 above $\frac{2}{3}$ the length of the animal & conico tapered. Fur short fine & thick, 2
 sorts hair & wool. Hair about $\frac{5}{8}$ inch long, straight, glossy fine, wool
 abundant wavy nearly as long as hair. Colour above & sides with whole
 limbs & tail[full] ordinary brown. Below from chin to vent & limbs near
 body golden yellow. Edge of upper lip the same but [canescent]? Anus with
 nude tumid margin showing a lateral pore on each side leading to a small
 sac void of muscular ring & hence the fetid viscidly aqueous secretion cant
 be squirted out. Testes round pendant placed in hairy scrotum. Peroneum
 hairy & nude. Penis directed forward & sheathed as in canis the organ
 consisting wholly of a cylindric bone slightling curing upwards & its tip
 somewhat flattened & pointed. Moustaches fine of medial length. Smaller
 tufts over eye & behind gape & on chin. The anal apparatus with skin
 removed shows like a small round pealike intumescence on each side the
 anal aperture one of which bodies when cut in two exhibits glandular wall &
 a silvery lining[belt]? No very palpable neck leading to the aperture. Liver

6 lobed, 4 on right, 2 on left side, the 4th on right being small & having a nearly central position over the heart which is large & muscular. Lungs 7 lobed & lobules thus: upper & central lobe trifold with gall bladder suspended in its cleft, this the largest, then on left an undivided lobe, then on right & below a trifold lobe. Gall bladder elliptic with a clear duct $1\frac{1}{8}$ inch long enters the gut [$\frac{7}{8}$]? inch below stomach. Pancreas $1\frac{1}{2}$ inch long by $\frac{1}{4}$ wide closely attached to gut from below the entrance of biliary duct no pancreatic duct traceable. Spleen tongue shaped $1\frac{3}{4}$ by $\frac{1}{2}$ deep red. Stomach empty & collapsed 4 inch by $1\frac{3}{4}$. Elongated subcylindric equally wide throughout. Orifices terminal nearly tho' leaves a small fundus beyond $\frac{3}{4}$ elongate

PAGE 64

India House November 1852 No. 21

Large colour illustration

CAPTION

Putorius Tibatanus Mihi

in Bhotia tongue

Hab. Tibet

Pencilled note next to this 'putors[Eversmanni]? Says
Dr. Gray Proc. Zool. Soc. Jany 1865

Additional studies of skulls and feet 2 of each are captioned thus:

- 1 Skulls $\frac{4}{5}$ nat. size
- 2 Fore & hind foot

N.B. Sanscrit notes on this page

PAGE 64 - REVERSE

Sanscrit note & table of measurements

	(1)	(2)
Snout to vent	1. 2. 0	1. 4. 0
Tail & Hair	0. 7. 0	0. 7 $\frac{1}{4}$
Tail only	0. 6. 0	0. 6. 0
Head to occiput straight	$2\frac{7}{8}$	0. 3 $\frac{1}{2}$ (by the curve)
Palma with nails	$0. 1\frac{3}{4}$	$0. 2\frac{3}{8}$
Planta with nails	$0. 2\frac{3}{8}$	$0. 3\frac{1}{2}$

Skull

Length	$0. 2\frac{5}{8}$
Height	$0. 1\frac{3}{8}$
Width between zyg arches	$0. 1\frac{5}{8}$

Width between bases of parietes	0. 1 $\frac{2}{8}$
Length of upper jaw	
Symp. Intermix to hind edge of last molar	1. 0. 0
Length of lower jaw to last molar	0. 1 $\frac{1}{16}$
Molars	0. 0 $\frac{4}{5}$

(1) From Tibet skin with skull & limbs complete. Has the habit & aspect of the Malsampra & similar long hair & socked feet. Face short & rather bluff Head long and depussed. Neck medial, body long. Tail $\frac{1}{3}$ of the whole animal[muscle]? nude round with canine nares opened chiefly to front. Eyes smallish & nearer snout than ear. Ear with short rounded helix fully furred. Moustache strong & long. Limbs short & compact with their soles densely furred as in Flavigula or Canigula whereas Auriventer has them nude. Digits 5 fore & aft gradated as in Flavigula & similarly united by membrane to terminodigital ball edges but soles yet more completely clad there being nudity only on the 5 terminodigital & 3 basodigital ball but no metacarpal & metatarsal nude **MISSING WORD** whatever whereas there are 2 conspicuous metacarpal ones in Flavigula & 1 in Canigula. Fur of 2 sorts hair & wool & both copious. Hair long straight fine elastic $2\frac{1}{4}$ to $2\frac{3}{4}$ inch long. Rather shorter on tail & short on head & limbs where one sort only found. Wool very copious soft & fine. Colour is sordid pale yellow
Note Written above yellow is a word that could be fulvous much shaded with black. Tail wholly & limbs with whole[ventral]? Surface of neck & chest & inguinal region black. Face to eyes inclusive black brown. Both lips end of muzzle, cheeks & whole lower jaw sordid yellow. Most of long hair is basally yellow [--pically]black in halves or wholly black rarely wholly yellow. The wool is for the most part yellow.

(2) From Chabu or Chebu Llama who brought from Tibet Feby 6 1855

PAGE 65

Two coloured illustrations numbered 1 & 2 of Otters

Main Illustration of an adult numbered (1)

Above it two studies one in colour one in outline

of a youngster numbered (2)

MAIN CAPTION

Lutra Taraiensis Mihi

Otter of the Tarai

(1) Old male

(2) Young

In brackets next to the above the following

(Lutra Indica Barangia Nepalensis

Gray Proc. Zool Socy. Jany. 1865)

HAB. Nepal Terai

Got there alive
Some Sanscrit notes on this page

PAGE 65 -REVERSE

(2) Young Jany 30 Came here with eyes closed. Jany 10 Milk teeth

4 1.1 4.4

4 1.1 4.4 like mature but paler rather or duller hued head below & neck yellow, feet yellowish. Another mas. 2. 5 ½ Tail – 4 Head 5 ½ Mean height 8 inches.

(3)(4) a pair **MISSING WORD** Jany 10 alike. Dark brown pale below. Head below to eye & upper lip almost white, paws yellowish. Sto. Of mas. full of air 14 ½ along greater 5 ½ on lesser arch. bagpipe mean Membrane & equal & smooth throughout. Of feem 12 by 4 7/8. Intest. of latter 9.4 No caecum equable of male 9.5 7/8 inch mean diameter thin coated. Liver septipartite Gall bladder ½ inbedded between a large small lobe. Spleen 7 inch by 2 tongue shape. Kidneys depovati or dipovati congeries of smaller parts. Spleen 5 lobed. Testes small in dub pendant hairy scrotum. Penis cylindric & bony. In feem 6 teats 4 ventral 2 inguinal. Nails obtuse small.

Table of measurements

	(1)	(2)	(3)	(4)
Mean height	0 0.0	0.0.0	0.9.0	0.8 ¾
Snout to root of tail	2.0.0	1.4.0	2.2 ½	2.1 ½
Tail	1.4 ½	9 ¼	1.4 ¼	1.4.0
Head	4 ¾	4 ¾		
Girth round shoulder			1.3.0	1.2.0
W= 9 lbs			20lbs	16 ½ lbs

A broad flat head with very short nose obtusely pointed, small round low simple ears, short stout limbs, large fleshy naked soled feet, webbed to nails wh. Are short truncate & [-acked] Tail very massive depressed throughout much tapered, nearly as long as body. 11 sets of bristles on head 4 on each side & three below on the chin. Feet 5 toed, hind limbs rather longer & stouter than the fore. Brown rather paler below & on limbs where there is a yellowish tint. Lips, cheek & head & neck below clear yellowish white, iris hazel, eye medial round, fully opened, pupil round, muzzle round obtuse nares [in---ly] lateral. Widish teeth 6 1.1 5.5 Front teeth level to the 6 1.1 5.5

front as in cats. Canines large sharp, subcurved, separate from front teeth & from lower canines. nearly in contact with upper. 3 false molars before carnivorous teeth above & below, above the first of them placed within line of the[rest]? & close to canines. Upper canine teeth broad & with flat heel internally last tooth above nearly flat large & spread inwards great [carnic tooth]? below not broad but long **MISSING WORD** backward, flatish. Last tooth larger than pendant above less flat somewhat

Note on edge of page..Feb 5 Dorjiling brought from Tarai. About 12 inches from snout to vent & tail 7 yellow below only to chest. Teeth half developed. milk teeth, 2 -3 months old

PAGE 66

OTTERS

1. Lutra Taraiensis. Nepal Tarai. Indica Gray Proc. Zool. Soc.
2. Lutra Siligorensis .Sikim Tarai
3. Lutra Monticola .Central and Northern Region of Mountains
4. Aonyx Indigitata -ditto-
5. Aonyx Auro Brunnea -ditto-
6. Aonyx Sikimensis Lower region of mts. Or central. Got at Itam

Three Coloured illustrations

First Caption (faintly written) Lutra Aurobrunnea Nob. No.4

2nd below(darker) Aonyxaurobrunnea Gray

UBI infra p. 131

Second Caption(faintly written) Lutra Indigitata Nob. No. 3

Note Lutra is crossed through

2nd below(darker) Aonyx indigitatus Mihi

Third Caption

Lutra monticola Nobis No.2

Nepal May/37 sent home

Note Below this caption is written Barangia Nepalensis Gray

Proc. Zool. Soc Jany.65 p. 124

Note This page has some Sanscrit notes

Further note at the foot of this page

Central & Northern Regions of Hills

PAGE 66 - REVERSE

Table of measurements

	No. 1 ^{other}	2.	3.	4.
	Teray	Montic.	Indig.	Aurobr.
Tip snout to base of tail	2.2 - 2.5	2.6 - 2.7	1.10 - 2	1.10 - 1.11
Tail	1.4 - 1.4 1/2	1.7 1/2 - 8 1/2	9 1/2 - 11	1. 0 - 1 1/2
Girth behind shoulder	1.3	1.5	1. 0	0.10.0
Longest digit (hind)	0.1 ^{5/8}	0.1 3/4	0. 0 3/4	0. 0 ^{14/16}
Wt.	16-20lbs	20-24lbs	10-13lbs	9-11lbs

For Tarayensis & Sikimensis see other sheets. Never found in hills where alone other three are. Structure of Taray typical skull & head much depressed. Lower incisors ranged nearly in line. Tail 2/3 of body & depressed. Digits ample & free. Nails (comp)? & acute, form robust. Structure of Monticolus on whole Do. Do. Tail more than 2/3 of animal & less depressed. Skull & head much less depressed with intermediate incisors

of lower jaw ranged quite behind the others. Structure of indigitata rather more vermiform tail but ½ the length of the animal. Toes short & more than half buried in palmary mass. Nails comp. short worn. Aurobrunea form vermiform. Toes fully developed & nails **MISSING WORD** acute. Tail rather less than 2/3 rds of body. As to fur, all have an upper & undercoat but in the 1st the former is close and adpressed. In all the other three but especially in Montcola it is longer and more [exserted]?! or rougher The colour of 1st is above pale clear[bisthe]? brown below with the hands & feet pure yellowish white or yellow the colours clearly divided The hue of 2nd is also[bisthe]? brown somewhat darker & deeper toned. Below sordid hoary vaguely defined except on edge of lips & chin. The hue of 3rd is deeper still or dusky sepia & the head & neck only show a hoary or yellowish hue below. The colour of 4th is brilliant chestnut(fruit) & below golden red with which the hands & feet are also dyed.

Note: Sanscrit notes along the leading edge of this page

PAGE 67

INDIA HOUSE 1852 No. 61

MAIN ILLUSTRATION

Otter facing to right

CAPTION

Lutra Siligorensis Mihi m.s.

Habitat Tarai of Sikim

Got at Siligori Feby/50

See Proc. Zool Soc for Jany 1865

Gray omits in Culal or (Cutal) Ubi Supra

~~but the two are quite different in size, colour, characters~~ **MISSING WORD**

~~And habitats~~ most like Taraiensis of

Nepal wh. Gray makes the same as Indica

Additional Illustrations of body parts as follows:-

1 Stomach

2 Penis drawn out(bony throughout)

3 Anus with it's glands & pores

4 Fore foot

5 Hind -do-

There is also a small study of the head unnumbered. Stomach etc all size of nature

This page has some extra notes in Sanscrit

PAGE 67 - REVERSE

Large pencil outline drawing of Otter. Over this is written a table of measurements(English) and another in Sanscrit. The two are separated

By some lines of text in English.

Table of measurements

Snout to vent	2.8.0
Tip snout to tip tail	4.0.0
Head to occiput	0.5 $\frac{1}{4}$
Snout to eye foreangle	0.1 $\frac{11}{16}$
Thence to base of ear	0.2 $\frac{1}{2}$
Width of head	0.3 $\frac{3}{8}$
Depth of head	0.2 $\frac{1}{2}$
Length of ears from lobe	0.0 $\frac{11}{16}$
Girth of chest	1.2 $\frac{5}{8}$
Length of tail	1.4.0
Fore leg, elbow to wrist	0.3 $\frac{3}{8}$
Wrist to end long toe`^^`	0.3.0
Hind foot, knee to heel	0.5 $\frac{1}{4}$
Heel to end long toe	0.5.0
Weight	13 $\frac{1}{4}$ lb
Height at shoulder	0.8.0

Male Mature Tarai Feby. 10 1850

Intestines 13 feet 4 inch equal diameter of $\frac{3}{4}$ inch

Caecum none stomach bagpipe shape membranous outer arch 15 inches

Inner 5 inch. Has anal gland below aperture & 2 lateral pores one on each side just within sphincter. Penis sheathed, bony cylindric with rounded grooved ends. Testes ovoid & pendant in hairy free scotum.

Note: Sanscrit table below the above

PAGE 68

INDIA HOUSE November 1852 No. 62

Large colour illustration of Otter

Notes below this

.. Gray Proc. Zool. Socy Jany 1865 p. 131 makes this the same as [Aurobrunnea] but the two are clearly distinct

AONYX SIKIMENSIS MAS. MIHI M.S

Hab. Central Region of Himalaya got in Sikim near Ilam

Note: Some Sanscrit notes

PAGE 68 - REVERSE

Table of measurements

Snout to vent	2.0.0
Tail	1.1.0
Head to occip.	0.4 $\frac{1}{2}$
Ears from orifice	0.0 $\frac{5}{8}$
Snout to eye(foreangle)	0.1 $\frac{9}{16}$
Thence to ear	0.2 $\frac{3}{8}$
Palm intire to nail	0.2 $\frac{5}{8}$
Planta –ditto-	0.3 $\frac{1}{2}$

Sikim near Ilam perhaps 4000feet. Novr.

Mas. Mature Teeth $\frac{6.1.5}{615}$

Front teeth very small placed in very close series to the front without any arching. The extreme laterals rather larger than the rest & subnotated on crown in lower jaw. Canines medial, conico slightly curved. Three false molars above & below diminishing rapidly in size to the front & foremost above very advanced & placed inside of the laniary as it were carnassials tooth trigonal with 3 processes 2 external & 1 internal & the crown [olipt or dipt]? between them. Tubercular parallelogramic with 4 processes 2 external & 2 internal & the crown cupped between them both these teeth broad & transverse. Molars of lower jaw compressed. The carnassials large elongate with 3 spikes forward & a flat large heel behind tubercular small round flat crowned. Head a l'ordinaire, depressed with the [calnural]? line nearly level or straight[mufle]?small with canine nares, eye small nearer snout than ear, small simple rounded. Mystaecal tufts two, one on upper lip as usual, another behind gape equally large. Hairs of both very rigid bristles in fact. Habit of body elongate but stout, with short stout limbs whereof the partial extremities or digits are longer than the antea. 5 digits fore & aft completely palinated. Nails truncate compressed not laminar. Tail **MISSING WORD?** plus half of animal & moderately depressed. Fur close & fine with small quantities of fine wool below. Colour a medial earthy brown, pale somewhat below. Lips & head below albescent & neck on same surface partially so as far as chest. Hind foot large & nude nearly to oscalcis.

PAGE 69

Two Illustrations of Otters

One showing a head

Another showing two webbed feet

To the right of the above illustrations is a Table of Measurements in Sanscrit
CAPTION ABOVE Taramensis Tarayensis?

[Lutra]? ~~Nepalensis~~-Nob.

CAPTION BELOW HEAD

Otter mas. Jany.10 [Segouli] in Nepal Tarai

PAGE 69 - REVERSE

Outline of an animal-unfinished only part is shown on a page that has been torn in half. *There is some Sanscrit writing*

PAGE 70

A full colour illustration of a standing Leopard

CAPTION

Felis Pardus-see Pardus

Hab. Himalaya & Tibet

Chittal of Nepalese

[Takman]? of Tibetans

Note: The above has been written over some other faintly

Inscribed notes.....[Sanku]? Febr. 1830

N.B. the red too dull & not yellow enough

Note: This must refer to the artwork

There are some Sanscrit Notes on this page

PAGE 70 - REVERSE

Transcriber's Note: This text is very faint

Liver 6 lobes, the largest of them trilobate. Gall bladder spleen long & simple. Kidneys large ovate unilobular. Intestines 17.9 **MISSING WORD** to caecum. Uniform caecum 3 in. 3.9 less than anus. Stomach large soft, thin & smooth skinned. Bag? *Note: the next part of the text is obscured by tape* a ball for each talon separate & one large intire heart shaped for palm & small for wrist rest of foot below, fully haired the fores.....In the hind a ball for each talon one large, one as before.....palm, none for heel & foot Fully haired, save actual toes so also.....membranes.

Note.....indicates where text has been obscured by binding tape

Table of Measurements

Tip of nose to tip of tail	7. 3. 0
Length of tail	2. 10 ½
Tip of nose to root of tail	4. 4
Height at shoulder	2. 3 ¼
Length of ears	2 ¾
X Note: In a straight line from [rear]? foot to top of shoulder measured along the swell of the limb the height is	2 7

Second Table of Measurements

Tip [bill]?! to -do- tail	7 2 0
Occiput to anus	3 6 0
Head	- 11 -
Tail	2 10 0
Shoulder joint humerous to elbow	10 ½
Elbow to writst – arm[hand wrist to toe]?	10 ½
Hip to knee	6
Femur	7
Tibia to heel	11 ½
Foot	9 ¾
Weight	13 [Dharm or Darni]?

NOTE: The above table is difficult to make out as measurements are crossed through. There seem to be more categories than associated measurements

PAGE 71 - REVERSE

Table of Measurements

Snout to vent	3 7 ½
---------------	-------

Tail	2 8 ½
Height	[9] ? 10 ½
Girth & Chest	2 2 ½

PAGE 72

Small fully coloured Illustration of Leopard reclining with front paws outstretched.

CAPTION

Felis Pardus, Leopard of Himalaya

There are also three studies of Heads two of which are small, the third much larger taking up half the page.

And, one study showing the underside of a Paw

CAPTION BELOW PAW

½ size Forefoot

Note: This page has some Sanscrit notes

PAGE 72 -REVERSE

Transcriber's note: Text very faint

A young leopard taken in Tarai of Purnea[now Purnia]? in Oct.[new June]? 9 months old. Snout to vent 2. 11. 0

Tail & hair 1. 6 Head 8 inch Height 2 feet. Is moulting & dull coloured.

Spots 7 in vertical series from spine to belly round & intire almost.

Universally not rose, formed of separate [leaves]?ILLUSTRATION OF

LEOPARDS SPOTS ground colour within them darker, colour above

fulvous- below white. Tail long, not thick, thinning towards end. Nose long

& straight, eye greenish grey & round iris[corunun]?. In open Tarai at all

seasons- more so than Tiger & less afraid of heat. Female

Table of measurements in Ink

Snout to rump	3 4 0	4 0 0
Tail & hair	2 7 ½	2 7 0
Tail less hair	2 6 0	2 6 0
Head straight	0 8 ¼	0 10 0
Head by curve	0 9 ¼	0 11 ¼
Nose to eye	0 3 ¼	0 3 ½
Nose to ear opening	0 4 ¼	
Ear	0 3 0	
Girth of chest	2 1 0	
Foreleg	0 9 0	
-do- foot	0 5 ¾	
Hind leg	0 10 0	
-do- foot	0 8 ¾	
Height afore	1 9 ¼	
-do- ahind	1 10 0	

Weight 59lb.

Note: there is an undertable in pencil that may or may not be the original version of the above. Probably not since it has an additional column.

There are a number of Sanscrit notes on this page

PAGE 73

Full page illustration of a standing Leopard

CAPTION

MISSING WORD Home Nov./41

Hill Leopard casting milk teeth Dec.

PAGE 73 -REVERSE

Blank

PAGE 74

Full page illustration of a standing Leopard

CAPTION

F. Leopardus Male Leopard

Central Mountains Feby.

PAGE 74 - REVERSE

Table of Rectil. Measurements

Tigress Apl. 23rd Central Hills

Total Length	7 11 0
Height at Shoulders	2 10 ½
Occip to Anus	
Head	4 4 0
Tail	1 0 ½
Forearm(elbow to front end of carpus)	2 10 ½
thence to end of longest toe	1 1 ½
Hind leg(knee to os calcis)	0 9 ½
thence to end of longest toe	1 2 ½
Ears(from crown to scull)	0 4 ½
Tip nose to foreangle of eye	0 5 0
edge of helix	
thence to sup. opening of ear	0 6 0

Weight 41 [Dhaenis, Dharm]? CHECK

Transcriber's note: The categories and measurements on this table do not line up accurately.

Vertical line of head convex, head depressed flatish crowned with a longitudinal groove down centre. Nose naked to the front only where nares

principally opened, widely & curving narrowed to sides of nose. Eyes moderate naked space before anterior angle nict. Membranes capable of being drawn over whole eye black on its margin pupil **MISSING WORD** ears far back medial[inverted]laterally but high up & surmounts crown of head by more than ½ of their length. Obate[lobate]? rounded above free & having therefore a good deal of motion outwards or laterally but usually erect. Can also be thrown back or applied to the occiput at animals will. Antihelix with valvular fissure internally covered with hair except at base where naked. Interior exhibits several membranous prominences round about auditory canal, none higher up. Lips very full. Rictus rather short. Tail reaching to tip of tow of straightened leg, thickish at base regularly attenuated rounded the hair uniform, close & fine. Anterior limbs much stouter than posterior, forefeet pendac. The thumbs retracted behind the great balls of soles, graduated & sized as in human hand, soles hairy membranes reaching to talons & hairy talons gradated like toes perfectly sheathed. 5 balls for end of toes 7 large heart shaped[quinqi]? Lobate one for 1st [metatarsus phalanges] ? of 4 larger toes
 Note: Written above the last three words is [...the carpus or metacarpus]? & 1 more prominent & sub conical for wrist placed rather outside the centre of it. Hind toes 4 - 2 central equal in size & length, 2 lateral -do- -do- & equally advanced in both cases, only 5 balls i.e. 4 for end of 4 toes & one larger one shaped as before for 1st phalanges

Note: Written above 'metatarsus'? no tarsal ball

Above tawny, below pure white, the black stripes carried all round & broader on inferior surface(of head & neck as well as of body) than on superior a white patch over the eye & a white line below it. Margin of the rictus black ears black without having a grey spot in centre of each. Tip of tail black, it's 'inferior' surface white grounded like body the marks annular but irregular & going all round large body vertically, limbs transversely striped. Patch whence bristles of lips or moustaches[rise]?black surrounded by white forearms anteriorly & tarsal & carpal joints & toes immaculate. All three phalanges of toes only **CROSSED OUT** free in skinned carcase and so [far]-CROSSED OUT the membrane of the toes extends wh. is **CROSSED OUT** freely dilateable to admit a large expansion of the paws. The large balls ergo not to 1st phalanges of fingers but to metacarpus and metatarsus?

PAGE 75

Table of measurements with categories written in Sanscrit

PAGE 75 - REVERSE

ILLUSTRATION

Small faint outline of a seated leopard

PAGE 76

FOUR ILLUSTRATIONS

Captioned Leopard of Nepal

Outline of a standing Leopard

A more complete study of a seated Leopard showing pattern of coat

Stomach $\frac{1}{2}$ size

Gut

Note Home/ Nov. 41

PAGE 76- REVERSE

Nothing on reverse

PAGE 77

Completed colour illustration of standing leopard facing to right

Caption

Leopard of Nepal

Valley Decr. A male. The little leopard of [Tennanf]? The [Tendhiah of India]?

PAGE 77 - REVERSE

Table of measurements

Length of body & neck $2.5 \frac{3}{4}$

-do- head $7 \frac{1}{2}$

-do- tail $2.1 \frac{1}{2}$

Height at shoulder $1.4 \frac{3}{4}$

Weight 60 lbs.

PAGE 78

ILLUSTRATIONS OF THREE LEOPARDS

Numbered 1, 2 and 3

1. Large - standing and facing to right

Caption: Leopardus

2. Seated facing to left

Caption Pardus

3. Smaller – standing and facing to left

Caption: Junior

Central Hills March 16 $\frac{1}{6}$ natural size

[near]? on a tree

Scull India House November [1857]BLOT No.90

PAGE 78 - REVERSE

Natives say there are 2[op]? of Chita or Leopard

1 Ghonghila 2 Tendua whereof Ghonghila is the larger

Our No(1) below is a Ghonghila. Their habitat is general in hills & plains.

Table of measurements

	(1)	(2)	(3)	(4)
M – height	2.00	1. 9 ½	2.1.0	1. 8. 0
Snout to root of tail	4.00	3. 9 ½	4.5.0	3. 3. 0
Tail	3.00	2. 7 ½	3.0.0	2.7. 0
Head length on curve	0.11.0	0. 9 ¾		- 9 -
From nape to snout				
Snout from foreangle	0. 3 ½	0. 3. 0		- 3 -
of eye straight				
Thence to base of ear	0. 5.0	0. 4 ½		- 3 ¾
Length of ear from				
Scull	0. 3. 0	0. 2 5/8		- 2 ¾
Girth behind shoulder	2. 4. ½	2. 4 ½		1 10 ½
Elbow to wrist	0.10.0	0. 7 ½		8 ¼
Thence to tip long	0. 6 ½	0. 6. 0		5 ¾
finger				
[True]? Heel to	1. 0.0	0.11.0		8 ¾
Oscalcis				
Thence to tip long toe	0. 9 ½	0. 9 ½		8 ½
Weight	100 lbs.	76 lbs.		55lbs.

Note: The dimensions in column 4 are listed as being those of a 'feem about 20 months'

Column 3 has no other details apart from what has been listed here

(1) Central Hills Male Leopard Mature. Above and laterally height fulvous **MISSING WORDS** below tail & all pure white. Spotted except bridge of nose & chin. Spots solid on head where smallest and on [free]? portion of limbs as well as on [inferior]surface where largest on body generally the spots are open consisting of 3 or 4 circularly disposed pieces without any small inclosed[sic] spot or darker ground colour within the rings. Lower edge of gape black. Ears outside the same save a grey patch near tips. The spots are much larger than their intervals & there are few of them vertically on the body from spine to central line of belly. The tail is very long & slightly tapered exceeding the distended hind leg by ten inches, the spots on it are solid & of a long somewhat hexagonal shape with a **MISSING WORD** chain like interval of the ground colour towards the tip the ground colour changes to white or hoary & appears as narrow & nearly perfect rings dividing a completely black colour to neck & shoulders. The spots are small & so much divided or so disposed as to form rather separate solid marks than conferies or open rose like clusters.

May 10 Valley of Nepal. Young snout to vent 2.11 ½ tail 2.1 ½ with hair. Like old but fur longer & less close to skin & colours much duller. 4 teats remote. 2 inguinal, 2 ventral. Tail towards end black above, white below and [6] half bars of white crossing black above. Tail 7 ½ inch plus extended leg

(2)Male same place save marks & aspect as Nr. 1 but seems younger but mature But in Nr. 1 the open spaces in each black rose are smaller than in this though Similarly reddened.

(3)Male old. Central Hills January 1st brilliant hues & large size, like drawing Nr.2

(4)Female came here a whelp of 20 days old Feb. 2nd 1841. 15 ½ inch from snout to rump. head 5 ¾ .tail 10 ½. height 7 ¾. girth 9 ¾. weight 4 ½lbs

Oct 12 MISSING WORDS TO BE CHECKED tail 24 ½. height 16. girth 18 died Novr. 26th/42. 4 teats only visible. Intestines 10 feet 5 inches. Caecum 17 inch from anus 2 inch long and 1 ¼ wide diam. of great gut 1 ¾ . stomach gr.girth 17 inch. lesser 8 inch. width 5 ½

PAGE 79

Painted study of animal facing to left. The background in pencil. To the left is a drawing of what appears to be some type of Cattle.

CAPTION

Felis Pardus Melanic variety

Penniger Nobis

Sikim 6 – 8000 feet

PAGE 79 - REVERSE

Sanscrit notes along leading edge of page and a table of measurements with Sanscrit categories

Table of measurements

	(1)	(2)	(3)
Snout to vent	3. 9 ½	3. 6. 0	3. 0.0
Tail less hair	2. 5 ¾	2. 3. 0	1.11.0
Tail & hair	2. 6 ¾	2. 4. 0	2. 0.0
Head by curve	0.11 0	0. 0. 0	0. 0. 0
Ears	0. 2 ¾	0. 2 ¾	0. 0. 0
Upper eye tooth long	0. 1 ¾	0. 1. 0	0. 0 5/8
Lower	0. 1. 0	0. 0. 15/16	0. 0 7/16
Longest talon straight	0. 1. 0	0. 0. 15/16	0. 0 ¾

Fresh skins got round Dorjiling where many more got. Largest is pitch black with yet blacker spots on head & body, so other two, others also black had clear signs of the marks of [Murmensis]? & are melanics of that species as those of the

common leopard? but why so numerous? People say it is a distinct species. Have got a dozen skins.

PAGE 80

Colour illustration animal facing to right. The background in pencil

CAPTION

Felis Ogilbii. Felis[Palia]? Hodg.

Ms Junior Mas

2/5 natural size

Hab. Woods of Sikim and also Tibet

Hab. Central hilly region of Eastern Himalaya

Darjiling Nov. 1846

Called Palia by Bhotias

N.B. F. [Dosul]? Is the Sikmar of Tibet. This is called Palia in Tibet

Pencilled note 'not sent to England and, brought home in 1858'

PAGE 80 - REVERSE

Table of measurements

	Junior
Nose to anus	1. 6 ½
Head to occiput	0.4. 0
Ears from crown	0. 2 ¼
Tail without hair	1. 2. 0
Tail with hair	1. 3 ½

Skin got at Dorjiling Nov^r. 46 probably young & seemed shrunk in the preparing the skin. Animal rather larger than Nepalensis wh. is 1. 9. 0 to 1. 11. 0 in length minus a tail of 1.00 to 1.2.0.

PAGE 81

INDIA HOUSE NOVEMBER 1852 No. 44

Colour illustration of animal facing to left. The background in pencil

CAPTION

Felis[Duvaucelli]? Sikim, Sikmar of Tibet Dosal of Himalaya

Felis Dosul Central region of Northern-ditto of Eastern Himalaya & also Tibet

Note for geogr. Distribution see Essay of Phy. Geog APND XXV11
Selections from the records Gov. of Bengal.

Felis Dosal Hodg. New SP

The Sikmar of the Bhotias and Dosal of the Sikimites

Hab. Central and Nor. Regions of Himalya and also Tibet

PAGE 81 - REVERSE

Table of measurements

	(1)	(2)	(3)	?
Snout to vent	1. 9.0	2.0.0	2.2.0	2.0 ¾
Height	0.11.0	1.1.0	1.3.0	1.0.0
Tail	1. 6.0	1.9.0	1.9.0	1.8 ½
Ears from front side	0. 2.0	0.2.0	0.2 ½	0.2 1/8
Head to occip straight	0. 0.0	0.0.0	0.4 ¾	0.4 ½

(1)Dorjiling skin April. Ears moderate untufted, a large cylindric tail very full[sic] of fur also fur full on body & [laxly]? applied to skin 1/3 or ¼ larger than domestic cat with stout limbs & large talons

(2)2^d(second) skin larger much above small cat's in size. Half way to leopard size. Larger even than Lynx of Tibet. Killed in Central region of mts.a male. Nepalensis is 1.11.0 & tail 1.2.0 & height 1.1.0. This much more [Macroceloides]? is 3.6.0 & tail 3.0.0. This is much less but like it having a long thick tail. Got from a Bhotia Shikari one wh. he killed in mountains north of Dorjiling. He said the wild species is shy & fierce killing goats & sheep & young hogs.

Note: Pencilled table and Sanscrit notes at foot of page

PAGE 82

Colour illustration of a Lynx facing to right

CAPTION

Felis Lynx Tibetanus Mihi

Lynchus Vulgaris?

Hab. Tibet upper region of East Himalaya

Said to be 2 more in Tibet

Sanscrit notes on this page

PAGE 82 - REVERSE

Sanscrit & pencilled notes

Table of measurements facing leading edge of page

	(1)	(2)
Nose to vent	1.9. 0	3.2.0
Tail & Hair	0.5 ¼	0.9.0
Tail only	0.4 ¼	-
Ears	0.2 ¼	-

(1)Feb. 1855 Darjiling, Junior no spots on body & only one dark mark at end of tail.

(2)A skin from Llasa

Sanscrit notes on this page

PAGE 83

Colour illustration of a Lynx facing to left

Also 2 further pencil studies of Lynx heads one in profile to left, the other full face.

CAPTION UNDER MAIN ILLUSTRATION

Felis Lynchus Erythrotis Mihi. Red eared Lynx
Felis[Chans]? Hab. Central region of Himalaya
[Bonbhow] of the Newars

CAPTION ABOVE THE PENCIL STUDIES

Lynx Chans or [Chaus]? Bonbhow Newari

PAGE 83 REVERSE

A large male in full fur Dec 18[Chapra Gaon]? Fur of mod. Length soft & full ground colour[muddy] or [ruddy] yellow mixed above with black. General effect[cat grey]? But ruddier. Hair above triangulated with black, ruddy yellow & black. Ears outside bright, rusty, tipped largely with black & small, pencil D^o dark mark from eye to nose, lips & chin whitish, inside ears D^o whiskers black or white or both, irish whity brown, feet behind to heel & wrist black. Limbs transverse by black bands, two inside of fore limbs, very clear & large, no bands on body. 3 or 4 vague dusky spots on belly, lower neck with vague cross band of dusky CHECK FOR ANOTHER WORD AFTER THIS.

Tail-to-head cylindrico sub tapered 4 black & white rings & black tip head depressed[depussed]? with longer face than in common cat, ears large sub-rounded, pencil small, whitish mark above eye[if]? Include basal part of hair. There are 4 rings on each hair above from base thus whitish black rusty yellow black. Answers not exactly to Catigata or to Claus. Gray's affinis refers to it. Anothr measured snout to rump 2 feet & tail 11 in. & height of animal 14 1/2 inches.

Table of measurements

		Q	
Nape to rump	1.9.0		2.4.0
Length of head(Calipers)	5.0		5.0
D ^o of tail end of hair	11 1/4		11 1/2
Wdmost breadth of head	3 1/4		3 3/16
D ^o length D ^o	27/8		2 1/2
Height of animal before	1.1 3/4 (mean)		1.3.0
D ^o behind	1.2.0		
Length of foreleg to line of			
belly from sole of feet	- 8.0		-11.0
D ^o hind D ^o	8 1/2	1.0. 0	
W ^t 12 1/2 lbs.(large male)		13lbs.	

Note: Extra details written at right angle to this table

Tip snout to foreangle of eye 1 1/2 thence to base of helix 2 1/2

Length of ears from base of helix to tip 3 inches.

Iris greenish gray(sic) blue, lips & chin white, cheeks neck below

Missing Word belly & insides of limbs, rufescent white(or pale rusty)

Ears outside pale rusty & tips & pencil black & lining white. Above eyes

whitish mark, bridge of nose dirty redish. Body unmarked yellowish gray(sic)brown or brown gray(sic), the hue of vertex darker or brown & rusty mixed. Legs, including lowest part of hams & shoulders singularly Cross- barred with blackish bars clearer & broader inside than outside of limbs: two very broad across each forearm inside. Tail to middle of tarsi or less mod. full & uniformly cylindric. Basal ½ like body ½ **MISSING WORD** with 4 rings of black near tip & half black. Ears large, widely opened Cavity filled with long soft hair arising chiefly from anterior margin & base tips obtusely pointed & tufted. Carpal & tarsal joints of feet, blackened posteari only. Another from **MISSING WORD** April 20 similar another May 12 above fulvous ashen gray beneath(all parts) yellowish white, limbs outside & especially feet rusty, outside ears D^o pencil black & pads of feet D^o forearms & legs less clearly marked: **MISSING WORD OR NUMBER** body (as in all others seen) utterly immaculate.

Note: Text at right angle to the rest on this page

Feem valley Dec 6 mature. Sn. to rump 24. mean height 15½. weight 11lb fur not full, body quite immaculate & head & neck D^o above rufous. Cat. Gray, bellow rufous yellow, lips & chin white lining of ears rufescent ears full red, black tip. Legs below great flexness, immaculate rufous, forearms & thighs transversely barred blackish on both surfaces, above eye pale spot. Tail scarcely to heel of stretched leg with hair & all, like body but toward tip has 4 or 5 black rings with gray intervals & black tips, pads black. Head along curve 5½ Ears from past base of helix 3⅓ pencil small black. Intest. 5 feet, greater the last foot & caecum 1 inch. Drain of lesser gut 5/8 of greater 1½, greater arch of St. 10½ inch. Coat thickish equable Ruga smooth towards narrow end. Liver 7 lobed, gall bladder bedded in cleft of central

PAGE 84

Two colour illustrations of Lynx

One young seated

Another, older standing(this illustration has many alternations to limbs)

CAPTION

Habitat Central and Lower regions of East Himalaya

Lynxus Erythrotis(Red Eared Lynx) old and young

N.B. Some sanscrit notes

PAGE 84 - REVERSE

Table of measurements

	Feem Jnr.	2 Feem	3 Feem	Mas.	Mas. Jnr.
Snout to root of tail	1.9½	1. 10.0	1.10. 0	1.11½	1.10½
Tail & Hair	9 +9½	10+10¾	10½+11½	10¾+11½	10½+11½
Mean height	1.1.0	1. 1 0	1. 2. 0	1. 3.0	1. 1.0
Snout to central crest of occiput	4.0.0	4 ^{3/5}	4 ^{7/16}	4¾	4½

Snout to foreangle of eye	1¼	1 ³ / ₈	1 ⁷ / ₁₆	1 ⁹ / ₁₆	1¼
Thence to lobe or inf. base of ear	2½	2 ⁵ / ₈	2 ¹⁰ / ₁₆	2 ¹⁴ / ₁₆	2 ⁷ / ₈
Thence to tip ear its length	2½	2 ¹³ / ₁₆	2 ⁷ / ₈	2 ¹⁴ / ₁₆	2 ⁷ / ₈
Elbow to end long fing.	8	8 ³ / ₄	8 ½	9 ³ / ₄	8
True heel to end long toe	10	11 ¹ / ₈	11	10½	10
Weight	-	-	9lbs	12lbs	9lbs

S-----? feem & youngish no marks on body: on arms & legs as usual. 3 imperfect black rings on tail above near tip wh. is black. Lips, whiskers & head below white, so inside of all 4 limbs close to body, rest below albescent rusty. Tail 1 inch less oscaldis of str. leg, tapered not pointed. Ears large with wide base narrowing upwards to blunt point. Helix cons^y attached to head at antea base Cons^y but **MISSING WORD** towards cleft towards its postea where it ends. TWO WORDS CROSSED THROUGH... with small antitragus no lobe. Tragus palpable as in us, a salient rounded memb. process projecting over audit. canal wh. is transverse & subarched & closed nearly by a true process. Lateral toes eq. also antea, sole quite furred save large tri-lobate baso-digital ball. Carpal callosity blunt conic. Hind feet same but no 5 digit answering small high thumb. (2)Jan^y 20 Tarai feem head med. boldly arched from snout to crest occip. nose short eyes oblique much nearer snout than ears gape to mid eye. Whiskers strong nict. membrane attached to whole antea ½ of orbits & capable of covering all eye edge black, ears large high up ovoid narrowing to acutely rounded pointed [firm]? broad open base. Helix running longit an inch along superior edge of scull in front of tragus wh. is directly above antitragus. The former has a blunt round f-----e process just opposite it on the conch above and canal ~~& the latter~~ representing the anti helix ~~& the latter~~ a longer one starting from fissure of helix & passing before the aud. Passage & between it & antitragus. Fissure considerable on the postea edge of helix & notched. Pencil of ears small, body elongate & comp. limbs long, fore not stouter. Tail 1 inch short of oscaldis of straightened leg: with hair subeq. to it cylindrico taper with hair scarcely longer or [laxer]? than that of body. Fur soft, fine & adressed, hair & wool hair 1 ½ to 1 ¾ long on back & the annulate with rusty between black above & below besides the dusky base or bluish grey base: the wool is pale rusty with similar base. General effect a rusty pale brown like domestic cat but redder bridge of nose & most part of face, ears, chest & limbs below central flexures pure rusty. Upper lip, head below lining of ears & inside of shoulders & thighs white whiskers most white with two or 3 black ones. No bands on body, head neck or chest, broad dark ones across face arms within & 3 or 4 narrower & paler without the same one hind legs without, but none within. Pads from carpus & oscaldis black brown D^o tip of tail & 4 rings of D^o above it. Vaguely seen on int surface. Talons of hind Feet stronger straighter & less acute than those before.

3/May – the Valley - feem. Great gut 4.2 of wh. great is but 9 inches double as wide as small. Caecum conic $\frac{3}{4}$ inch gt 11 $\frac{1}{2}$ by 4 wide at either end & orifices terminal thin equal coated & smooth inside but **MISSING WORD** & red on surface. In high[fig]? 8 teats mature. Tail to oscalcis nearly 5 imperfect rings & blacktip not a mark on body 5 bars on tibia outside passing a little to inside & two on f---- arm much clearer within. Lips & chin white & central belly rufescent white. 2nd D^o D^o mas. small gut 4 feet $\frac{5}{8}$ inch wide, great 10 $\frac{1}{2}$ inch & 1 $\frac{1}{2}$ wide. Caecum tiny & conic[St]? incumb & smooth within rugae being only [sollapse]? or [collapse]? Lower end narrower when empty & shape pyriform orifaces terminal

WRITTEN ON LEADING EDGE

Cont^d Tail $\frac{1}{2}$ inch less oscalcis of stretched legs & 4 imperfect bars & black tip. No marks on body 4 or 4[sic] outside legs & 2 or 3 out & inside arms

PAGE 85

Large colour illustration

CAPTION(in pencil. young nat. size)

F. Erythrotis, Jun.

Hab. Central & Lower Regions of East Himalayas

To the left of this caption is another

Felis erythrotis

[chaus]

Valley – young of the

[Cor---] wild cat

Large as life Jan^y [1851]?

Some notes in Sanscrit

ROBERTA CHECK THIS PAGE

PAGE 85 - REVERSE

Another, garden Nov^f 30, feem, young, snout to rump 19 inches

Tail 8 $\frac{1}{2}$, with hair 9, has the exact Dom. Cat's physiognomy save that the ears are much larger besides being tufted, body similar form but higher on legs, tail shorter and[sharer]? reaches only to oscalcis with tip of its hair. Colours as in the mature animal but paler, no marks on body, head, throat or breast or anywhere save on thighs & forearms which are marked on both surfaces. Lips, chin & throat, inside of ears & of limbs near body, white, cheeks, breast, belly & legs below central flexures rusty, ear deeper rusty, with bases & tips & tufts black mens chalhios[chalclos]? $\frac{1}{2}$ white, half black, tail concolorous with body, tip black & 3 alternate rings of black & gray next tip but lost almost on undersurface of tail, fur & basal half of hair but terminal half of latter 3 ringed black, rusty & black. General effect cat gray but paler. The hair of the pads & part of the carpi & tarsi within ~~are~~ is black as in many in feline race. Intestines 3 feet 7 inches, the last 7 inches from the large gut at top of wh. is a cap conic caecum. Great gut $\frac{1}{3}$ larger than small wh. equable throughout. Stomach bagpipe of thick equal coats but not muscular appearance, inside round edged high longit ridges throughout **MISSING WORD**.

Table of Measurements

Tip nose to D° tail	1 9
Length of head straight	3 ¾
Length of nose	0 0 ¼
Length of skull	3 0 0
Length of tail	0 6 ¾
Height of shoulder	0 8 ½
Girth of head (largest)	0 7 0
D° of body (D°)	0 8 ¾
Height of foreleg	0 5 ½
D° hindleg	0 6 0
Weight	2 lbs 5 oz.

NOTE 2 lines in Sanscrit along leading edge of page

PAGE 86

Felis Erythrotis Nob

Drawing of animal facing to left

Plus further two drawings of head

A. ¾ face

B. In profile

C. In profile half size of B

Drawing of stomach *NOTE Size of Nature*

Another of the stomach with upper & lower ends indicated

PAGE 86 - REVERSE

Table of measurements

	Mas	Feem
Tip snout to base tail	2 4 0	2 0 ½
Head length by curve	- 6 -	- 6 -
-D° - -D°- straight	4 ⅝	4 ⅝
Snout to foreangle of eye	1 ⅑/16	1 ½
thence to lobe of ear	- 3 -	- 2 ⅗/8
thence to forebase of helix	2 ⅕/16	2 ¼
Length of ears from lobe	- 3 -	- 3 -
-D°- -Do- from skull	- 3 -	- 2 ½
Greatest width of ear	1 ⅞	1 ¾
Mean height of animal	1 3 0	1 2 0
Elbow to carpus	6 ½	5 ⅞
thence to tip tail	3 ¾	3 ¼
True knee to oscalcis	- 7 -	- 6 -
thence to tip toe	6 ¼	- 5 ¼
Girth behind shoulder	1 0 0	- 10 -

Tail (only 0.11 $\frac{3}{8}$) & hair	1 0 $\frac{3}{8}$ (11 $\frac{1}{4}$)	1 0 $\frac{1}{4}$
Greatest width of head	3 $\frac{1}{2}$	3 $\frac{1}{8}$
-D ⁰ - height D ⁰	2 $\frac{7}{8}$	2 $\frac{3}{5}$
Weight	13 lbs	8 lbs very thin

(1)Old male Valley of Nepal Feb^y20 Head conico depressed with short straight nose behind which & afore eyes the frontals take a bold curving line. Muzzle small nude only in front between nares wh. are antial & lateral chiefly the former. Eyes medial nearer nose than ear. Lips the upper mobile with moderate whiskers one tuft on cheek & one above each eye very slight ones on chin. Ears large long oval tending to point longer than wide, helix anteally attached slightly to skull on its superior edge & fissured partially with a notch freely moveable. Conch low anti-helix notched inner part looking like salient process above conch. Tragus and anti-tractus vague latter placed [interior]? to former another process behind it falling into the **MISSING WORD** the antihelian process just spoken of. Neck short, body compressed and long. Limbs long & slender rather 5 toed afore, 4 behind. Two main central toes hardly equal nor two laterals inner being the longer. Thumb **MISSING WORD** & above an inch above postea edge of great pad of foot wh. is [----dato]? trilobate wrist-tubercle conic salient nearly one inch above last. Hind feet same size & character save no thumb or tarsal callosity. Tail cylindrico sub attenuated small reaching about 1 inch below os calcis. General hue rufescent cat grey & unmarked save on limbs wh. above & **MISSING WORD** elbow & knee nearly to carpus & os calcis have 3 to 5 cross bars of black brown, two of which are inside of forelimbs very large & plain, feet postially to wrist & os calcis the same. Head below & upper lips white. Pale above & below eye [facon]? neck & body below puce, rusty lining of ear D⁰ hands & feet D⁰ but duller & limbs outside D⁰. Fur full 2 sorts full wool 1 inch rufescent grey. Hair $\frac{1}{2}$ D⁰ towards base. Other half triannulate with black, rusty & black equal all. Tail in its basal half vaguely annulate with hoary white & dull black there being 7 to 8 black rings including the tip.

(2)Central Hills feem mature 6 teats. Iris brownish straw with round pupil. Saw it alive & dead also. Tail with hair 1 $\frac{1}{2}$ inch below os calcis $\frac{1}{2}$ without it. Tongue [neculiate]? [aculiate]? backward but its edge thin & smooth. Whiskers small & 1 or 2 very small over eye. None others on head anywhere. Tip of tail dark & 2 dark rings above with hoary intervals. No more palpable. Tail tapered tibia & cubits cross banded. Body quite unmarked. Head trigonal depressed. Nose longish Fur at & rising into arch of frontal & **MISSING WORD** pariatals. Helix large high free not produced towards eye cleft **WORD CROSSED THROUGH** with notch in corner fold. Tragus & anti plain. Anti-helix interrupted & looking like 2 processes on upper margin of low conch.

NOTE

Sanscrit table & 3 lines of text at foot of page

PAGE 86 - REVERSE CONT.....

(1)Old male Valley of Nepal Feb^y 20

Head conico depressed with short straight nose behind which & afore eyes the frontals take a bold curving line. Muzzle small nude only in front between nares wh. are antial & lateral chiefly the former. Eyes medial nearer nose than ear. Lips the upper mobile with moderate whiskers one tuft on cheek & one above each eye very slight ones on chin. Ears large long oval tending to point, longer than wide. helix anteally attached slightly to skull on its superior edge & fissured partially with a notch freely moveable. Conch low anti-helix notched, inner part looking like salient process above conch. Tragus & anti-tragus vague latter placed[interior or inferior]? to former, another process behind it falling into the **MISSING WORD** of the anti-helian process just spoken of. Neck short body compressed & long. Limbs long & slender rather 5 toed afore, 4 behind. Two main central toes hardly equal nor two laterals inner being longer, thumb **MISSING WORD** & above an inch above postea edge of great pad of foot which is[----dato] trilobate wrist tubucle conic salient nearly one inch above last. Hind feet same size & character save no thumb[on/or]? tarsal callosity. Tail cylindrico subattenuated small reaching about 1 inch below oscalcis. General hue rufescent cat grey & unmarked save on limbs wh. above & below elbow & knee nearly to carpus & oscalcis have 3 to 5 cross bars of black brown two of which are inside of forelimb very large & plain, feet postea to wrist & oscalcis the same. Head below & upper lip white. Pale above & below eye[facon]? neck & body below puce, rusty lining of ear D(itto) hands & feet D(itto) but duller & limbs outside D(itto) Fur full 2 sorts full wool 1 inch rufescent grey. Hair ½ D(itto) towards base, other half triannulate with black,rusty & black equal all. Tail in its basal half vaguely annulate with hoary white & dull black there being 7 to 8 black rings including the tip.

(2)Central Hills feem mature 6 teats. Iris brownish straw with round pupil. Saw it alive & dead also. Tail with hair 1 ½ inch below oscalcis ½ without it. Tongue [aculiate]? backward but its edge thin & smooth. Whiskers small & 1 or 2 very small over eye. Nore other on head anywhere. Tip of tail dark & 2 rings above with hoary intervals no more palpable. Tail tapered & cubits crossbarred. Body quite unmarked, head trigonal depressed, nose longish, fur at & rising into arch of frontal & parietals. Helix large high free not produced towards eye cleft **WORD CROSSED THROUGH** with notch in corner fold. Tragus & anti plain. Anti-helix interrupted & looking like 2 processes on upper margin of low conch.

NOTE Sanscrit table & 3 lines of text at foot of page

PAGE 87

ILLUSTRATION OF CARACAL STANDING

This page has descriptive notes in both pen and pencil

PENCIL NOTES TO THE LEFT OF ILLUSTRATION

6 regular front teeth above and below

4 incisors large

8 grinders with very sharp angles

Ears large slightly rounded at tips

PENCIL NOTES CONTINUE WITHIN THE

ILLUSTRATION[between animal's legs]

... Muzzle lower parts white, buff legs & tail with ~~black~~

~~bars across~~ more or less distinct whiskers white. Iris greyish

brown yellow with a green [glisten]? Ears deep clear/n rusty tipped

with black above all ~~grey~~ pepper & salt with yellow mixed

PENNED NOTES

Lybian Caracal of Pennant

Booted Lynx of **MISSING WORD**

The Chaus of Ruppel

F. Affinis Gray?

Felis Chaus? The Chaus Lynx

Felis Erythrotis nob

Table of measurements

This is written at an angle to the illustration

Tip nose to tail 2. 11

Head 3 ½

Tail 11

Height 1. 2 ½

Felis Maculata? 2 letters – 1V.380 Z.J.

**NOTE. UNLESS QUERY MARKS ARE SHOWN
OUTSIDE BRACKETS, THEY ARE IN THE ORIGINAL
TEXT**

PAGE 87 REVERSE

Spec. of Dec^r 2/8[Chapra/Chapia]? Gaon

Mature male small **MISSING WORD**

**NOTE. TWO FRACTIONS FOLLOW WHICH MAY OR MAY NOT BE
CORRECT AS THE PAGE HAS BEEN TRIMMED VERY CLOSE TO TEXT**

2 ¾ 4.6 ½ inches. Incisors large 11 ½, caecum ½ inch & of less diameter than large gut, diameter of small & large gut not sensibly different. Liver with 2 large & 3 small lobes each of the large having moreover subdivisions. Large has two well developed, the lesser has one, it has also 3 tongue like processes

gall bladder $1\frac{7}{8}$ by $\frac{5}{8}$ bile pale & thin. Lungs 7 lobed one of small[entrails]? trilobate. Spleen $5\frac{3}{4}$ by [1]? Inch stomach bagpipe smaller end not much

[conducited]? Measure of larger arch 7 inches large regular long **MISSING WORDS TO BE CHECKED LOOK LIKE 'SUGEE-DEAD LUMBRICI'**, no food. Pale ashen brown gray tinged with ~~rufescent yellow or rusty~~ neck & body below pale rufous. Sometimes almost white lips inferior. Surface of head pure white, feet, legs & ears outside bright full rusty. Inside ears whitish or white, pale marble over eye basal half of tail like body terminal $\frac{1}{2}$ paler or whitish with 4 dusky bars & dusky tip, up. part of forearms & lower part of thighs tibial transversely barred dusky, vaguely outside, clearly inside feet below & carpi & tarsi posteriorly dusky. Body unmarked in full fur, in low fur some vague wavy stripes running vertically down sides. Tail cylindrical 1 inch below os calcis[spare]? tapered. Ears wide large rather pointed tufted moderately with pencil of black hairs. In all my 5 specimens(3 of central hills & 2 of Tarai) the tail is dark at tip In one only stripes down sides traceable save in dark tip of tail. This animal comes nearer Pennant's Lybian Caracal than ever to Ruppel's Chaus.

Teeth in all $\frac{6}{6}$ $\frac{1.1}{1.1}$ $\frac{4.4}{4.4}$

the great molars with tubercles on inner side. Stark says' 3 upper molars without for Lynxes' Head short, nose truncate & straight, ears large, limbs long **MISSING WORD** & posteriorly equally stout $\frac{1}{3}$ rd larger than domestic cats found in cornfields when the crops are high, at other times in more open & level parts of mountains among brushwood, seldom in interior of dense forests or more elevated or precipitous regions of [our]? Mountains Seems to affect tree climbing little or not at all.

PAGE 88

COLOUR ILLUSTRATION OF SPOTTED CAT WITH OUTSTRETCHED TAIL AND OPEN MOUTH

CAPTION

Felis Viverriceps Sharp faced cat Nob.

feem mature Feb^y

Hab. The Tarai

Vulgo[Baraun]?

PAGE 88 - REVERSE

Tail concol with body & dotted across towards centre & thence to dark tip, regularly annulated, the rings being 5 or 6 or 7 & traceably vaguely all round. Common cat fine old male just **2 MISSING WORDS** Viverriceps i.e. dark brown grey with subtint of fulvous[firm]? fur. Below it is fulvous. Two broken longit black lines on back from neck to tail rest of body striped transversely with broken lines wh. in limbs become horizontal or transverse to their vertical position. Very strong & deep on limbs both aspects & reaching to carpus &

oscalcis. Top of head 4 or 5 longit lines 2 oblique on cheeks & 3 black postially. Tail 2 ½ below oscalcis 1 ⅛ less pad of stretched foot. 4 rings of black towards end of tail wh. has black tip. Hands & feet superiorly fulvous, hoary & sordid. Intestines lesser 6 feet, greater 1.3 ½ thick coated nearly eq. diameter. Caecum but ¾ inch equable diameter with larger gut stomach **MISSING WORD** but thick coated & submuse look on surface hemispherical & little contracted & thickened in coats towards lower orifice no fundus lining with a few **MISSING WORD** [RUGIE]?

Table of measurements

	Vivericeps <u>Mat.Mas</u>	Common Cat <u>- Do- -Do-</u>
Tip snout to tip tail dorsal	2. 4 ½	1 .9 ½
Mean height	1. 1 ½	11 ¾
Tail from dorsal base	11 ¾	11
Do- -Do- and hair	1. 0 ¼	1. 0. 0
Length head on to jut occi.str.	6 ⅛	4 ¼
Do- - Do by curve	7 ½	-
Head gr. breadth etc	3 ⅜	3 ½
Do- depth -Do-	3 ¼	3 ½
Ears length from lobe to tip	1 ¹³ / ₁₆	2 ³ / ₈
Gr. breadth 'tween bases of helix	1 ½	1 ⁵ / ₈
Height free from cranium	1 ¹⁵ / ₁₆	2
Snout to foreangle of eye str.	1 ¹³ / ₁₆	1 ³ / ₁₆
thence to ant. base of helix	3 ⁴ / ₁₆	2 ¾
Girth behind shoulder	1. 6 0	1. 0 .0
Elbow jut to top wrist	5 ¼	- 5 -
thence to top long finger	3 ⁵ / ₈	3 ¼
True knee to jut oscalcis	7 ⅛	- 6 -
thence to tip long toe	6 0	5 ¹ / ₈
Weight	17lbs	10lbs 4 oz

Tarai Feby ? Mas mature in high fig. is a most vigorous massive animal with short powerful limbs, a long full body, a short thick neck & large depressed head somewhat elongated & narrowed towards the snout wh. is small & has the sublunate nares opened laterally & running upwards towards eyes with a slight groove on the antial aspect, facial line somewhat arched from snout to occiput. Bridge of nose longish not aquiline rather raised & rounded across. Eyes oblique somewhat approx. being only one inch straight between[cuni canthi]? Frontals elongated depressed not flat longer than broad it being 4 ½ from a line across centre of eyes to jut occiput & but 3 ½ in gr. width 'tween[molars]? or [zygom/n]? arches. Ears small rounded ramati 3³/₈ rising on edge of sup. Surface of head & scarcely surmounting its crown. Helix attached but for ½ an inch running first in parallel of facial line & then rounded towards a vertical[dep]?

Attached portion of helix is thicker furred on inside & juts off from its conchal edge longer hair hiding interior of ear. Edge of helix all round covered with close soft hair like outside. Inside are scattered hairs only & not striati. Conch low small

& vague partially defined by two[blunt]? processes opposite tragus & antitragus. Tongue very[aculeate]? Mustaches very stout. Talons very strong, equal fore & aft but hind less comp. less falcate, less acute & more channeled on interior surface. Tail reaching from os calcis of extended leg. Cylindrico tapered from thickish base & not fuller haired than body. Fur 2 sorts full & soft hair $1\frac{1}{4}$ to $1\frac{3}{4}$ long 4 ringed from base with white dusky rufous white & black fur $\frac{2}{3}$ as long as hair basally $\frac{1}{2}$ dusky & terminous rufous. General effect is medial cat grey the head & neck below with breast, insides of limbs & belly sordid white the upper tip & lower part of cheeks rufous white, as pale almost as chin & throat the lip with 3 parall. rows of black dots whence issue black & white whiskers the cheeks with 2 oblique lines running from fore & aft angle of eye to sym. of jaws & thence passing down so as to completely zone the throat. 3 bars across bottom of neck & chest. 2 larger inside forearm & 2 or 3 lesser outside. Hind limbs from knee to heel with 4 or 5 lines across dots almost continuous & linear within just below wrist & ankle immaculate & greyer than body lightly spotted these on flanks & reaching the belly to heel & wrist. Several more broken lines of elliptic or round dots running lengthwise or animal with some curve on limbs on belly & chest larger rounded.

PAGE 89

Coloured illustration of animal standing and facing to left.

CAPTION

Felis Vivericeps

Mature Male Feb.8

29 by $13\frac{1}{2}$ inches

NOTE Sanscrit at lower edge of page

PAGE 90

Large coloured illustration of animal standing and facing to left

Two further studies of profile heads one with head only, the second includes shoulders and chest

WRITTEN BELOW

29 inches from sn. to root tail

$13\frac{1}{2}$ mean height

Felis Viverismus? Bennett J.A.S. No.30

Hardwicke's 111 Part XV. XVI

1. Viverriceps
2. Dom. Cat

NOTE Line above is partly obscured by binding

CAPTION UNDER MAIN ILLUSTRATION

Felis Viverriceps. Sharp Faced Cat Mihi

The Serval? Felis Serval? Verietas

Tarai May 13

INK NOTE

Opposite edge facing outwards. The Serval Tarai May 15

PAGE 90 REVERSE

Female[~~Lynx~~]? Ap^r 2nd Ears smaller & nose longer than common cat
4 teats ventral paler and smaller than male. Tail above dotted 3 or 4 half bars
near end wh. is dark. Dorsal lines broken beyond shoulders from **MISSING**
WORD OR WORDS 8 lines to middle of belly on each side. Nose to fore angle
of eye $1\frac{5}{8}$ thence to fore point of base of helix 3 inches

Table of measurements

WEIGHT	MALE	FEMALE	FEEM
	17 lbs	16 ½ lbs	17lbs
Tip snout to rump	2 6 0	2 3 0	2 4 ½
Tail(1 inch below Oscalcis)	0 10 0	0 11 end of hair	10 ½ & hair 11
Head	0 6 ½	5 ⁷ / ₈	0 6 0 curve
Mean Height	1 4 0	1 2 0	1 3 0
Ears from crown		1 ⁷ / ₈	

Note. The weight for Feem was added after the table in the original but has been added to the table for comparison

MAIN TEXT

Tawny ~~brown~~ gray dark and gray brown i.e. common cat colour above
hoary white below Feet from carp. and tars joints dirty yellowish hoary. From
above eyes to rump 4 clear parallel lines of black nearly quite continuous
~~as far as shoulders subcontinuous to rump~~ outside of them 2 more ending at
shoulders. Sides & belly & ~~hind~~ outsides of legs to oscalcis & to wrists with
blackish round shaped spots disposed lengthwise & **MISSING WORD** ~~but more~~
~~& more rounded & broken as you descend from [vertec.]? of body.~~
throat, neck below & inside of limbs marked more boldly transversely &
barwise checks with 2 parallel lines arising from behind eyes going lengthwise
to ears & thence circling round jaws & throat[pectoral]? neck also with vague
transverse bands fore arms inside with 2 broad large transverse bands and another
MISSING WORD ears black with [big]? **MISSING WORD** gray patch in centre
not tufted. Tail like body no rings spotted below as body is tip darkish dusky
brown on upper side, round eye whitish & tip lip D^o mustachio ½ white
½ black, bridge of nose & face to the front dark like back, powerful strong
& true t----- shortish sparely, haired tail tapered much from ~~thickish~~ base

limbs strong longish. Belly intirely(sic) spotted very like common cat in colours but ground darker, longitudinal line of the head extended to rump & sides of belly round spotted not transversely & rather vertically barred & **MISSING WORD** of tail evanescent. Fur soft & thick of 2 sorts both of fine quality hair triannulated from base with dusky, rufous, hoary & black wool dusky towards base rufescent gray towards tip below the hair **MISSING WORD** the black tip & rufous tinge merged in white & wool mostly canescent **MISSING WORD** & post-----extremities of nearly equal strength, post rather longer

TEXT IN LH MARGIN

Physiognomy ~~of~~ more [Viversive]? than small cats with ~~short~~ long straight limbs? & tail of Lynxes. Ears of common cat twice the size of dom.cat.

PAGE 91

MISSING WORD Jan [16]? Feem litest(sic) 8.3.0 of wh. last 11 inches below caecum wh. is 1 inch long of of **WRITTEN TWICE** large gut wh. is $1\frac{1}{8}$ th wide as flattened. Gut is very firm & strong thick. St(omach) is a membraneous sack(sic) of small eq. th. $14\frac{1}{2}$ along greater arch & 6 on lesser. Liver 6 divisions, gall bladder passing pretty freely between two of largest. Gut has an almost muscular character of toughness lesser equal and $\frac{7}{8}$ inch wide as flattened. This an old feem $28\frac{1}{2}$ inches from snout to rump. Colour is cat gray darker below the head, belly & limbs inside whitish covered all over with round black spots from eyes to middle of back 4 continuous lines hardly broken to face. Tail hardly to heel cylindric, crossed above with 6 or 7 bars wh. near base become spots, tip black, grayish below. Two oblique lines on cheeks descend from under eyes to throat wh. pass round. Breast also cross barred & insides of fore arm and fore leg or thigh, fore arm outside with two or more cross bars & spots on thighs arranged linear or crosswise, legs below heel & wrist unmarked. Ears black with gray spot in middle, ears small & [acuilish]? face sharper & longer than in Catus Dom. & tail shorter & ears smaller, legs not longer, nor does animal stand higher even lower & talons are less curved & compressed than in cats specially in hind feet wh. are not wholly sheathable, approach to Vivercce also in form of head.

PAGE 91 - REVERSE

Mother **MISSING WORD** Ap. 1st Snout to rump $27\frac{1}{2}$. Tail $10\frac{1}{2}$ or 11 with hair. Stomach a semi spheroidal membraneous sack (sic) with faint show of mus. fibre $16 \times 5\frac{1}{2}$ along greater & lesser arches. Intestines 7 feet 15 inches from anus & caecum conic of $\frac{3}{4}$ inch long. Intestines thicker below caecum $1\frac{3}{8}$ inches uniform above $\frac{3}{4}$ inches. No band or sacs in gr. gut, whole intestine[strong]? coated. Is female & mature 12 lbs 4 ozs Tail to oscalcis 7 or 8 rings superiorly & laterally immaculate & gray below, tip dark. Dorsal lines vague over loins. The talons are perfectly sheathed & wholly feline. In this animal very sharp. In stomach a large Paddy Snake! 4 teats ventral Zibetha Bassi & Indica have

NOTE THIS PAGE MUST BE RECHECKED FOR THE LAST STATEMENT
AFTER VENTRAL

PAGE 92

COLOURED ILLUSTRATION

Cat facing to right in profile. This study shows the animal from its head to the rise
of it's back behind the forequarters

It is not captioned

PAGE 92 - REVERSE

PENCIL STUDY

Standing cat facing to right

CAPTION

Common wild cat of Tarai

FELIS VIVERRICEPS NOB.

Note – Sanscrit words on lower L.H. part of page and also top R.H. corner

PAGE 93

THIS PAGE SHOWS A SERIES OF STUDIES OF CAT'S HEADS

The **Largest** are numbered 1, 2 and 3

1. Felis Nipalensis? Pardo-chrous Mihi Elliotti-Gray
Khipsic Vulgo. Hab. Central region of Himalaya
2. Head of the Chau Lynx Chau Lybicus
3. Ditto of Viverriceps H. Viverrimus
[Velcebidogaster Sec Catal or Caral]?

Below head number 3 is written Viverriceps Hodgs.

There is a further study of equal size to cats numbered 1,2 and 3,
however it is unfinished and uncaptioned.

The 3 **Smallest** are unnumbered and positioned on the page with
two in close proximity and one apart

At the bottom of the page is a completed painting of a cat facing to left.

CAPTION

FELIS PARDOCHROUS MIHI

FELIS ~~NIPALENSIS~~ [OLIM]? MIHI

FELIS ELLIOTI-GRAY

Pencil Note to left of this 'Elliotti-Gray' who makes Bengalensis & Nepalensis

-----non

NOTE: PAGE TRIMMING HAS CUT OFF THE REST OF THE WORD

Some Sanscrit Notes also

PAGE 93 - REVERSE

Table of measurements

Tip snout to ditto rump	1. 9. 0	1. 11. 0
Length of head	0. 4. 0	0 4 ¼
Greatest breadth	2 ½	
Greatest depth	2 0	
Snout to fore angle of eye	1 ⅝	
thence to opening of ear	2 ⅙	
Length of tail	1. 0. 0 + hair 1.20	
Mean height of animal	1. 0. 0	1. 10
Elbow to wrist(fore bend of)	4 ⅝	
thence to end of long finger	2 ¾	
Knee bend to point of tarsus	5 ¾	
thence to tip of long toe	4 ⅝	
Length of ears(from head behind)	2 ⅜	0 2 0
Weight 12 lbs.		

***NOTE** The above table may have had headings to both columns, however the page has been trimmed very close to the text.*

Jan^y 4th Valley Male brilliant colour pure bright rufous yellow above, pure white below, white [hue]? or line over eye, ears pale margined widely forewards & towards head with black marks, all pure black. From eyes to shoulders 4 lines, from eye over cheeks 2 lines curving and concentrate[ed] in one wide zone across throat. 4 or 5 jet bands across pectoral, neck, chest and fore arms.

Whole body marked lengthwise, limbs & tail crosswise, on body above oblong stripes linear & broken, largest & linear most on back where are 4 parallel ones throughout on sides shorter and rounder marks wh. become quite round on belly & on limbs nearly so. Tail has roundish spots disposed [ringwise]? But very vaguely, tip is black. Feet from tarsus to carpus with small round dots of black & tarsi dark behind. Whiskers white, size proportions & characters of domestic cat, but tail longer & fuller furred, reaches to sole of extended hind leg. Is cylindric, bluff pointed & not[sensibly]? Tapered. Nose & ears inside with fleshy white skin. Iris yellowish hazel.

Nov^r 4 Valley mas. mature taken young but only half tamed has form & **MISSING WORD** of domestic cat but fuller tail, cylindrico subtapered & as long as extended hind leg to nails. Tail spotted like body above immaculate almost below. 4 par. lines from eyes to shoulders, one band under jaws 2 round breast, bright tawny above pure white below. The ground colours are precicely those of the leopard & the marks bear the strongest general resemblance: only for

the 4 lines from eyes to shoulders which are peculiarly catish & for those on the face & insides of the fore arms & thighs which are also distinctive of the domestic type of the cat – this animal would be a Leopard in miniature called [Nendh Bilaw]? by [Parbathahs]?

Pencilled continuation

July 28 Valley feem junior? caged. Intest 4.8 last 8. big gut & rather wider than lesser all very thick, coated caecum $\frac{7}{8}$ conical size of pros----- lesser gut. St. bagpipe 8 $\frac{1}{2}$ inches by 3 $\frac{1}{4}$. Liver 4 lobed & lobulus left inte---- & largest neat [cut]? & small 3rd plus second & cleft & bilobati gall green & thick. Tall slender t----- of stretched hind foot sole

Below

Drawing of head facing to left

CAPTION

F. VIVERRICEPS feem

$\frac{1}{3}$ mature size

NOTE Sanscrit notes

PAGE 94

India House 1852 No. 46

Large coloured illustration of a Leopard facing to right

CAPTION

[Khipszk of Bhotias]?

Felis Pardochrous(Olim Nepalensis)

Various Sanscrit notes around illust.

To the left of the illustration ***in pencil*** Felis Nepalensis

-ditto - -ditto- ***in pen*** Hodie Pardochrous

Above main illustration two further studies in pencil which are

Captioned 1 – stomach and 2 – caecum

PAGE 94 - REVERSE

Dorjiling Ap^r 30 Female, mature 4 teats: 2 inguinal & 2 ventral. Medium brightness pardine. Pure white below MISSING WORD tail which is buff & void of marks marks(sic) above bodily & caudal rounded & not open.

Linear marks only on hind & to shoulders above. No oblique side mark on shoulder, feet small & compact, fore toes gradated humanly save the smallness of thumb, a trefoil pad for base of fingers & a tiny remote one for thumb & another tiny & round one for wrist. Behind the feet have the 2 centrals & 2 laterals equal & no 5th digit & one basodigital & trefoiled pad. Lungs of seven lobes 3 to the right & 3 to the left and 1 central & inferior under the heart. Liver also 7 lobes, 4 to right whereof the upper most of 3 - 4 is cleft for the gall bladder & 3 to left whereof the upper is small, the central large & the lowest the lobylus.

Gall bladder 1 $\frac{1}{4}$ inch by $\frac{3}{8}$ elliptic, bile dark green. It's duct 1 $\frac{1}{4}$ long enters the intestine close to lower end of stomach. Spleen tongue shaped very dark $2\frac{3}{8}$ by $\frac{3}{4}$ inch. Pancreas folded in it's length each half 1 $\frac{3}{4}$ to 2 inch & less $\frac{1}{4}$ wide. Half lies along outer arch of stomach & half against the first 2 inch

of the gut & to which it is closely attached without trace of pancreatic duct. Heart $1\frac{1}{2}$ by less 1. Intestines 3.8 whereof the last 8 inch are the great gut, width of lesser gut $\frac{3}{8}$ of larger, $\frac{7}{8}$, caecum $\frac{3}{4}$ long by $\frac{1}{2}$ wide, teat shape stomach pyriform with terminal orifices. Outer arch $7\frac{1}{2}$ inner $3\frac{3}{4}$

Table of measurements

	Feet/inches		w
Tip snout to root tail	$1\frac{4}{2}$	$1\frac{5}{4}$	1. 7. 0
Tail & Hair	9	$10\frac{1}{2}$	0. 11. 0
Tail LESS Hair	$8\frac{5}{8}$	$9\frac{7}{8}$	0. 10 $\frac{1}{2}$
Head to nape by curve	$4\frac{1}{2}$	4	4 $\frac{1}{4}$
-do- -do- straight	$3\frac{5}{8}$	$3\frac{3}{4}$	0. 3 $\frac{5}{8}$
Tip snout to fore canth of eye	$\frac{15}{16}$	1	0. 1 0
Thence to fore basal ? of ear -	2 -	$1\frac{7}{8}$	0. 2 $\frac{1}{4}$
Length of ear from below	$1\frac{7}{8}$		0. 1 $\frac{7}{8}$
-do -do- lobe		$1\frac{1}{2}$	
Greatest width of ear	$1\frac{3}{8}$		0. 1 $\frac{7}{16}$
Girth of body behind shoulders -7-		$7\frac{3}{4}$	0. 8 $\frac{1}{2}$
Height at shoulder	-8-	$9\frac{1}{4}$	0. 9. 0
-do- at MISSING WORD	-9-		0. 9 $\frac{1}{4}$
Olecranon to tip long toe	$5\frac{7}{16}$	forearm $3\frac{1}{2}$	0. 4 0
- Knee to tip long toe	$6\frac{3}{4}$	carpus & ft. $2\frac{1}{4}$	$2\frac{1}{4}$
- Leg behind tarse	$4\frac{1}{8}$	leg to tarse $4\frac{1}{8}$	$4\frac{5}{8}$
Tarse to end of toe	$4\frac{1}{8}$	ft. from tarse $3\frac{7}{10}$	$4\frac{1}{4}$
Weight $1\frac{1}{2}$ lb.		weight 3 lbs	weight 4 lbs

f Female perhaps 10 months old. Colours rich & fine –aspect of figure of domestic cat. Central Hills of Nepal taken alive in Oct^r
 # Female young Central Hills. Intestines 4 feet caecum $\frac{5}{8}$ inch & 9 inches from End. Width of large intestines 1 inch of caecum $\frac{3}{8}$. Larger arch of stomach 10 inch – lesser $3\frac{1}{4}$ July 22nd died here, only 2 inguinal teats visible in either animal.

NOTE Sanscrit notes at foot of page & table on L.H. side at top of page

PAGE 95

Two coloured illustrations

The upper parallel with r.h. edge of page – Male

Below -ditto- -ditto- -ditto- -ditto- - Female

CAPTION BELOW THE TWO ILLUSTRATIONS

Felis Nepalensis? Olim

Woods of central region of Himalaya

Khipsie of Bhotias

Pencilled note – Felis Elliotti Gray in [Catal]? Or Central

Parallel with lower edge of page

Pencil drawing scored through with 3 diagonal lines

CAPTION

Felis Pardocrous Mihi

(olim Nepalensis)

N.B. Like the drawing, the caption is scored through

PAGE 95 REVERSE

Table of measurements

Nape to rump	1. 7 1/2
Length of head	4 1/4
-ditto- tail	1. 0. 0
Tip of nose to atween the eyes	1 3/8
Eyes to nape	2 3/4
Breadth of head	2 3/4
Height of head	2 1/4
Height of animal afore	0 9 1/2
-ditto- -ditto- ahind	- 11 -
Length of ears	0 2 1/4

Weight 9 1/2 lbs.

A male and a fine one. Nov^r 29. See drawing of him large as life. Insides of limbs as far as knees & hocks, belly, pectoral surface of neck & cheeks & chin & throat white, feet below the points above noted & inside of tail tinged with tawny of body above but paler than it. Size form & proportion those of the com. domestic cat & ears & tail precicely of same character unless that the tail be rather fuller. It has as much hair as the body & of a rather longer kind, reaches nearly to feet & is cylindric in shape with scarce a tapering to the tip. Ears mod., rounded & untufted at tips. Outside with with[sic] short hair, inside only very partially protected with a villose tuft. Differs from COMMON wild cat by the ears, the height & the length of tail. Wild cat standing [higher]? on legs. Having larger, more pointed & tufted ears & considerably shorter & rather less full tail is larger too considerably

NOTE Some pencilled notes written underneath the above text and continued

below it

PAGE 96

Large coloured illustration of Leopard Cat facing to right

CAPTION

Felis Pardocrous[Jun/r]

Darjiling

Khepsie of the Bhotias

PAGE 96 - REVERSE

Young of ½ month old. June 30 Dorjiling

Female caught alive in[trees]?

Very savage & died soon. Young of Pardocrous. Figure & EXPRESSION of domestic cat. Nose short & straight. Eye[largest] sordid golden, pupil vertical, elliptic variable. Head depressed ears remote medial rounded, neck short, body long compressed **TWO MISSING WORDS** *Note:- second could be DECATI* tail [e-----] taper shortish not ½ of animal's body & head.

Colour above bright[pardine]? Below pure white for ground & for marks pure black. Marks on head, neck & upper limbs, long & linear on body mostly round & short all below & all limbs marked & all tail, on tail marks incline to annulate form & as many & crowded & dark tip. Four lines from behind eyes whereof two outer proceed down the mesial line of the body sometimes nearly to tail, on either side of the spine, sometimes fall off to spots & cease to be linear between shoulders. From below & behind eye two lines curving over cheeks & both of which pass round below the inferior surface soning the throat & neck. Two or three close bars across chest more or less falling in with the great bars of the upper parts of all the feet extending to **MISSING WORD** flexures on whole body above & below marks rounded & full or not open. Larger on belly than back & lessening on limbs as descends to toes which wholly spotted. Above each eye is a white line & another below it & lips, chin & lower jaw are immaculate almost as belonging to pure white lower surface. The mystacial region has lines of spots where white & black mustache starts. Ears outside black with central greyish white spots & inside buff.

PAGE 97

India House November 1852 No.47

Two illustrations- one of a caecum

the other of a stomach

Coloured illustrations of 2 cats, one looking to front, the other facing away, both Seated

CAPTION

Felis Bengalensis? Hab. Central Region of Mountains

1/3 nat. size, got at Darjiling

Jhapsik of Bhotias

Leopardus Elliotti of Gray?

Sharpsic or Jhapsik & same for Pardocrous

PAGE 97 – REVERSE

Pencil outline of a seated cat

Sanscrit notes and table of measurements

PAGE 98

Two coloured illustrations of cats, one standing, another of smaller size sitting

CAPTION

In pencil Felis Negripectus Mihi $\frac{1}{3}$ nat. size
Hab. Tibet

In ink The Risim of Bhotias
Felis Negripectus Mihi Tibet $\frac{1}{3}$ nat. size
Hab. Tibet

Sanscrit notes

PAGE 98 – REVERSE

Sanscrit notes & tables of measurements

	(1)	(2)	(3)	
Nose to base tail	2.00	1.11.0	1.6.0	1.6 $\frac{3}{4}$
Tail	1.00	- 11 -	0.6.0	0[8 $\frac{1}{4}$]
Height at shoulders	1.00	- 11-	9 $\frac{1}{2}$	0 4 $\frac{3}{4}$
Head	-	-	-	-

Tibet Feb^f Skins seem all of one species tho' the 3rd differs in the thinness as well as the colour of tail & it has the black below more extensively spread. Measures possibly **MISSING WORD** very thick fur **MISSING WORD** got alive in 1855 one from Chebu Lama & one from East Ribet(Kham)

PAGE 99

Large pencil drawing of a cat

CAPTION

Got alive from East Tibet

Felis Nigriceptus Mihi

PAGE 99 – REVERSE
Table of measurements

Length	2. 2 ½	Tail and all
Head by curve	0. 4 ¾	
Nose to Vent	1. 6 ¾	
Tail	0. 8 ¼	
Height	0. 0. 0	
Foreleg	0. 4 7/8	
Paw	0. 2 ¼	
Hindpaw	0. 3 7/16	
Ear	0. 1 3/16	
Nose to eye	0. 0 7/8	
Ear to Ear	0. 2.0	

Male from Kham brought alive died at Catemandu[sic] Eyes cinnamon yellow

PAGE 100
Blank

PAGE 100- REVERSE

Illustrations of 2 Foot soles
CAPTION
Felis Nigripsectus from life

Table of Measurements

Categories written in Sanscrit

Measurement descriptions in English

- 2. 2 ½ Entire Length
- 0. 4 ¾ Head by Curve
- 1. 6 ¾ Nose to Vent
- 0. 8 ¾ Tail
- 0. 9. 0 Height
- 0. 4 7/8 Forefoot
- 0.2 ¼ Paw
- 0.3 7/16 Hind Paw
- 0. 1 3/16 Ear
- 0.0 7/8 Nose to Eye
- 0.2.0 Eye to Ear

Note - The table of measurements is followed by 6 lines of Sanscrit Punctuated by numbers 16-17; 0. 1 ¼; 20 and 23

PAGE 101

Pencil drawing of Pallas's Cat

CAPTION

Felis Nigripectus, nat. size

Hab. East Tibet 2^D copy

PAGE 101 – REVERSE

Various pencil drawings:- Seated cat, standing cat facing to left, scribble of a cat, 2 drawings of foot soles & what appears to be a human face.

CAPTION

Felis Nigripectus Mihi

PAGE 102

India House 1852 No. 41

Illustration of Clouded Leopard facing to left

CAPTION

Felis Macroceloides Nob. $\frac{1}{6}$ Nat. Size

$\frac{1}{6}$ Nat. Size

Felis Macrocelis? $\frac{1}{6}$ Nat Size

Hab. Nepal, Sikim Valley of mid hills of Tibet

[Lamchitia of Ghorkas]?, [Satchuk of Lepchas]

also [Pungmar]? and Zik of Limbus and Kung of Tibetians

Note to side of illustration

Kung Bhotia name Pungmar – Lepcha

Home Nov. 41

Further illust. In outline of Stomach & Caecum- full size

Some Sanscrit Notes

1. An old male killed July 1st at Balasun in Sikim on verge of lower Region 4000ft. 4 teats in lower part of abdomen. Iris brownish yellow mustachios white. Pardine aspect but lower on the legs. Intestines 10 feet at 19 inches from end caecum of 1 ½ inch.

2. Sikim Northern region, male old Macrocelis is 3 feet & the tail 2 ½. Height 12 ⅓ Macroceloides is is[sic] 3 ½ feet & tail 3 feet & Height 12 ½

Note Sanscrit notes at side of page in vertical arrangement

PAGE 103

Coloured illustration Hind Legs and Tail only of Golden Cat

PAGE 103 REVERSE

Pencil drawing of 2 Golden Cats one standing, facing to left. Behind this illustration is a crouching cat facing to right.

CAPTION

Felis Murmensis Nob. Wild Murmi cat

Hab. Himalaya Central Region

Note: - Some Sanscrit notes

PAGE 104

India House Nov. 1856

Two colour illustrations of Golden Cats one standing and one crouching, both facing to left, both black

CAPTION

Dorjiling, male, mature Jan^y 1849

Melanic Var. of Felis Murmanses

PAGE 104 – REVERSE

Table of Measurements

Tip snout to anus	2. 10 ½	
Head to occiput	0. 5 ¼	
Tail	1. 6. 0	
Ears from antea base	0. 2 ¼	
Mean height	1. 9. 0	
Palma from hind wrist to end of long toe	0. 4 ¼	
Upper jaw symp interm. to end molars		0. 2 ¼
Lower jaw front teeth to last molar		0. 2 ⅛

Second Table of Measurements

Note all categories are written in Sanscrit

Sanscrit

Ditto	1.6. 0
To end of table	4 ½
	3 ⅛
	10 ½
	10
	2
	1 ⅔
	1 ⅜
	2 ⅛
	6 ¼
	3
	7 ¾
	4 ½
	8
	10

Dorjiling. January mature male killed near us but got only the skin with half skull. Very like murmensis & may possibly be a black variety of it. Fur abundant of 2 sorts, longer pile about 1 inch long general order dusky black freckled with fawn especially on the limbs. Ears outside & tail mostly & a mesial line along spine black.

Tail inferiorly paled & buff or tawny in a linear manner, above & below eye on cheeks a series of oblique longitudinal lines alternately tawny & black & lips similarly coloured with lines of dots.

Head inferiorly pale & unmarked & the jaws there defined postially by a dark zig zag from above. Teeth 6 1.1 4.4. Incisors small

6 1.1 4.4

regularly set & truncated notchwise on crowns. Canines not much curved, grooved lengthwise above first molar, very small & apart 2^D large moderately compressed with one conical lobe 3^D or carnassier[carnassorial]? much the largish of either jaw. It is moderately compressed & has 3 cutting lobes whereof the antea is small conoid & has a larger blunter conoid head on its inner side. 4TH or tubercular tooth elongate, transverse parallelogramic flat crowned below the first molar is moderately compressed with one central lobe & a quasi heel before & behind & 2^D is longer but of same form save that the quasi heels are more palpable, the 3^D or [carnassion/carnassier]? is less than that above & has 2 compressed

cutting lobes. The colour results from dusky woolly piles & hairy ones which are black with a small subterminal tawny ring.

PAGE 105

Coloured illustration with some penciled outline amendments

CAPTION

Felis Murmensis(Mihi)
Habitat Mountains of Nepal

PAGE 105 – REVERSE

Sanscrit writing only

PAGE 106

India House November 1852

Coloured illustration of two Golden Cats, one resting, one standing

CAPTION

Felis Murmensis
Central Region of Mountains

PAGE 106 – REVERSE

Table of measurements

NOTE Categories in the left hand column are all in Sanscrit and some figures are difficult to make out. There are no column headings. The footnote is also in Sanscrit

3.3.0	2.6.0	2. 4. 0	
0.8.0	0.6.0	5 ¼	4.5.0
1.7.0	1.3 ½	1. 3. 0	1.7.0
1.1 ½	1.0.0	0.11.0	
0.0.0	1 ¾	0. 0. 0	
		1. 1 ½	
1.7 ½	5 ½	1. 3 ½	1.9.0
1. 9. 0	1.6. 0		

PAGE 107

India House November 1852 No. 13

Coloured illustration of a Snow Leopard facing to left

CAPTION

The Ounce of Tibet 1/6 Nat. Size Feem

I'kar of Tibetans also Zig and Sachak

Felis I'Kar Mihi

Pencilled Note

Home May 42

To the right of the illustration is a further penciled note

Zig of Bhotias

PAGE 107 – REVERSE

Table of Measurements

Snout to Rump	4.3.0
Head straight	0.0.0
Tail	2.6.0

NOTE This Table of Measurements is written in both pencil and ink with the ink overwriting the pencil

Skin from Tibet size of leopard or rather more fur, fuller and longer. tail shorter & thicker. Talons less compressed with round backs and less depth. Less MISSING WORD developed & less MISSING WORD.

NOTE The above is also written in ink over pencil

PAGE 108

Coloured illustration of a Snow Leopard facing to left

CAPTION

Felis I'kar Nob

The I'kar of Tibet

The Ounce of Tibet Junior [¹/₅ OR ¹/₆] Nat. Size

Home May 42

Ink Note to left of illustration Felis I'kar Mihi

Pencilled Note The Ounce of Tibet Junior

PAGE 108 – REVERSE

Table of Measurements

Snout to Rump 3.0.0

Tail 2.4.0

Is the young probably of the larger & came with it from Llasa

PAGE 109

Part coloured illustration showing group of 3 Hyenas, 2 facing to Left, one $\frac{3}{4}$ face to front. Main animal coloured. Fourth animal unfinished and positioned between the forelegs of the main animal.

CAPTION

Hyena Virgata? Striped Hyena

Sikkim Tarai

PAGE 109- REVERSE

This page is blank

PAGE 110

Pencil drawing of small cat facing to left.

Additional drawings of stomach parts?

The first U shaped and labelled Lower & Upper with other Indications in Sanscrit

The second branch shaped labelled Caecum on main part, Lesser Gut on right branch and Larger below it with other Indications in Sanscrit.

Notes and Captions below

Viverricula old male Sikim Tarai

Feb^y 10

Viverricula Indica Sikim Tarai

Habitat Tarai all along

Nepal Sikim[Kumaon]? Or[Hamaon]?

Note to Left

Habitat Tarai of Himalaya

From[Satlege]? To [Teasta]? BOTH WORDS TO BE CHECKED

PAGE 110 – REVERSE

Table of Measurements

Total Length	3. 0. 0
Snout to Vent	1.10. 0
Tail Only	1. 2. 0
Tail & Hair	1. 2 ½
Head to Occiput st.	0. 4 ³ / ₈
Snout to Eye, foreangle	0. 1 ⁵ / ₁₆
Thence to base Ear	0. 2 ⁵ / ₁₆
Ear from fore base	0. 1 ³ / ₁₆
Ear from Scull	0. 1. 0
Mean height	0. 9. 0
Length of Forearm	0. 3 ³ / ₁₆
Leg or Tibia	0. 3 ¹¹ / ₁₆
Planta to end Nails	0. 3 ¹⁴ / ₁₆
Girth of Waist	0. 10 ½
Weight (Fat)	5lb 2oz

Siligori Feb^y old male, colours moderately light. Fur full & changed for season. Tail equal body only in length has dark on the pale ground whereof the two basal are broken below. Has 5 continuous lines from shoulders to vent whereof the ridge one runs down the back opening & lightly here & there. On flanks the lines are not continuous but composed of oval spots which also covers upper parts of limbs, to wrist & heel nearly. Rest of limbs dusky. Body & neck below unspotted. Yellowish or dusky necker clearer & marked with 3 zones which run longitudinally from ear to shoulder

