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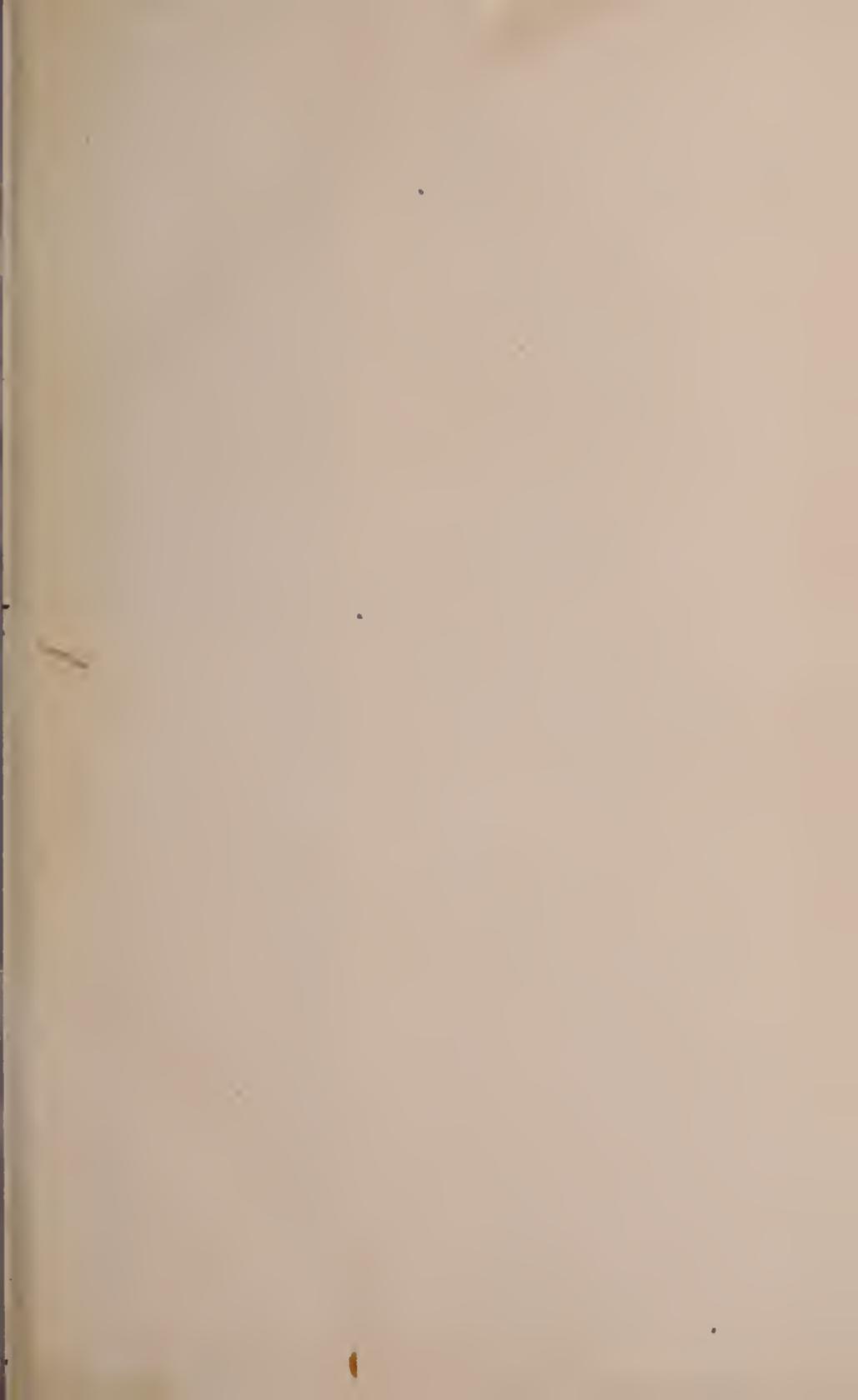
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# JOURNAL

OF THE

ASIATIC SOCIETY OF BENGAL, ✓

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“ It will flourish, if naturalists, chemists, antiquaries, philologers, and men of science, in different parts of Asia will commit their observations to writing, and send them to the Asiatic Society at Calcutta. It will languish if such communications shall be long intermitted; and it will die away if they shall entirely cease.”—SIR WM. JONES.

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CALCUTTA :

BISHOP'S COLLEGE PRESS.

1846.



JOURNAL  
OF THE  
ASIATIC SOCIETY.

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CATALOGUE OF MAMMALIA

*Inhabiting the MALAYAN PENINSULA AND ISLANDS,*

*Collected or observed by THEODORE CANTOR, M. D.,  
Bengal Medical Service.*

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☞ Localities printed in Italics signify those from whence the animals of the Catalogue were obtained: localities in ordinary type those previously given by authors.

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[Continued from p. 203.]

GEN.—HERPESTES, *Illiger.*

HERPESTES JAVANICUS, Desmarest.

SYN.—*Ichneumon javanicus*, Geoffroy.

*Mangusta javanica*, Horsfield.

“*Garangan*,” Horsfield.

HAB.—*Pinang, Malayan Peninsula.*

Java.

The species is numerous. The largest male measured from the apex of the nose to the root of the tail one foot four and a half inches; the tail one foot one and a half inch.

## HERPESTES AUROPUNCTATUS, Hodgson.

SYN.—*Mangusta auropunctata*, Hodgson.

*Herpestes nepalensis*, Gray.

*Herpestes Edwardsii*, apud Ogilby (?)

*Herpestes javanica*, Hodgson, apud Gray : List.

HAB.—*Malayan Peninsula*.

Bengal, Nipal, Scinde, Afghanistan.

This species somewhat resembles *H. javanicus*, but the ground colour is lighter, and the lower surface uniformly pale yellowish-grey; whereas in the former species it is similar to the back, or a shade paler. A single female observed, measured from the apex of the nose to the root of the tail one foot one inch; the tail nine inches.

## HERPESTES GRISEUS, Desmarest.

SYN.—*Ichneumon griseus*, Geoffroy.

*Mangouste de Malacca*, F. Cuvier, }  
*Mangusta malaccensis*, Fischer, } Apud Schinz.  
*Mangusta grisea*, Fischer, }  
*Herpestes Edwardsii*, Fischer, }  
*Mangusta Nyula*, Hodgson, }

*Herpestes griseus*, Nyool, apud Ogilby.

*Herpestes pallidus*, Schinz.

Forsan *H. nipalensis*, Gray, Var. apud Schinz.

HAB.—*Malayan Peninsula*.

Bengal, Hindoostan, Scinde, Nipal.

The present differs from the other species not only by its grey colour, but by its broader head, particularly between the prominent eyes, and by its shorter, blunter nose, which places the eyes comparatively nearer to the muzzle. In a single female, measuring from the apex of the nose to the root of the tail one foot two and a half inches, the tail nine and a half inches; the intestinal canal was of the following dimensions:

Small Intestines,	..	..	..	3 feet 1½ inch.
Large ditto,	..	..	..	0 ,, 5½ ,,
Cæcum,...	..	..	..	0 ,, 1 ,,

By a contraction in the middle of the greater curvature, the stomach is distinctly separated into a cardiac and pyloric cavity.

## HERPESOTES BRACHYURUS, Gray.

SYN.—“Musang Túron” of the Malays of the Peninsula.

HAB.—*Malayan Peninsula.*

The largest male measured from the apex of the nose to the root of the tail one foot six and a half inches, the tail nine inches. It is distinguished from the other species, not only by its colours and comparatively short tail, but by its larger size and much more robust make.

## GEN.—FELIS, Linné.

## FELIS TIGRIS, Linné.

SYN.—*Tigris regalis*, Gray : List.

“Harímau” or “Rímau” of the Malays.

HAB.—*Malayan Peninsula.*

India.

Lieut. Colonel James Low has communicated the following denominations, by which the Malays of the Peninsula distinguish different varieties :

“Rímau Sípai,” reddish coated, striped.

“Rímau Bállu,” darker coloured.

“Daun Pínang,” reddish coated, without stripes.

“Tuppu Kassau,” darkish, without stripes, but with longer hairs than the others.

“Puntong Prun,” very dark, striped.

## FELIS LEOPARDUS, Schreber.

SYN.—*Felis Pardus*, Linné, ?

*Felis varia*, Schreber,

*Felis Panthera*, Erxleben,

*Felis chalybeata*, Hermann,

*Felis antiquorum*, Fischer,

*Felis fusca*, Meyer,

*Felis Nimr*, Ehrenberg,

*Leopardus varius*, Gray : List.

*Felis Leopardus*, apud Schinz.

“Rímau Bítang” of the Malays of the Peninsula.

HAB.—*Malayan Peninsula.*

India.

} Apud Gray : List.

## DARK VAR.

SYN.—*Felis melas*, Péron, apud Gray : List.

“Rimau Kúmbang,”\* of the Malays of the Peninsula.

The ground colour is a shining beetle-brown, mixed with white hairs, not however sufficiently to impart a grey appearance. The black spots become distinctly visible in certain lights only. The skin of a male killed at Malacca, measured from the nose to the root of the tail four feet four and a half inches, the tail two feet ten and a half inches.

The Leopards of the Malayan Peninsula appear to attain to a larger size, and to be more ferocious than is generally the case in India. Instances of their having killed and carried off Malays are on record.

## FELIS MARMORATA, Martin.

SYN.—*Felis Diardii*, Fischer, apud Schinz.

*Felis Diardii*, apud Jardine. Tab. 21 and 22.

*Leopardus marmoratus*, Gray : List.

“Rimau dáhan” of the Malays of the Peninsula.

HAB.—*Malayan Peninsula*.

The ground colour varies from rusty-grey, or fulvous to grey, and the black markings are scarcely quite alike in any two individuals, nor is the extremity of the tail constantly black. The adult exceeds the size given in the original description; a female measured from the apex of the nose to the root of the tail two feet half an inch; the tail one foot nine inches. The species is numerous.

## FELIS JAVANENSIS, Desmarest.

SYN.—*Felis javanensis*, Desmarest, apud Horsfield.

“Kuwuk,” Horsfield.

<p><i>Felis minuta</i>, Temminck,  <i>Felis servalin</i>, Temminck,  <i>Felis sumatrana</i>, Horsfield,  <i>Felis undata</i>, Desmarest,</p>	}	Apud Schinz.
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\* “Kúmbang” signifies a beetle; applied *par excellence* to a species of *Oryctes*, resembling *Scarabeus nasicornis*, Linné, which is very destructive to cocoanut plantations. “Rimau Kúmbang,” Raffles, is by Schinz referred to *Felis Pardus*, Temminck, *Var. nigra*, Muller; *Felis metas*, F. Cuvier, the habitat of which is said to be Java and Sumatra.

Felis Diardii, Griffith,  
 Leopardus javanensis, } Apud Gray : List.

“Rimau ákar” of the Malays of the Peninsula.

HAB.—*Pinang, Malayan Peninsula.*

Java, Sumatra ?

The ground colour in the Malayan individuals varies from pure grey to greyish brown or ferruginous. The largest adult male measured from the apex of the nose to the root of the tail one foot eleven and a half inches, the tail ten inches ; another of equal dimensions of the body had the tail eight inches in length. The intestinal canal was of the following dimensions :

Small Intestines,	..	..	..	3 feet 8 inches.
Large,	..	..	..	0 ,, 9½ ,,
Cæcum,	..	..	..	0 ,, 1½ ,,

In the scansorial habits of this very numerous species originates its local denomination “ákar,” signifying a climber as well as a root.

FELIS PLANICEPS, Vigors and Horsfield.

SYN.—*Chaus* (?) *planiceps*, Gray : List.

“Kúching-útan,” or “jálang” of the Malays of the Peninsula.

HAB.—*Malayan Peninsula.*

Sumatra, Borneo.

The Malayan individuals of this apparently not numerous species differ from the Sumatran, originally described, in having the whitish throat, chest and abdomen, and the inner side of the limbs undulated with brown, transversal, interrupted bands. In none of the Malayan wild cats is the length of the tail more variable. In a male, measuring from the apex of the nose to the root of the tail two feet one and a half inch, the tail, consisting of twelve gradually diminishing caudal vertebræ, measured five and a half inches ; in another, one foot ten and three-fourth inch in length from the nose to the root of the tail, the latter organ measured two inches, consisting of four slightly decreasing vertebræ, the last one of which was broad, flattened, and rounded at the posterior extremity. It is of most ferocious habits, and untameable. In the smaller individual the intestinal canal was of the following dimensions :

Small Intestines,	..	..	3 feet 6½ inches.
Large,	..	..	0 ,, 5½ ,,
Cæcum,	..	..	0 ,, 0⅝ ,,

## FELIS DOMESTICA, Auct.

“Kúching” of the Malays.

The Malays, like most Muhamedans, are as partial to cats as they are the reverse to dogs. As observed by Sir S. Raffles, some of the Malayan, like the Madagascar domesticated cats, have a short twisted or knobbed tail, others are tailless. Among those of an uniform colour, a light ashy and a bluish (or slaty-grey) variety, with single longer black hairs on the back and tail, are conspicuous. They frequently relapse from a state of domestication, resort to the jungle, and shun the presence of man.

## RODENTIA.

## SCIURIDÆ,

GEN.—SCIURUS, Linné.

## SCIURUS BICOLOR, Sparrmann.

SYN.—Das javanische Eichhorn, Schreb.\* apud Horsf.

Sciurus giganteus, McClelland MSS. } Apud Horsfield, Proc.  
Sciurus bicolor, Sparrmann, } Zool. Soc.

Sciurus madagascariensis, }  
Sciurus macruroides, Hodgson, } Apud Gray : List.

“Chingkrawah étam” of the Malays of the Peninsula.

HAB.—Pinang, Malayan Peninsula.

Java, Sumatra, Borneo, Siam, Tenasserim, Assam, Nipal.

The original diagnosis will prevent misunderstanding as to the species under consideration. “Sciurus supra niger, infra fulvus, auriculis acutis imberbibus, palmarum ungue pollicari magno rotundato.” (Sparrmann, apud Horsfield.) The colour of the head, back, tail, outside of the extremities, and the feet, is intense shining black, the single hairs being blackish-grey at the root, those of the tail blackish-brown at the root. In some individuals the black hairs generally, in others those of the tail, or some part of the back only, have a broad subterminal band of bright cinnamon, or Indian red, which imparts a reddish tint to the general black colour. The mustachios, whiskers and the superciliary bristles are black; those of the throat and forearm are black in some,

\* *Sciurus javensis*, Schreber, and *bicolor*, Sparrmann, apud Gray : List, is *Sciurus Leschenaultii*, Desmar. apud Horsfield. Syn. *S. hypoleucus*, Horsfield.

ferruginous, or with the apex of that colour, in others. The under-parts vary from a deep golden fulvous to isabella colour. Whatever be the prevailing shade, it is always most distinct on the lateral line, which, commencing from the cheeks, passes along the sides of the body. The fur of the lower parts of the body, and of the inside of the extremities, is much shorter, softer, and less dense, than that of the back. The single hairs are greyish, or blackish at the root, with the apex of the shade of yellow prevailing in the individual. Single long bristles, either uniformly, or partially black, or fulvous, appear on the chest and abdomen. The species, under the present garb, is very numerous in the Malayan forests and hills.

VAR.  $\beta$ , Horsfield.

“*Sciurus supra fuscus, varians a fusco-nigricante ad sordide fulvum, pilis velleris fulvis et canescentibus intermixtis, subtus fulvus vel pallide flavescens.*”—Horsfield.

SYN.—*Sciurus auriventer*, Is. Geoff. apud Schinz.

*Sciurus aureiventer*, Is. Geoff. apud Gray: List.

“Chingkráwah” or “Chingkráwah puteh” of the Malays of the Peninsula.

Single individuals, resembling the Javanese one figured in ‘*Zoological Researches in Java*,’ occur at Pinang, but there, as in Java, tawny of different shades, with a greyish cast, is more frequent. In some the head is of a darker colour, in others large spots of dark appear on the back, or the tail is above barred with dark. The upper part of the nose, a ring encircling the eyes, and the ears appear in all individuals to be of a darker brownish colour, and all have a more or less distinct large white spot on the anterior and upper part of the thigh. The back of the feet is either dark brown or fulvous. The palms, soles, mammæ and genital organs, are black in all. The single hairs of the back are greyish-brown at the root, darker than the apex, which imparts the general colour to the back. With the hairs of the tail the reverse is the case, the basal half being isabella or white; the apical darker. On the lower surface of the distichous tail, the roots of the hairs form a white line on either side of the vertebræ, which are covered with short, dark-brownish, or fulvous hairs. The under-parts of the body are of the same colours as those of the black-coated animal, but their roots are yellowish-white. The mustachios, whiskers, and other bristles, are

in all of a blackish-brown; but the single bristles of the abdomen are sometimes fulvous.

The black-coated individuals stand in a similar relation to the light-coloured varieties, as that in which the black-coloured *Hylobates Lar* stands to the light-coloured. Such differences of colour, wide no doubt, are of no uncommon occurrence among the Malayan Mammalia, and ought to be well considered by Zoologists, who have not the opportunity of studying the living animals.

This, as well as the rest of the Malayan squirrels, is capable of being tamed to a certain extent, and evinces attachment to those who feed them, but the appearance of a strange person, animal, or even an unusual sound, startles them, and recalls their natural shyness. The largest of a great number, measured from the apex of the nose to the root of the tail one foot six inches; the tail one foot nine and a half inches. The intestinal canal was of the following dimensions:

Small Intestines,	..	..	..	9 feet 6 inches.
Large ditto,	..	..	..	4 „ 9 „
Cæcum,	..	..	..	1 „ 2 „

*SCIURUS RAFFLESII*, Vigors and Horsfield.

SYN.—*Sciurus rufogularis*, Gray.

*Sciurus rufoniger*, Gray.

*Sciurus Prevostii*, Desmar. apud Schinz.

“Túpai baláng” of the Malays of the Peninsula.

HAB.—*Malayan Peninsula*.

Java, Borneo, China\* (Canton.)

\* China is the habitat assigned to *Sciurus rufogularis*, Gray. Without doubting the authenticity, it is perhaps as well to observe, that skins of the more showy animals and birds of India, Malacca, and the Indian Archipelago, are offered for sale as indigenous productions in the shops of Canton and Macao. Skins of *Halcyon Smyrnenensis* for instance, and other birds from different parts of India, are bought up by the Chinese merchants of our colonies in the Straits of Malacca, who annually, on Chinese Junks, ship quantities of considerable value to China, where they are manufactured into fans and artificial flowers. In a list of birds, contained in a collection of Chinese productions, exhibited in London in 1842, Mr. H. E. Strickland observes in his communication to the Zoological Society, that some of them appear to have been imported from Malacca. Skins and other parts of a host of animals, from the most distant parts of Asia, form items in the Chinese Pharmacopœia. On my visits to Chinese Dispensaries in China and in our Malayan Colonies, I have been shewn horns of rhinoceroses and deer, tusks of the Dayong, heads of Buceri, tortoise-shells, and well preserved skins of *Trigonocephalus Blomhoffii*, from Japan; Ammonites and other fossils, *cum multis aliis*, all supposed to possess specific virtues, and accordingly prescribed by Chinese Medical practitioners.

This species, numerous in the Malayan countries, occurs with the following individual variations of colour—

Cheeks and throat iron-grey, shoulders uniformly, or mixed with red. (*Sciurus rufogularis*, Gray. *Mag. Nat. Hist.* 1842, p. 263.)

The cheeks are sometimes dark-brown, or ferruginous.

In some the white lateral line commences from the side of the nose, passing over the cheeks, the side of the neck, and over the shoulder. The lateral line is either pure white, more or less distinct, or mixed with single longer hairs with black apex.

Some have a short black line immediately below the white; in others there is above the latter a grizzled line, sometimes continued over the outside of the thigh. The tail is seldom uniformly black, frequently partially black, reddish or grizzled, owing to the apex of the hairs being white. The tuft is frequently reddish or rust-coloured.

The feet are sometimes white or pale ferruginous.

The Museum of the Asiatic Society possesses a specimen from Java, differing from *Sciurus rufoniger*, Gray, in having the tail grizzled instead of black. *Sciurus redimitus*, Van der Boon, is probably another variety of *S. Rafflesii*.

A young male, about a fortnight in confinement, after having finished his usual meal of coconut, seized and devoured an *Iora typhia*, which had just been shot, and happened to be placed within reach. Sparrows and other smaller birds were subsequently eaten, and apparently relished.

The largest male measured from the apex of the nose to the root of the tail eleven and a half inches; the tail one foot two inches.

#### SCIURUS HIPPURUS, Is. Geoffroy.

SYN.—*Sciurus erythræus*, Pallas (?)  
*Sciurus caudatus*, McClelland? } Apud Gray: List.  
*Sciurus anomalus*, Kuhl.

*Sciurus rufogaster*, Gray.

*Sciurus castaneoventris*, Gray.

“Túpai Jinjang,” “Ummu,” or “Jau” of the Malays of the Peninsula.

HAB.—*Malayan Peninsula*.

Java, Sumatra, Assam, China (Canton).

The ground colour of the Malayan individuals differs but slightly, according to the more red or yellow rust colour of the bands of the hairs. The anterior part of the tail above is of the same colour as the back, the rest is either uniformly black, reddish, or with transverse bands, or has the tuft of that colour. The colour of the ears is brownish in some, but generally of the leaden grey, grizzled colour of the head, cheeks, chin and outside of the limbs. The feet are black or slightly grizzled.

The largest individuals of this numerous species measure from the apex of the nose to the root of the tail one foot; the tail one foot and half inch.

SCIURUS VITTATUS, Raffles.

SYN.—Túpai, Raffles.

Sciurus bivittatus, Raffles, Desmar. } Apud Horsfield.  
 Ecureuil Toupai, F. Cuvier, }

Macroxus Toupai, Lesson, apud Gray: List.

Sciurus flavimanus, Is. Geoffroy, apud Schinz.

“Túpai” of the Malays of the Peninsula.

HAB.—*Singapore, Pinang, Malayan Peninsula.*

Sumatra, Borneo, Canton.

This is the most numerous species in the Straits of Malacca, the largest individuals measuring from the apex of the nose to the root of the tail eleven inches; the tail eleven inches.

SCIURUS NIGROVITTATUS, Horsfield.

SYN.—Sciurus griseiventer, Is. Geoffroy, apud Schinz.

HAB.—*Malayan Peninsula.*

Java, Sumatra, Borneo, Canton.

Not numerous; the largest individual observed, a female, measured from the apex of the nose to the root of the tail nine inches; the tail eight and half inches.

SCIURUS TENUIS, Horsfield.

SYN.—Sciurus modestus, S. Müller?

HAB.—*Singapore, Malayan Peninsula.*

Java, Sumatra, Borneo, Canton.

Of two individuals observed, the larger, a male, measured from the apex of the nose to the root of the tail six inches; the tail seven inches.

## SCIURUS LATICAUDATUS, Diard, Var.

SYN.—*Sciurus laticaudatus*, Diard, apud S. Müller ?\*

HAB.—*Malayan Peninsula*.

The present squirrel differs from the diagnosis of *Sciurus laticaudatus* from the west coast of Borneo, (communicated in *Natuur en Geneeskundig Archief, &c.* II Jaarg. I Afl. p. 87,) in having neither the first nor the fifth molar of the upper jaw very large. Both are of nearly equal size, and much smaller than the rest. The following is a description of the Malayan animal.

The shape of the head is depressed, elongated, conical, gradually attenuated towards the laterally compressed nose. The whole outline, the slender form, and general colours, render the animal strikingly similar to *Tupaia ferruginea*. The eyes are large, brilliant, dark; the ears large, oval, with smooth short hairs; the mouth is small, the upper incisors are very minute, the lower slender, flattened, and almost straight; the black mustachios, whiskers, superciliary and gular bristles, and the few white ones of the forearm, are all shorter than the head; the muzzle hairy, leaving the margins of the small, and at the apex laterally pierced nostrils, naked. The limbs and feet slender; the nailless tubercle of the thumb rudimentary, barely perceptible in the living animal. The claws are small, sharp, compressed, whitish.

The colour of the head, back, outside of the limbs and feet, is a rich rusty-red, mixed with shining black, particularly on the occiput, the back and the feet, less on the sides, where the ferruginous prevails; the throat, chest, abdomen and inner side of the limbs, whitish; in some individuals pale-yellowish. The fur is soft and delicate. The separate hairs are leaden-grey at the base, shining black, or with a broad subterminal ferruginous band. The tail is shorter than the body, distichous, broadest in the middle, attenuated at the root, terminating in a thin tuft. It may be compared to a feather, black on each side of the quill, successively ferruginous, again black, margined with buff.

\* In the *List of Mammalia in the British Museum* occurs a genus: *Rhinosciurus*, Gray, and a species *R. tupaoides*, Gray, Syn. *Sciurus laticaudatus*, Müller?? Generic or specific characters being neither given nor referred to, it is impossible in India to decide whether the specimen in the British Museum thus labelled, is identical with the animal here characterised.

Such is the succession of the bands on the separate hairs. This organ is less full and ornamental than in the generality of squirrels. The species is apparently not numerous; the largest out of five examined, a female, was of the following dimensions—

Length from the apex of the nose to the root of the tail,	10 $\frac{6}{8}$ inch.
„ of the tail, . . . . .	6 $\frac{4}{8}$ „
„ of the head, . . . . .	2 $\frac{3}{8}$ „
„ from the apex of the nose to the anterior angle of the eye, . . . . .	1 $\frac{2}{8}$ „
„ from the posterior angle of the eye to the ear, .	0 $\frac{5}{8}$ „
Breadth above the apex of the nose, . . . . .	0 $\frac{1}{8}$ „
„ between the anterior angles of the eyes, . .	0 $\frac{7}{8}$ „
„ between the ears, . . . . .	0 $\frac{6}{8}$ „
Diameter of the head at vertex, . . . . .	1 „

Its habits in confinement presented nothing remarkable.

GEN.—PTEROMYS, Cuvier.

PTEROMYS NITIDUS, Geoffroy.

SYN.—*Sciurus petaurista*, Lin. apud Cuvier ?

*Sciurus petaurista*, Chin Krawa, Raffles ?

*Pteromys albiventer*, Gray Illustr.

“Túpai Térbang” or “Kúbin” of the Malays of the Peninsula.

HAB.—Singapore, Pinang, Malayan Peninsula.

Java, Sumatra, Borneo.

The part of the head anterior to the ears, the cheeks, the chest, and the abdomen, are white in some individuals of either sex, one of which is figured in Hardwicke's *Illustrations of Indian Zoology*, under the denomination of *Pteromys albiventer*, Gray.

The black, or dark-brown eyelids, nose, chin, feet and tip of the tail, appear to be constant characters. The shade, and intensity of the red colour is liable to considerable variations.\* In the very young, there is a short black stripe behind the ears; and the posterior part of the back and anterior half of the tail are shining black, from each separate hair having the apex of that colour. Traces of these characters occur in some adult individuals. This species is very numerous in the Malayan countries. It is not strictly nocturnal, for it is frequently seen abroad

\* In an individual from Malacca, the back was very dark Indian-red, with a few dashes of pure white. The identity of the species is, however, doubtful.

during the day. It is particularly fond of the Durian, the fruit of *Durio Zibethinus*, Linné. The flying squirrel has this partiality, in common with various other animals, as monkeys, Pteropi and Paradoxuri; nay, the Malays assert, that they have to watch this, their favourite fruit, against tigers.

In a female, measuring from the extremity of the nose to the root of the tail, one foot six and half inches; the tail one foot nine inches: the intestinal canal was of the following dimensions—

Small Intestines,	..	..	..	7 feet 4½ inches.
Large, ..	..	..	..	5 „ 2 „
Cæcum,..	..	..	..	2 „ 4 „

#### SCIUROPTERUS, Fred. Cuvier.

##### SCIUROPTERUS HORSFIELDII, Waterhouse,

SYN.—*Pteromys aurantiacus*, Wagner, apud Gray: List.

HAB.—*Malayan Peninsula*.

Java? Sumatra?

A single skin, brought from Kéddah, measured from the apex of the nose to the root of the tail eight and three-eighth inches; the tail eleven inches.

##### SCIUROPTERUS GENIBARBIS.

SYN.—*Pteromys genibarbis*, Horsfield.

“Kechubu” Horsfield.

HAB.—*Malayan Peninsula*.

Java.

Of two, the larger, a male, measured from the apex of the nose to the root of the tail seven and half inches; the tail seven inches.

#### MURIDÆ.

GEN.—*MUS*, Linné.

*MUS BANDICOTA*, Bechstein.

SYN.—*Mus giganteus*, Hardwicke,  
*Mus malabaricus*, Shaw,  
*Mus perchal*, Shaw,  
*Mus Icria*, Buchan. Ham. MS.  
*Mus nemorivagus*, Hodgson,

} Apud Gray: List.

Tikus besár of the Malays of the Peninsula.

HAB.—*Pinang, Malayan Peninsula*.

Southern Mahratta Country, Bengal, Nipal.

## MUS DECUMANUS, Pallas.

SYN.—Mus javanus, Pallas, apud Schinz.

Mus norvegicus, Brisson, apud Gray : List.

“Tikus” of the Malays of the Peninsula.

HAB.—Malayan Peninsula, Pinang.

Cosmopolita.

## MUS SETIFER, Horsfield.

SYN.—‘Tikus virok,’ Horsfield.

Mus giganteus, Temminck, apud Gray.

HAB.—Pinang.

Java, Sumatra, Borneo, Van Diemen’s Land.

The larger of two individuals, captured in gardens, measured head and body, ten and one-eighth inches; the tail seven and four-eighth inches.

## MUS RUFESCENS, Gray.

SYN.—Mus flavescens, Elliot, }  
Mus rufus, Elliot, } Apud Gray : List.

HAB.—Pinang.

Dharwar, Madras, Bengal, Arracan.

In the young, the brown bristles are fewer, and leave the lead-coloured under-fur more apparent. The colour of the abdomen is paler yellowish-grey than in the adult. The species is numerous at Pinang in out-houses. In the largest observed, the head and body measured seven and six-eighth inches; the tail (mutilated,) four and two-eighth inches.

## MUS MUSCULUS, Linné ?

SYN.—“Tikus rúma” of the Malays.

HAB.—Pinang.

In colours, this slightly differs from the European mouse, the upper parts being a mixture of shining grey and tawny. The separate hairs are leaden-grey at the base, then tawny with black apex; some are longer and uniformly dark-brown. Beneath pale-ash. The ears are large, more than one-half of the length of the head, with very short hairs, rounded, blackish. Toes, palms and soles, whitish. Tail slender, dark-grey, with very short appressed brown hairs. Length of the head and body, two and five-eighth inches: tail two and four-eighth inches.

## GEN.—RHIZOMYS, Gray.

## RHIZOMYS SUMATRENSIS, Gray.

SYN.—*Mus sumatrensis*, Raffles.

“Dekan,” Raffles.

Hypudeus de Sumatra, Temm.	} Apud Gray : List.
Nyctocleptes Dekan, Temm.	
Spalax javanus, Cuvier,	

Rhizomys chinensis, Gray, apud Schinz.

Rhizomys cinereus, McClelland.\*

Rhizomys Dekan, Schinz.

“Tikus búlow” of the Malays of the Peninsula.

HAB.—*Malayan Peninsula*.

China, Moulmein, Assam.

Although the animal was first described in Sir Stamford Raffles' catalogue of collections, made in Sumatra, the author distinctly states that it was forwarded from Malacca by Major Farquhar; nor does it appear to inhabit Sumatra, although the specific name would lead one to suppose that such is the case. The colour of the adult is liable to individual variations, from grey of different shades to isabella or silvery-buff. The separate hairs are mostly of the colour prevailing in the individual, mixed with single dark-brown hairs with whitish apex, particularly on the vertex, continuing along the centre part of the back. On the nose, anterior part of the head, and on the cheeks, the hairs are of a pale rust colour. On the vertex some white hairs form either a spot or a short line of that colour. The scanty hairs of the abdomen are all of a pale-greyish or isabella colour. The mustachios, whiskers, superciliar and gular bristles, are either of a pale-brown or buff colour. The young are above of a dark-grey, with a brown streak on the vertex and

\* The description of this supposed species (*Calcutta Journal of Nat. Hist. Vol. II. p. 456, Pl. XIV.*) states, “There are four toes to each fore-foot, and five to each hind-foot.” The draughtsman of *Pl. XIV*, “*Rhizomys cinereus*,” has, at all events, observed, that all the feet are *five-toed*, however incorrectly he has represented the animal. Another error occurs in the description, viz: “Sir Stamford Raffles describes a species of Bamboo Rat found in Sumatra by Colonel Farquhar,” &c. Sir S. Raffles' words are these: “*MUS SUMATRENSIS*. A drawing and specimen of an animal, which appears related to the *Mus Pilorides*, was forwarded from Malacca” (*not Sumatra*, as erroneously asserted) “by Major Farquhar, to the Asiatic Society at the same time with the Binturong. I am informed by him that it is not uncommon at Malacca, and is perhaps to be found in most parts of the Malay Peninsula,” &c. *Transact. Linn. Society, Vol. XIII. Part II.*

back; beneath pale-grey. The forehead, nose, temples, and cheeks, are ferruginous. The adult, like some squirrels and rats, is subject to enlargement of the scrotum. In confinement, it is very savage, scarcely tameable. The length of the tail varies from about one-third to little more than one-fourth of the length of the body. It is blackish, or brownish; the apex whitish. The largest male examined, measured from the apex of the nose to the root of the tail one foot seven and a half inches; the tail five and a half inches. The female, in size and colours equalling the male, has ten mammæ, viz. two axillary, and three inguinal pairs.

GEN.—HYSTRIX, Cuvier.

HYSTRIX LONGICAUDA, Marsden.

SYN.—*Acanthion javanicum*, Fred. Cuvier?

*Hystrix brevispinosus*, Schinz.\*

“Bábi Lándak” of the Malays of the Peninsula.

HAB.—*Malayan Peninsula*.

Java, Sumatra, Borneo.

Sir Stamford Raffles has pointed out the inaccuracy of Marsden's figure, representing the fore-feet with five toes, instead of with four, and a rudimentary thumb with a flat nail. The figure also has a few mane-like long bristles on the head, whereas the mustachios are situated on the side of the nose, the whiskers below the ear, and one or two bristles above the eye. In colours, this species resembles *Hystrix leucurus*, Sykes, from which it differs in the absence of the long mane-like bristles of the head and neck. Although single, scattered, thin, flexible spines, upwards of twelve inches in length, occur on the posterior part of the back, the majority of inflexible spines are much shorter than in *Hystrix leucurus* or *H. cristatus*, and are either pure white, or with a blackish band in the medial portion. The short, blackish, slightly iridescent spines of the neck, anterior part of the back, the limbs, and abdomen, are generally grooved on the upper surface. The short white pedunculated tubes of the posterior part of the tail are at first closed, terminating in a short spine, which latter wears off, leaving the tubes open. The pubes

\* In “*Nachträge zum 2ten. Bande*,” this species is supposed to be identical with, and substituted for *Atherura fasciculata*, although a very correct description is given of both.

are disposed in a wreath of stiff bristles, frequently of a deep rust colour. The epidermis of this species, as well as of *Atherura* is remarkably thin and liable to be torn. Beneath the skin appears a fatty tissue, upwards of an inch in thickness. The anterior molars are slightly larger than the rest. Viewed from above, *in situ*, the crown of the anterior lower molar of either side presents the form of two letters S, facing each other (S2). In a fœtus,—of which the head measures two and one-eighth inches, the body four and three-eighth inches, the tail one inch in length,—the whole of the body, and the anterior half of the tail have numerous short hairs, disposed on separate transverse lines of six to eight distant black hairs, becoming longer on the posterior part of the back and sides. The posterior part of the tail has longer and closer hairs. In a female, measuring from the apex of the nose to the root of the tail two feet five inches, the tail four inches; the intestinal canal was of the following dimensions:

Small Intestines,..	..	..	..	21 feet	6 inches.
Large ditto,	..	..	..	5 „	10 „
Cæcum, ..	..	..	..	1 „	7 „

The stomach is of a heart-shaped outline, with thin membranes externally smooth, internally with a few longitudinal rugæ near the narrow fundus.

The species is numerous, and, as it is considered a delicacy by the Chinese population, is frequently brought to market.

GEN.—ATHERURA, Cuvier.

ATHERURA FASCICULATA, Cuvier.

SYN.—*Hystrix fasciculata*, Lin., apud Cuvier.\*

*Hystrix orientalis*, Brisson, apud Gmelin.

*Hystrix macroura*, Linné.

Porc-épic de Malacca, Buffon.

*Hystrix fasciculata*, Shaw, apud Raffles.

*Mus fasciculatus*, Desmarest.

*Hystrix fasciculata*, Linné, apud Gray: *Illust.*†

\* No species of that name occurs in *Systema Naturæ*, Ed. XIII. Gmelin, 1788, but *Hystrix macroura* is described “cauda longitudine corporis”(??) “apice fasciculo pilorum” &c.

† In the figure, the anterior foot has one toe too many, the animal having four toes and a rudimentary flat-nailed thumb. Nor is the back of the hind foot naked, unless indeed become so by accident.

*Acanthion javanicum*, F. Cuv.

*Atherurus fasciculatus*, Schinz.

*Atherurus macrourus*, Schinz.

“Lándak” of the Malays of the Peninsula.

HAB.—*Pinang, Malayan Peninsula.*

Java, Sumatra, Borneo.

The nose, lips, forehead, and back of the feet, are covered with greyish-brown hairs. The body and limbs at the root of the spine, are covered with dense soft silky hairs, grey on the upper parts, and silvery on the abdomen. Single longer flexible spines, white with a dark central band, are scattered over the back. The anterior part of the tail is, like the back, covered with flat-grooved spines, white at the root, then slightly iridescent brown, and frequently with white apex. The centre part of the tail is scaly, with very short spines between the scales. The posterior part is white; with white or silvery, flexible, and in length gradually increasing, spines, which Buffon has aptly compared to narrow slips of irregularly cut parchment. The pubes are of a deep rust colour.

This species is very numerous in the Malayan valleys and hills. In fretful habits, and in its food, it resembles the preceding porcupine, like which, it is carried to the market at Pinang and Malacca, where as many as twenty to thirty may frequently be seen. In a male, measuring from the apex of the nose to the root of the tail one foot ten inches, the tail ten inches; the intestinal canal was of the following dimensions:

Small Intestines,	..	..	19 feet 4½ inches.
Large,..	..	..	5 „ 3 „
Cæcum,	..	..	1 „ 3 „

The stomach is of a general outline, resembling that of *H. longicauda*, but it differs in having an external deep vertical sulcus, dividing the stomach into a pyloric and a cardiac portion, which latter presents 6 to 7 deep oblique sulci. The membranes of the stomach are thick and muscular. Internally the cardiac portion is transversally divided by six or seven ridges, corresponding to the external sulci, intersected by numerous concentric rugæ. The pyloric portion, separated from the cardiac by the rugæ produced by the external vertical sulcus, is much smoother, and has but few rugæ.

## EDENTATA.

GEN.—MANIS, Linné.

MANIS JAVANICA, Desmarcest.

SYN.—*Manis pentadactyla*, Lin., apud Raffles.*Manis aspera*, Sundeval.*M. quinquedactyla*, Raffles, apud Gray : List.

“Pengóling” or “Tangíling” of the Malays of the Peninsula.

HAB.—*Pinang, Malayan Peninsula.*

Java, Sumatra, Borneo.

The series of dorsal scales vary in individuals from 16 to 19. The number of central dorsal vary from 20 to 22; the central and the marginal caudal from 26 to 29: in the young all the scales are finely lined and the rounded apex only is smooth. With age the lines become obliterated on the exposed surface of the scales, between which appear a few long whitish bristles. The very young animal corresponds to the description of *Manis aspera*, Sundeval. The eyelids, the margins of the ears, and the scaleless parts, except the palms and soles, are scantily provided with short whitish hairs. The two pectoral mammæ are situated at a short distance from the axilla. Its habits present nothing different from those of *Manis crassicaudata* (*M. pentadactyla*, Linné), of which an interesting account is communicated by Lieut. R. S. Tickell in *Journal Asiatic Society*, Vol. XI. 1842. p. 221.

The present species, although numerous in rocky situations, is not often captured, as it is seldom abroad till after sunset. The largest male measured from the apex of the nose to the root of the tail one foot nine and a half inches; the tail one foot eight inches. In a younger male, the entire length of which was one foot eleven inches; the intestinal canal was of the following dimensions:

Small Intestines,	..	..	..	8 feet 4 inches.
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Large ditto,	..	..	..	0 ,, 6 ,,
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Cæcum is rudimentary, indicated by a slight, yet distinct widening of the intestines. The stomach is capacious, the pyloric region thickened and gizzard-like. On the external surface, where the greater curvature begins to ascend, is situated a small (one inch in length, one and three-eighth in breadth) triangular, externally gyrated, glandular body, firmly attached to the stomach, but not communicating with the cavity. Its

external appearance might be compared to that of a crest of ostrich feathers. The narrowed apex, towards the pylorus, is provided with a small, thick, rounded and wrinkled opening, surrounded by concentric fibres, leading by a common, short, cylindrical duct to the broader cavity, which latter is divided by two longitudinal parietes into three separate portions. If a tube is introduced into the common duct, the air injected will simultaneously fill all three portions of the cavity, but if the tube is inserted into any one of the three separate portions, the air will fill that particular portion, leaving the two others collapsed. The interior surface of this organ secretes a whitish mucus. Adjoining the common opening, from ten to eleven small rounded glands commence, arranged on a line towards the pylorus. Each gland has, in its centre, a minute wrinkled opening, leading into a small cavity secreting mucus.

The stomach was extended by the remains (heads and legs,) of a prodigious quantity of large black ants, inhabiting the hills. The contents of the stomach were involved in mucus, deeply tintured with bile, and among them appeared five small rounded fragments of granite. Another individual expired after 10 days confinement, during which period it took no food, although it was repeatedly placed among swarms of the black and red ants, so excessively numerous in the valley of Pinang. Water it always took when offered, lapping it up with the tongue in the same manner that serpents drink.

Costæ veræ 8 pairs ; spuria 7 pairs = 15 pairs. The ensiform process of the os sternum is greatly elongated, terminating in a broad, rounded, thin cartilaginous plate.

## PACHYDERMATA.

### PROBOSCOIDEA.

#### GEN.—ELEPHAS, *Linné.*

#### ELEPHAS INDICUS, *Linné.*

SYN.—“Gajah” of the Malays.

HAB.—*Malayan Peninsula.*

India, Burma, Siam, Ceylon, Sumatra, Borneo.

Elephants are very numerous on the Malayan Peninsula. They may be procured at the following rates :—

“ For an elephant 4 feet 6 inches high, ..	120	Dollars.
Ditto, 5 ,, 3 ,, ..	200	„
Ditto, 6 ,, 0 ,, ..	220	„
Ditto, 6 ,, 9 ,, ..	400	„
Ditto, 7 ,, 6 ,, ..	420	„

Those exceeding this height are paid for at an advance on the last mentioned rate of 20 dollars for one foot six inches. If above eight feet and three inches, then an addition of 40 dollars for each one foot six inches is charged. Elephants ten feet six inches in height are taken by the Siamese to the Capital, and it is not permitted to sell them. The Keddah chiefs used formerly to breed elephants, a speculation rarely, if ever, attempted elsewhere. Coromandel Native Traders were, until late years, constantly in the habit of loading vessels with elephants for that Coast.” (Extract from Lieut. Colonel James Low’s “ *Dissertation* ” &c.)

#### ORDINARIA.

GEN.—SUS, Linné.

SUS INDICUS, Schinz.

SYN.—SUS Scrofa, Linné, apud Elliot.

Sus indicus,  
 Sus Scropha, Hodgson, } Apud Gray: List.  
 Sus vittatus, Schlegel.

Sus cristatus, Wagner, apud Schinz.

“ Bábí útan ” of the Malays of the Peninsula.

HAB.—Malayan Peninsula, Pinang, Singapore, Lancavy Islands.

Bengal, Nipal, Southern Mahratta Country.

The difference between the Indian and the German wild hog (*Sus Scrofa ferus*, Lin.) have been pointed out by W. Elliot, Esq. (*Madras Journal*, Vol. X. 1839, p. 219.) The colour of the adult is brownish-black, scantily covered with black hairs, of which few retain the infantile yellowish sub-terminal band. Besides the black recumbent mane of the occiput and back, the whiskers and bristles above and below the eye, there is a bundle of long black bristles on the throat. The hairs of the throat and chest are reversed. The tail is scantily covered with short hairs, the apex compressed, with long

lateral bristles, like those of the elephant, arranged like the wings of an arrow. The young is more hairy, with the plurality of hairs tawny or fulvous, some with black root and apex, which, as they are more or less mixed with black hairs, produce on the sides of the body saturated fulvous stripes. The hairs of the throat, chest, abdomen, and elbows, (in the two latter places very long,) are black at the basal, and white at the apical half. Wild hogs are exceedingly numerous on the Peninsula, and most of the Malayan Islands. The largest boar examined measured from the apex of the nose to the root of the tail, five feet; the tail one foot. The stomach of a young boar, examined shortly after it had been speared, was extended with food, principally consisting of the remains of a very large coleopterous larva, some small seeds of different kinds, leaves, grass and roots.

SUS SCROFA, VAR. SINENSIS, Linné.

SYN.—“Babi” of the Malays.

Introduced by the Chinese settlers.

GEN.—RHINOCEROS, Linné.

RHINOCEROS UNICORNIS, Linné.

SYN.—Rhinoceros indicus, Cuvier.

Rhinoceros asiaticus, Blumenbach.

Rhinoceros inermis, Lesson.

“Bádak” of the Malays of the Peninsula.

HAB.—*Malayan Peninsula.*

Bengal, Assam, Nipal.

RHINOCEROS SONDAICUS, Cuvier.

SYN.—Rhinoceros sondaicus, Cuvier, } Apud Horsfield.  
 “Warak,” “Bádak,” }

Rhinoceros javanensis, F. Cuvier, apud Schinz.

HAB.—*Malayan Peninsula.*

Java.

This, as well as the former species, appears to be numerous on the Malayan Peninsula.

A *two-horned* Rhinoceros is stated by the Malays to inhabit, but rarely to leave, the densest jungle. The Museum of the Asiatic Society possesses a skull, and also a head with the skin on, of *Rhinoceros Sumatranus*, Raffles, from the Tenasserim Provinces, in which locality the existence of the species has been recorded by Dr. Helfer and Mr. Blyth. This fact would seem to corroborate the statement of the Malays, and the habitat of *Rhinoceros Sumatranus* may reasonably be expected to be hereafter found to extend over the neighbouring Malayan Peninsula. As such, it has indeed been enumerated by Capt. Begbie, the author of "*Malayan Peninsula*," &c., Madras, 1834. In Lieut. Col. Low's *History of Tenasserim* (Journal Royal Asiatic Society, vol. 3. 1836,) is figured the head of a young Rhinoceros, which, from the considerable protuberance between the eyes, appears to represent a two-horned, probably the present, species.

GEN.—TAPIRUS, Linné.

TAPIRUS MALAYANUS, Raffles.

SYN.—*Tapirus malayanus*, apud Horsfield.

*Tapirus indicus*, Fred. Cuvier.

*Tapirus sumatranus*, Gray.

Me des Chinois, Remusat, young? apud Gray: List.

*Tapirus bicolor*, Wagner, apud Schinz.

"Bádak," "Kúda Ayer," "Tennú" of the Malays of the Peninsula.

HAB.—*Malayan Peninsula*.

Sumatra, Borneo.

The body of a newborn male, found in Province Wellesley in August 1844, was shortly after its death carried over to Pinang. As described by Colonel Farquhar, it was of a beautiful black velvet colour, with purple reflections, with numerous small, and other larger, irregular spots on the body, arranged in longitudinal stripes, above of a rich gamboge, beneath and on the inner side of the extremities, paler yellow. The under-lip was white. The shrivelled remains of the black funiculus umbilicalis were upwards of four inches in length. The fur very short, dense, and velvety. The separate hairs, of either of the two prevailing colours, slightly curly.

## DIMENSIONS.

Length from the apex of the nose to the root of the tail,	1 foot 10 inches.
„ of the head, .. .. .	0 „ 7 „
„ of the tail, .. .. .	0 „ $1\frac{2}{8}$ „
„ of the ear, .. .. .	0 „ $1\frac{6}{8}$ „
Diameter of the head from vertex, .. .. .	0 „ 5 „
Height of the shoulder, .. .. .	0 „ $8\frac{2}{8}$ „
„ „ „ haunch, .. .. .	0 „ 9 „

The animal, from which a sketch was taken on its arrival at Pinang, was the property of the Rev. R. Panting, A. M. The skin, imperfectly preserved, has lately been deposited in the Museum of the Asiatic Society.

On the 16th of May 1845, I obtained a living young female Tapir, captured in Keddah a few days previously. Though still in its infantile garb, it was older than the preceding. The ground colour was a brownish-black, like worn-out velvet; the spots, stripes, and the posterior part of the abdomen were of a dirty-white. The separate hairs were longer and curly; the hairy ears retained numerous white spots on the margins and external surface. The lips were blackish, with numerous short distant bristles, which also appeared round the nostrils, on the ridge of the nose, above and below the eyes, on the cheeks and on the throat. Two black mammæ were situated between the hind legs, three and a half inches behind the large naked cicatrix of Funiculus umbilicalis.

## DIMENSIONS.

Length from the apex of the nose to the root of the tail,	3 feet $4\frac{3}{8}$ inches.
„ of the head, .. .. .	1 „ 0 „
„ of the tail, .. .. .	0 „ $1\frac{2}{8}$ „
„ of the ear, .. .. .	0 „ $5\frac{1}{8}$ „
Diameter of the head from vertex, .. .. .	0 „ $5\frac{4}{8}$ „
Height of the shoulder, .. .. .	1 „ 4 „
„ „ „ haunch, .. .. .	1 „ 6 „
Greatest circumference round the body, .. .. .	2 „ 6 „
Circumference at the root of the ear, .. .. .	0 „ 6 „

## DENTITION.

Incis.  $\frac{6}{6}$  Canin.  $\frac{0.0}{1.1}$  Molar.  $\frac{3.3}{3.3}$

From the first, although fresh from its native wilds, this young Tapir shewed a remarkably gentle disposition. The daytime it spent in sleeping in a dark recess of the portico of my house, though it would rouse itself if noticed. Towards sunset it became lively, would bathe, feed, saunter abroad, and with its lengthened nose examine objects in the way. Within a few days after its arrival, it commenced to exhibit a marked partiality to the society of man, not indeed to its keeper in particular, whom it scarcely had discrimination enough to distinguish, but to any body who happened to notice or caress it. Towards sunset, it would follow a servant on the green in front of the house, and punctually imitate his movements, whether standing, walking, or running. If the man suddenly hid himself, the Tapir would hasten to the spot where it had lost sight of its leader, look about in all directions, and, if unsuccessful in discovering him, express its disappointment by a peculiar loud whistling. On the re-appearance of the man, it expressed its pleasure by rubbing its side against his legs, running between them, occasionally giving out a short singular sound, resembling that produced when the larger wood-peckers tap the trees, but more sonorous. When of an evening it heard the voices of people in the verandah above the portico, it exhibited strong marks of impatience, till let loose, when of its own accord it would, awkwardly enough, ascend a flight of stairs leading to the verandah. It would then quietly lie down at their feet, and by stretching its limbs and shaking its head, express the satisfaction it derived from being caressed; and it was only by compulsion that it could be made to leave the company. Its food consisted of plantains, pine-apples, mangustins, jambu, leaves of *Ficus pipul*, sugar-cane, and boiled rice, of which latter it was particularly fond, if mixed with a little salt. Its drink was water, and also milk and cocoanut oil, which latter taste the Tapir possesses in common with the O'rang-útan. It delighted in bathing, and was otherwise cleanly. When roaming about the garden, (its walk was like that of the elephant,) it would select a spot with soft earth, and like a cat form with its hind legs a small excavation, and

again cover it. The whole body has a peculiar, and by no means offensive exhalation, somewhat resembling that noted of *Arctictis Binturong*. Indeed, this is so tenacious, that although the skin of the individual above described has been preserved more than a twelvemonth, and kept in a strongly camphorated case, the odour is still perceptible.

On the 27th of June 1845, the subject of the preceding notice expired after two days' illness, from inflammation of the lungs, brought on by the strong southerly winds, prevailing throughout the Straits of Malacca during the season, which in man produce a slight influenza, in animals frequently terminating fatally. The few adult Tapirs, which occasionally have been kept in confinement by residents at Malacca, have acquired the character of being hardy animals. During the short period that the present lived in my possession, no perceptible change appeared in its growth, but a striking alteration took place in its colours. Nearly all the white spots on the head, nape of the neck, and back of the ears, gradually disappeared, and the upper part only of the margin of the ears remained white, which colour it retains in the adult animal. On the posterior part of the back and sides, the black and white stripes were in a state of progressing obliteration, their hairs had faded to a brownish colour, and were about being replaced by a shorter and less dense fur of the fresh white hairs, which were to form the characteristic permanent white mark, already appearing in outline, when death terminated the unfinished process of nature.

Vertebræ; cervical seven, of which the atlas and epistrophæus are the largest; dorsal twenty; lumbar four; sacral seven; caudal three.

Sternum. The anterior extremity cartilaginous, sharply keeled, arched, continued over manubrium, composed of two rounded angularly-joined pieces, as far as the second pair of ribs; corpus composed of five pieces, of which the two posterior, in a pair, are connected by cartilage.

Costæ veræ, eight pairs; spuria, twelve pairs = twenty pairs; the last spurious rib is rudimentary, and absent on the left side.

Femur, five and two-eighth inches long; the large bony sub-trochanteric process, described by Sir Everard Home, is developed, though partly cartilaginous, measuring one inch in length at the base.

Liver of moderate size, each lobe divided into two portions of nearly equal size.

Gall-bladder; none.

Spleen; tongue-shaped, flattened, with cutting margins, seven and a half inches in length, one and six-eighth in breadth.

Pancreas; in a state not to admit of accurate examination.

Kidneys; three and six-eighth inches in length; one and six-eighth in breadth.

Renes succenturiati; none.

Urinary bladder; very large.

Stomach; capacious. Its dimensions in the state in which it appeared, distended with food, were—

Length along the smaller curvature, .. ..	0 feet	$5\frac{2}{8}$ inches.
„ „ greater, „ .. ..	1 „	$9\frac{1}{8}$ „
Circumference from cardia round fundus, ..	1 „	0 „
„ round pylorus, .. ..	0 „	$3\frac{1}{2}$ „

The internal surface smooth, villous.

Where the duodenum joins the pylorus, it is considerably widened.

#### Length of the intestinal canal :

Small Intestines, .. .. .	27 feet	7 inches.
Large, „ .. .. .	6 „	4 „
Cæcum, .. .. .	0 „	6 „
Average circumference of small, .. .. .	0 „	$2\frac{3}{8}$ „
„ „ large, .. .. .	0 „	$3\frac{1}{2}$ „

Cæcum sacculated, with a longitudinal band on either side. Distended with fæces as it appeared, the greatest circumference close to the fundus was one foot one and a half inch.

In the adult Tapir dissected by Sir E. Home, and which was according to Mr. Yarrell eight feet in length, the relative proportion between the length of the intestinal canal and that of the body, was as eleven to one. In the present young female, the relative length of the intestinal canal is proportionally less than in the adult, being less than as ten to one.

#### SOLIDUNGULA.

GEN.—EQUUS, *Linné*.

EQUUS CABALLUS, *Linné*.

The horse, “Kuda” of the Malays, appears not to be indigenous in the Peninsula. The few ponies, which the wealthier use for ordinary purposes, are imported either from Siam, Burma, or Sumatra. The Malays either travel by water, or prefer the elephant as a locomotive more dignified than the horse.

## RUMINANTIA.

GEN.—MOSCHUS, Linné.

TRAGULUS, Brisson.

TRAGULUS KANCHIL, Gray : List.

SYN.—Chevrotain adulte, }  
 Chevrotain de Java, } Buffon, apud Gray.

Javan Musk, Shaw.

Moschus Palandok, Marsden.

Moschus Kanchil, Raffles.

Pelandok, Raffles,

Moschus fulviventor, Gray.

“Kanchil” or “Pelándok” of the Malays of the Peninsula.

HAB.—Singapore, Pinang, Lancavy Islands, Malayan Peninsula.

Sumatra, Java.

In some individuals the back is nearly black. The colour and distribution of the marks of the chest and abdomen are also liable to individual variations, one of which gave rise to the supposed species: *Moschus fulviventor*. The animal is by the Malays indiscriminately denominated “Káncil” and “Pelándok;” the latter denomination is sometimes *par excellence* applied to the young, and this circumstance in all probability gave rise to the supposed species *Moschus Pelandok*. The species is astonishingly numerous. In Prince of Wales’ Island, any number may be procured within a short notice, at the rate of one Spanish dollar per dozen. Knowing the partiality of these deer to the leaves of the sweet potato plant (*Convolvulus batatas*;) the Malays either use traps, baited with this vegetable, or lie in ambush in moonlight nights in fields where it is cultivated, and disable the intruders by throwing sticks at their legs. In confinement, in its native climate, the animal becomes rather delicate, though it occasionally survives, and even breeds. The female has four mammæ, and one or two young at the time. The new-born measures eight and six-eighth inches in length, of which the head is three inches, the tail one inch. The skin of the upper parts is of a pale blackish colour, scantily covered with short, fine, brown hairs. The abdomen and inner side of the limbs are pale yellow; the throat and chest have the dark marks of the adult, but paler. The largest adults measure from the apex of the nose to the root of the tail, one foot six and a half inches; the tail three inches in length.

## TRAGULUS JAVANICUS, Pallas.

SYN.—*Moschus javanicus*, Gmelin.

*Moschus javanicus*, Pallas, apud Raffles.

Napu, Raffles.

*Moschus indicus*, Gmelin, }  
*Cervus javanicus*, Osbek, } Apud Gray.

*Moschus Napu*, Fred. Cuvier.

“Nápu” of the Malays of the Peninsula.

HAB.—*Malayan Peninsula*.

Sumatra, Java, Borneo.

On the Malayan Peninsula, the species appears to be far less numerous than the preceding. The canines of the female are very small. The four mammæ are situated at the posterior part of the abdomen, a little in front of the hind legs. The anterior pair are half an inch apart; the posterior two-eighth of an inch apart. The two pairs are half an inch distant from each other. In an adult female, measuring from the apex of the nose to the root of the tail two feet, four and two-eighth inches; the tail five inches: the intestinal canal was of the following dimensions:

Small Intestines, .. .. . 13 feet 6 inches.

Large ditto, .. .. . 7 „ 10 „

Cæcum, .. .. . 0 „ 6 „

The gall-bladder is very large; immediately behind it is situated the right kidney.

GEN.—*CERVUS*, Linné.

*STYLOCEROS*, Hamilton Smith.

*STYLOCEROS MUNTJAK*, H. Smith.

SYN.—*Chevreuil des Indes*, Allamand.

*Cervus Muntjak*, Zimmerman, apud Horsfield, Sykes and Elliot.

*Cervus Muntjak*, Boddaert,

*Cervus vaginalis*, Boddaert,

*Cervus Muntjak*, Schreber,

*Cervus Muntjak*, Marsden,

*Cervus moschatus*, Blainville,

*Cervus subcornutus*, Blainville,

*Cervus Muntjak*? Shreb, apud Raffles,

*Cervus Muntjak*, Desmarest,

*Cervus moschus*, Desmarest,

} Apud Horsfield.

*Cervus aureus*, Ham. Smith,  
*Cervus Philippinus*, Ham. Smith,  
*Cervus albipes*, Fred. Cuvier,  
*Cervus Ratwa*, Hodgson,

} Apud Gray : List.

*Muntjacus vaginalis*, Gray : List.  
*Cervus Muntiac*, Linné, apud Schinz.\*  
 "Kidang" of the Malays of the Peninsula.

HAB.—*Malayan Peninsula.*

Java, Sumatra, Banka, Borneo, Tenasserim, Nipal, Assam, Bengal, South Mahratta Country, Dukhun.

In a young male, measuring from the apex of the nose to the root of the tail three feet and one inch, the tail seven inches; the intestinal canal was of the following dimensions :

Small Intestines, .. .. .	..	..	..	..	13 feet 10 inches.
Large, .. .. .	..	..	..	..	22 ,, 1 ,,
Cæcum, .. .. .	..	..	..	..	0 ,, 9 ,,

The right lobe of the liver lies in contact with the right kidney; the spleen with the left.

Gall-bladder; none.

AXIS, Hamilton Smith.

AXIS MACULATUS, Hamilton Smith.

SYN.—*Axis*, Plinius.

*Cervus axis*, Erxleben, apud Gmelin.

*Cervus nudipalpebra*, Ogilby, (black Var.)  
*Axis major*, Hodgson, .. .. .  
*Axis minor*, Hodgson, .. .. .

} Apud Gray : List.

"Rúsa Búnga" of the Malays of the Peninsula.

HAB.—*Malayan Peninsula, Pinang.*

Sumatra, Bengal, Assam, Nipal, Southern Mahratta Country, Ceylon.

\* In "Nachträge zum 2ten. Bande," the author suggests that six distinct species are supposed to lie hid under the denomination of *Cervus Muntiac*, viz :

1. *Cervus styloceros*, Schinz, *Syn. C. Muntiac*, Lin. apud Ogilby. *Hab.* Himalayah.
2. *Cervus Ratwa*, Hodgson. *Hab.* Himalayah.
3. *Cervus albipes*, F. Cuvier. *Hab.* India.
4. *Cervus Muntjac*, Raffles and Horsfield. *Hab.* Java, Sumatra, Banka, Borneo.
5. *Cervus Reevesii*, Ogilby. *Hab.* China.
6. *Cervus antisensis*, Pucheran. *Hab.* Andes.

Sir Stamford Raffles thinks it probable that the Axis in Sumatra has been introduced from Bengal. It is numerous in Keddah, and at present in Pinang. But it did not inhabit Prince of Wales' Island till one of the last Governors of the late Presidency took the trouble of importing from Bengal some pairs, which were kept in the park adjoining Government House, (Suffolk House.) When the Presidency of Prince of Wales' Island was abolished, and with it all its paraphernalia, except the titles of as many of its officers as were necessary to the continuance of H. M. Court of Judicature, the deer of the quondam Governor's park found their way into the jungle, where they have multiplied to a prodigious extent.

RUSA, Hamilton Smith.

RUSA EQUINA, Hamilton Smith.

SYN.—*Cervus equinus*, Cuvier.

*Cervus Rusa*, Raffles.

*Rusa etam* or *Kumbang*, Raffles.

"Rúsa" or "Rúsa étam" of the Malays of the Peninsula.

HAB.—*Malayan Peninsula, Pinang.*

Sumatra, Borneo.

The Malayan individuals correspond with the description given by Sir S. Raffles of *Cervus Rusa*. The lips are whitish; the posterior part of the lower, sometimes dark-brown. Round the eyes and the lachrymal sinus, on the side of the forehead, root of the ears, and on the throat, the hairs are either uniformly pale ferruginous, or have a subterminal band of that colour, the effect of which is to impart a pale rusty tint to these parts. Normally, each horn has three antlers, of which the lower or anterior, commencing from the burr, is directed outwards till towards the apex, which turns slightly inward. The second and outward turned antler commences at the root of the third, and is the shortest of the three. The third is directed inwards, and is the longest of the three. In the number, direction, and size of the antlers, numerous individual variations occur.

According to Mr. Blyth's observations, *Cervus Hippelaphus* has, normally, the third antler much longer than the second; *Cervus Aristotelis* has much larger and more divergent horns, of which the second and third antlers are about equal. Considering the similarity of colours

and size of *Cervus equinus*, *Hippelaphus*, and *Aristotelis*, Mr. Elliot is probably right in considering all three as varieties of the great Indian stag, described by Aristotle under the designation of *Hippelaphus*. (*Madras Journal*, 1839. p. 220.), and *Cervus Peronii*, Cuvier—Cerf du Timor—may probably be added as a fourth variety.

PANOLIA, Gray: List.

PANOLIA ACUTICORNIS, Gray: List?

SYN.—*Cervus frontalis*, McClelland?

*Cervus lyratus*, Schinz?

HAB.—*Malayan Peninsula*.

A single skull of a stag, killed in Keddah, has the horns so like those of the Munneepore animal, that the species might be taken to be identical, but that the Malays assert theirs to be maned, and of a dark colour, with white spots, like the Axis. This stag is further described as being extremely wary, and therefore seldom seen but on heights inaccessible to man. The skull is of an old male, with the teeth, canines in particular, much ground.

GEN.—ANTILOPE, Linné.

NÆMORHEDUS, Hamilton Smith.

NÆMORHEDUS SUMATRENSIS, Hamilton Smith.

SYN.—Kambing utan, Marsden.

Antilope sumatrensis, Pennant, apud Raffles.

Cambtan, Fred. Cuvier.

Antilope interscapularis, Lichtenstein, apud Schinz.

“Kámbing útan” of the Malays of the Peninsula.

HAB.—*Malayan Peninsula*.

Sumatra, Tenasserim.

It appears to be numerous on the Malayan Peninsula, but exceedingly difficult to obtain, as it frequents the steepest hilly localities, and is very shy and active.

GEN.—BOS, Linné.

BOS GOUR, Trail.

SYN.—*Bos Gaurus*, Ham. Smith.

*Bison Gaurus*, Ham. Smith.

*Bos aculeatus*, Wagler.

The Bison, Low: Hist. of Tenasserim.

Bos (Bibos) cavifrons, Hodgson, apud Elliot.

Bos frontalis, Lambert, apud Gray: List. (??)

“Sápi útan” of the Malays of the Peninsula.

HAB.—*Malayan Peninsula.*

Tenasserim, Hindoostan, Assam, Nipal, Southern Malhrratta country.

Numerous in the Malayan Peninsula.

BOS TAURUS, VAR. INDICUS, Linné.

SYN.—“Sápi” (S. jántan, Bull; S. betína, Cow) of the Malays of the Peninsula.

Although this kind of cattle is plentifully bred in some of the Malay-an countries, it is not in general use, and is less numerous than the buffalo.

BUBALUS, Hamilton Smith.

BUBALUS ARNEE, Hamilton Smith.

SYN.—Bos indicus, Plinius.

Bos bubalus, Brisson.

Bos arnee, Shaw.

Bubalus ferus Indicus, Hodgson, apud Gray: List.

Bubalus Buffelus, Gray: List.

“Karbau” of the Malays of the Peninsula.

HAB.—*Pinang, Singapore, Malayan Peninsula.*

Tenasserim, Southern China.

The wild buffalo is reported, but apparently without proof, to be indigenous in the Malayan Peninsula. Domesticated, it is very plentiful, and is the principal draft-cattle employed by the Malays and the Chinese settlers. The black-coloured, apparently the hardier, is preferred by the Malays; the reddish-white, freckled with brown, is the greater favourite of the Chinese. Both are very slow, and as observed by Lieut. Col. Low, delicate, and liable to sudden attacks of disease if worked in the sun.

## CETACEA.

## HERBIVORA.

GEN.—HALICORE, Illiger.

HALICORE INDICUS, F. Cuvier.

SYN.—Dugon, Buffon.

Trichechus Dugong, Erxleben.

Halicore cetacea, Illiger.

Halicore Dugong, Cuvier, apud Raffles.

Halicore Tabernacularum, Rüppell.

Dugungus marinus, Tiedemann, apud Schinz.

“Dúyong” or “Parampúan Laut” of the Malays of the Peninsula.

HAB.—Singapore, Malayan Peninsula.

Sumatra, Philippine, Molucca and Sunda Islands, New Holland, Red Sea.

The Duyong appears not to be numerous at Singapore, still less so to the northward, and has but in few instances been observed in Kwála Mûda, the mouth of the river, which forms the northern boundary of Province Wellesley.

## ORDINARIA.

GEN.—DELPHINUS, Linné.

DELPHINUS PLUMBEUS, Dussumier.

SYN.—Delphinus malayanus, Lesson, apud Cuvier.

“Parampúan Laut” of the Malays of the Peninsula.

HAB.—Coasts of Pinang.

Malabar Coast.

The species, although very numerous, and rather heavy in its movements, is rarely captured, except by chance in fishing stakes. The stomach, of a single young individual observed, contained remains of small fishes, apparently *Clupea*, and *Glyphisodon caelestinus*, Cuvier.

NUMERICAL LIST OF MAMMALIA inhabiting the Malayan Peninsula and Islands,  
and other localities.

1	<i>Hylobates lor</i> , Ogilby.	Malayan Peninsula,	Siam, Burma, Tenasserim.
2	<i>Hylobates ogilis</i> , F. Cuvier.	Malayan Peninsula,	Sumatra.
3	<i>Semnopithecus obscurus</i> , Reid.	Malayan Peninsula, Pinang, Singapore.	
4	<i>Semnopithecus olbocine- reus</i> , Schinz.	Malayan Peninsula,	Tenasserim.
5	<i>Semnopithecus cristotus</i> , Horsfield.	Pinang, Malayan Pe- ninsula,	Sumatra, Borneo, Banka.
6	<i>Semnopithecus femoralis</i> , Horsfield.	Malayan Peninsula,	Borneo, Sumatra? Java?
7	<i>Cercopithecus cynonolgus</i> , Ogilby.	Pinang, Malayan Pe- ninsula,	Sumatra, Java, Banka, Bor- neo, Celebes, Timor, Te- nasserim, Nicobars.
8	<i>Popio nemestrinus</i> , Ogilby.	Pinang, Malayan Pe- ninsula,	Sumatra, Borneo.
9	<i>Nycticebus tardigrodus</i> , Waterhouse.	Pinang, Malayan Pe- ninsula,	Java, Siam, Arracan, Te- nasserim, Bengal, Silhet, Assam.
10	<i>Galeopithecus Temminckii</i> , Waterhouse.	Malayan Peninsula and Islands,	Pelew Islands, Borneo, Java, Sumatra, Siam.
11	<i>Rhinopoma Hardwickii</i> , Gray.	Malayan Peninsula,	Southern Mahratta country, Calcutta, Allahabad, Agra, Mirzapore.
12	<i>Megadermo spasma</i> , Geof- froy.	Pinang, Singapore, Malayan Peninsula,	Ternate, Java.
13	<i>Nyctinomus tenuis</i> , Hors- field.	Malayan Peninsula,	Borneo, Java, Sumatra.
14	<i>Taphozous melonopogon</i> , Temminck.	Pulo Tikus, Lancávy, Malayan Peninsula,	Java, Caves of Kannerá.
15	<i>Taphozous saccolaimus</i> , Temmiuck.	Pinang,	Celebes, Borneo, Java, Su- matra, Southern India.
16	<i>Rhinolophus affinis</i> , Hors- field.	Pinang,	Java.
17	<i>Hipposideros diodemo</i> , Gray?	Pinang, Malayan Pe- ninsula,	Timor.
18	<i>Hipposideros nobilis</i> , Gray.	Pinang, Malayan Pe- ninsula,	Amboyna, Timor, Java, Su- matra.
19	<i>Hipposideros vulgoris</i> , Gray.	Pinang,	Java.
20	<i>Hipposideros murinus</i> , Gray.	Pinang,	Southern Mahratta country, Nicobars.
21	<i>Hipposideros goleritus</i> , Can- tor.	Pinang,	

22	<i>Vespertilio adversus</i> , Horsfield ?	Pinang,	Java, Calcutta.
23	<i>Kirivoula picta</i> , Gray.	Pinang,	Borneo, Java, Sumatra.
24	<i>Kirivoula tenuis</i> , Gray.	Pinang,	Borneo, Java, Sumatra.
25	<i>Trilatitus Horsfeldii</i> , Gray.	Pinang,	Java, Sumatra.
26	<i>Scotophilus Temminckii</i> , Gray.	Malayan Peninsula and Islands,	Timor, Borneo, Java, Sumatra, Calcutta, Pondicherry.
27	<i>Pteropus edulis</i> , Geoffroy.	Malayan Peninsula and Islands,	Java, Sumatra, Banda, Bengal, Assam.
28	<i>Cynopterus marginatus</i> , F. Cuvier.	Malayan Peninsula and Islands,	Java, Sumatra, Southern Mahratta country, Bengal, Nipal.
29	<i>Tupaia ferruginea</i> , Raffles.	Pinang, Singapore, Malayan Peninsula,	Borneo, Java, Sumatra.
30	<i>Gymnura Rafflesii</i> , Vigors and Horsfield.	Malayan Peninsula, Singapore,	Sumatra.
31	<i>Sorex murinus</i> , Linné.	Pinang,	Java, Sumatra.
32	<i>Helarctos malayanus</i> , Horsfield.	Malayan Peninsula,	Sumatra, Tenasserim, Assam, Nipal.
33	<i>Arctictis Binturong</i> , Fischer.	Malayan Peninsula,	Arracan, Tenasserim, Assam, Nipal, Bhotan.
34	<i>Putorius nudipes</i> , Fred. Cuvier.	Malayan Peninsula,	Borneo, Sumatra.
35	<i>Mustela flavigula</i> , Boddaert.	Malayan Peninsula,	Java, Sumatra, Nipal.
36	<i>Lutra Nair</i> , F. Cuvier.	Malayan Peninsula,	China, Bombay, Southern Mahratta country.
37	<i>Lutra Barang</i> , Raffles.	Malayan Peninsula,	Borneo, Sumatra.
38	<i>Aonyx leptonyx</i> , Gray.	Malayan Peninsula, Singapore,	Java, Sumatra, Nipal.
39	<i>Cuon primævus</i> , Hodgson.	Malayan Peninsula,	Bengal, Nipal.
40	<i>Viverra Zibetha</i> , Linné.	Pinang, Singapore, Malayan Peninsula,	Southern China, Siam, Bengal, Khasyah Hills, Nipal.
41	<i>Viverra Tangalunga</i> , Gray.	Pinang, Singapore, Malayan Peninsula,	Amboina, Celebes, Borneo, Philippine Islands, Sumatra.
42	<i>Viverricula malaccensis</i> .	Malayan Peninsula, Singapore,	China, Philippines, Java, Cochin China, Tenasserim, Bengal, Nipal, Hindoostan, Dukhun, Bombay.
43	<i>Prionodon gracilis</i> , Horsf.	Malayan Peninsula,	Borneo, Java, Sumatra.
44	<i>Paguma leucomystax</i> , Gray ?	Malayan Peninsula, Singapore,	Sumatra.
45	<i>Paguma trivirgata</i> , Gray.	Malayan Peninsula, Singapore,	Moluecas, Tenasserim.

46	<i>Paradoxurus musanga</i> , Gray.	Pinang, Singapore, Malayan Peninsula,	Timor, Borneo, Java, Sumatra.
47	<i>Paradoxurus Derbyanus</i> , Gray.	Malayan Peninsula,	Borneo.
48	<i>Cynogale Bennettii</i> , Gray.	Malayan Peninsula,	Borneo, Sumatra.
49	<i>Herpestes javanicus</i> , Desmarest.	Penang, Malayan Peninsula,	Java.
50	<i>Herpestes auropunctatus</i> , Hodgson.	Malayan Peninsula,	Bengal, Nipal, Scinde, Afghanistan.
51	<i>Herpestes griseus</i> , Desmarest.	Malayan Peninsula,	Bengal, Hindoostan, Scinde, Nipal.
52	<i>Herpestes brachyurus</i> , Gray.	Malayan Peninsula.	
53	<i>Felis tigris</i> , Linné.	Malayan Peninsula,	Ceylon, India.
54	<i>Felis leopardus</i> , Schreber.	Malayan Peninsula,	India.
55	<i>Felis marmorata</i> , Martin.	Malayan Peninsula.	
56	<i>Felis javanensis</i> , Desmarest.	Pinang, Malayan Peninsula,	Java, Sumatra?
57	<i>Felis planiceps</i> , Vigors and Horsfield.	Malayan Peninsula,	Borneo, Sumatra.
58	<i>Felis domestica</i> .		
59	<i>Sciurus bicolor</i> , Sparrm.	Pinang, Malayan Peninsula,	Borneo, Java, Sumatra, Siam, Tenasserim, Assam, Nipal.
60	<i>Sciurus Rafflesii</i> , Vigors and Horsfield.	Malayan Peninsula,	Borneo, Java, Canton Province.
61	<i>Sciurus hippurus</i> , I. Geoffroy.	Malayan Peninsula,	Java, Sumatra, Assam, Canton Province.
62	<i>Sciurus vittatus</i> , Raffles.	Pinang, Singapore, Malayan Peninsula,	Borneo, Java, Sumatra, Canton Province.
63	<i>Sciurus nigrovittatus</i> , Horsfield.	Malayan Peninsula,	Borneo, Java, Sumatra, Canton Province.
64	<i>Sciurus tenuis</i> , Horsfield.	Malayan Peninsula, Singapore,	Borneo, Java, Sumatra, Canton Province.
65	<i>Sciurus laticaudatus</i> , Diard. Var.	Malayan Peninsula.	
66	<i>Pteromys nitidus</i> , Geoffroy.	Pinang, Singapore, Malayan Peninsula,	Borneo, Java, Sumatra.
67	<i>Sciuropterus Horsfieldii</i> , Waterhouse.	Malayan Peninsula,	Java? Sumatra?
68	<i>Sciuropterus genibarbis</i> .	Malayan Peninsula,	Java.
69	<i>Mus bandicota</i> , Bechst.	Pinang, Malayan Peninsula,	Southern Mahratta country, Bengal, Nipal.
70	<i>Mus decumanus</i> , Pallas.	Cosmopolita.	

71	<i>Mus setifer</i> , Horsfield.	Pinang,	Borneo, Java, Sumatra, Van Diemen's Land.
72	<i>Mus rufescens</i> , Gray.	Pinang,	Dharwar, Madras, Bengal, Arracan.
73	<i>Mus musculus</i> , Linné?	Pinang,	
74	<i>Rhizomys sumatrensis</i> , Gray.	Malayan Peninsula,	China, Moulmein, Assam.
75	<i>Hystrix longicauda</i> , Marsden.	Malayan Peninsula,	Borneo, Java, Sumatra.
76	<i>Atherura fasciculata</i> , Cuv.	Pinang, Malayan Peninsula,	Borneo, Java, Sumatra.
77	<i>Manis javanica</i> , Desmarest.	Pinang, Malayan Peninsula,	Borneo, Java, Sumatra.
78	<i>Elephas indicus</i> , Linné.	Malayan Peninsula,	Borneo, Burma, Siam, India, Ceylon.
79	<i>Sus indicus</i> , Schinz.	Pinang, Singapore, Lancavy, Malayan Peninsula,	Bengal, Nipal, Southern Mahratta country.
80	<i>Sus scrofa</i> , Var. Linné.	Malayan Peninsula and Islands,	China.
81	<i>Rhinoceros unicornis</i> , Linné.	Malayan Peninsula,	Bengal, Assam, Nipal.
82	<i>Rhinoceros sondaicus</i> , Cuv.	Malayan Peninsula,	Java.
83	<i>Rhinoceros sumatranus</i> , Raffles.	Malayan Peninsula,	Sumatra, Tenasserim.
84	<i>Tapirus malayanus</i> , Raffles.	Malayan Peninsula,	Borneo, Sumatra.
85	<i>Equus caballus</i> , Linné.	Introduced in the Malayan Peninsula and Islands.	
86	<i>Tragulus Kanchil</i> , Gray.	Pinang, Singapore, Lancavy, Malayan Peninsula,	Java, Sumatra.
87	<i>Tragulus javanicus</i> , Pallas.	Malayan Peninsula,	Borneo, Sumatra, Java.
88	<i>Styloceros Muntjak</i> , Ham. Smith.	Malayan Peninsula,	Borneo, Banka, Java, Sumatra, Tenasserim, Nipal, Assam, Bengal, Southern Mahratta, Dikhun.
89	<i>Axis maculatus</i> , H. Smith.	Malayan Peninsula, Pinang,	Sumatra, Bengal, Assam, Nipal, Southern Mahratta country, Ceylon.
90	<i>Rusa equina</i> , H. Smith.	Pinang, Malayan Peninsula,	Borneo, Sumatra.
91	<i>Panolia acuticornis</i> , Gray?	Malayan Peninsula,	
92	<i>Nemorhedus sumatrensis</i> , Ham. Smith.	Malayan Peninsula,	Sumatra, Tenasserim.

93	<i>Bos gour</i> , Trail.	Malayan Peninsula,	Tenasserim, Hindoostan, Assam, Nipal, Southern Maharratta country.
94	<i>Bos taurus</i> , <i>Var. indicus</i> , Lin.	Introduced in the Malayan Countries.	
95	<i>Bubalus arnee</i> , H. Smith.	Ditto.	
96	<i>Halicore indicus</i> , F. Cuv.	Singapore. Malayan Peninsula,	Philippines, Moluccas, Sunda Islands, Sumatra, New Holland, Red Sea.
97	<i>Delphinus plumbeus</i> , Dussumier.	Malayan Seas,	Bay of Bengal.

Note to GEN. NYCTINOMUS, p. 9. A male *Nyctinomus bengalensis*, Geoffroy, (*Syn. Vesperilio plicatus*, Buchan.—*N. bengalensis*, Geoffroy, apud Horsfield.—*Dysopes plicatus*, Temminck, apud Schinz,) examined after the Catalogue had passed through the press, exhibited a true cæcum. The entire length of the animal was  $4\frac{3}{8}$  inches, of which the tail measured  $1\frac{5}{8}$  inch. Extent of the flying membrane: 1 foot  $0\frac{4}{8}$  inch.

Length of the small Intestine, .. .. .  $9\frac{1}{8}$  inches.  
 ,, ,, large ditto, .. .. .  $4\frac{1}{8}$  ,,  
 ,, ,, cæcum, .. .. .  $0\frac{3}{16}$  ,,

The cæcum is crescent-shaped, with the concave curvature firmly adhering to the external surface of the small intestine. The convex curvature presents near the apex a sacculated appearance; the membranes are thickened. Where the cæcum joins, the small intestine and the rectum are narrowed.

Fort William: Dec. 11th, 1846.

*Notices and Descriptions of various New or Little Known Species of Birds.* By ED. BLYTH, Curator of the Asiatic Society's Museum.

[Continued from p. 54, ante.]

In the intervals that elapse between the publication of successive portions of these notices, it regularly happens that further collections are received by the Society, and that some additional information is derived from them relative to groups that had already been treated of. In the present instance, we have been indebted to Dr. R. Templeton, of Colombo, for two collections of birds from Ceylon, in which some interesting novelties have been comprised, and much information gained respecting the ornithology of that island, which of late years has been very little investigated. Among the species sent is a little Owl, which appears to be the true *Strix castanoptera* of Horsfield; one of three nearly allied Indian species, as follow:—

1. *Athene castanopterus*, (Horsf.): *Strix spadicea*, Reinwardt. Entire mantle and wings uniform deep chestnut-rufous, more or less obscurely barred with subdued dusky: primaries weak dusky, faintly banded with rufous on the inner web, and with a series of spots of bright rufous on the outer web: tail dusky, with eight or nine narrow white or whitish bars, the last of them terminal: head and neck closely barred with light rufescent on a dusky ground, and contrasting strongly with the rufous of the back: breast nearly similar, but the colours deeper; the abdomen white, with longitudinal dusky streaks; and the vent and lower tail-coverts pure white: bill pale yellow. Length of wing about five inches. Three specimens received are essentially quite similar, and a fourth is mentioned in XIV, 185. Inhabits Ceylon.

2. *Ath. malabaricus*, nobis: *Ath. castanopterus* apud nos, doubtfully cited in XIV, 134, and of Jerdon, *Madr. Journ.* No. XXXI, 320. Size of the preceding, or a little shorter in the wing: the head, neck, and interscapularies, uniformly coloured, of a lightish rufous with narrow and close dusky rays; wings the same, but the colours deeper, and the dusky bands considerably broader: primaries deep rufous, the three first barred throughout with dusky, the rest mostly immaculate (or with comparatively obscure bars) for the basal half, and distinctly barred for the remainder; secondaries with broad distinct bands throughout, rufous and dusky; and tertiaries with the scapularies

barred rufescent-whitish and dusky, the outermost scapularies having the large white spots (common to most Owls,) in general conspicuously developed: the lower-parts are barred throughout, dusky and white on the belly and flanks, rufous and dusky on the breast, except the vent and lower tail-coverts, which are spotless white; tail dusky, with eight or nine whitish bars, somewhat broader than those of the preceding species. This inhabits the Malabar Coast and Travancore; and the Society is indebted for specimens of it to Mr. Jerdon.

3. *Ath. radiatus*, (Tickell): *Ath. erythropterus*, Gould; *Noctua perlineata*, Hodgson; *N. cuculoides* (?) apud Jerdon, *Catal.* Upper-parts uniformly barred with close rays, rufescent-whitish and dusky; the wings more distantly barred with the same, but the rufous tinge deeper, and some of the greater coverts have, in general, conspicuous white spots; the great alars are still deeper rufous, barred with dusky throughout, and marked much as in the first species; lower-parts barred whitish and light dusky, and the under tail-coverts white as in the others. This species occurs in most parts of the country, as in the Himalaya, Upper and Central India, the eastern coast of the Peninsula, and Mr. Jerdon says "Travancore and Malabar;" but it is probable that he here refers to *Ath. malabaricus*, in which case the synonyme of *cuculoides* apud Jerdon, must be transferred. About Allahabad, as Dr. Stewart informs me, it is particularly numerous.

Although the first of these three species accords with the descriptions of *Ath. castanopterus* of Java, it may yet prove (upon comparison of specimens) to be an allied species rather than the same; but it would not be the only Malayan species that has turned up in Ceylon, and in no part of Continental India as yet: the same collection contained examples of *Vespertilio pictus*, (or *Kerivoula picta*, apud Gray,) perfectly identical with Javanese specimens; whereas, from Continental India, I have only seen a nearly allied species, which I presume to be *Kerivoula Sykesi* of Gray. The curious Bittern, *Tigrisoma melalophos*, (Raffles,) is sent from Ceylon, and this is new to the fauna of cis-Gangetic India, though the Society has received it from Arracan: *Ephialtes lempiji* of Ceylon and Malabar is again identical with the species common throughout the Malay countries; but it has been erroneously identified with *Eph. lettia*, (Hodgson,) or the closely allied (if different) *Eph. lettioides* v. *griseus* of Jerdon. *Athene castanopterus* I have never seen

from the neighbourhood of the Straits, but Helfer (a very unsafe authority) mentions it to inhabit the Tenasserim Provinces. Probably the *Ath. badius*, Hodgson, from Nepal, mentioned in Mr. G. R. Gray's Catalogue of the British Museum *Raptors*, but as yet (I believe) undescribed, pertains to the same little sub-group.

In p. 12, *ante*, I suggested that *Bucco zeylanicus*, Gmelin, founded on the "Yellow-cheeked Barbet" of Brown's illustrations, would probably be found to differ from *B. caniceps*, Franklin, which Mr. Jerdon had assigned to *zeylanicus*. There is now more reason to incline to that naturalist's opinion, as the *B. caniceps* is very common in Ceylon, being rather smaller, on the average, than specimens from Upper India, as indeed are those of the Peninsula generally, so far as my observations have hitherto gone.

The *Picus ceylonus*, Forster, mentioned in a note to p. 18 *ante*, is a true *Brachypternus*, which appears to be as common in Ceylon as *Br. aurantius* is in India generally: and as there can be no doubt of its specific distinctness, any more than of the distinctness of *Tiga Rafflesii* (p. 16, *ante*), from *T. tridactyla* and its immediate allies, this fact of the existence of a plurality of decided species of these types—of an undeniable repetition of their peculiar and marked characters—adds much to the probability of the more closely allied species—*Br. micropus* (XIV, 194), *Br. dilutus* of Scinde (XIV, 550),—*T. Shorei*, (Vigors), and *T. intermedia* (XIV, 193), being also severally distinct from and not mere local varieties of *Br. aurantius* and *T. tridactyla*. Other examples of this close affinity occur in *Micropternus badius*, *M. phaeiceps*, and *M. gularis*; and Mr. Jerdon, in the third No. of his 'Illustrations of Indian Ornithology', has contended that his *Hemicercus cordatus* is probably an analogous representative of *H. canente*, (Lesson), of the countries of the eastern side of the Bay of Bengal. That he is right in this conjecture is not improbable; though the two are absolutely similar in structure, colouring, and markings: but the South of India species appears to be constantly smaller than its representative on the opposite side of the Bay. Mr. Jerdon gives the length of wing of the former as three inches and three-quarters, that of a female in the Society's Museum being only three inches and a half; but of several specimens received from Arracan and Tenasserim, the length of wing of the males averages four inches, and of the females three and three-quarters; the latter being conspicuously larger than

the only South of India female that I have to compare them with. Small as this difference may seem, it is very perceptible in the general size of the birds; and ornithologists will form their own opinion as to its value. In the *Hemilophus Hodgsoni*, Jerdon, the size of this species of Peninsular India, exceeds that of the nearly allied *H. javensis*, Horsfield, v. *leucogaster*, (Reinw.), of Tenasserim and Malacca. I might mention several more instances of the kind, but will merely observe that further observation has confirmed the propriety of separating *Caprimulgus albonotatus*, *C. macrourus*, and *C. mahrattensis*, (which last occurs in Ceylon,) these species scarcely differing but in size; also *C. monticolus* and *C. affinis*, but *C. arenarius* of Burnes' drawings seems merely to be the nestling plumage of *C. monticolus*, to judge from a specimen of the latter with which the Society has been recently favoured by Dr. Stewart. To return to the Woodpeckers, *Gecinus chlorigaster* (ante p. 16.) is an inhabitant of Ceylon; and this species, though well distinguished in the colouring of its occiput more particularly, is as closely allied to *G. chloropus*, as mutually are many of the approximate races to which I have been adverting.

*Simotes albivertex*, nobis (ante p. 19,) is not from Borneo, but from an islet off the coast of Waigou: and so likewise is the *Carpophaga* with knobbed bill, referred to the 'Sumatra Pigeon' of Latham in XIV, 857; while the small *C. ænea*, supposed to be from the same region (loc. cit.), proves to be from the Neilgherries. What further information I have obtained on the *Columbidæ* may be reserved till their turn arrives: but in reference to the remark in a note to XIV, 846, that perhaps some of the *Gourinæ* may prove to have more than twelve caudal rectrices, I may here mention that *Goura* (v. *Lophyrus*), and also the great *Phaps* group of Australia (including *Leucosarcia*, if not also, as I suspect, *Ocyphaps* and *Petrophassa*), possess fourteen—as in *Treron*, *Carpophaga*,\* and *Ptilinopus*; while *Chalcophaps*, and apparently *Peristera*, have only twelve. Of three specimens of *Calenas nicobaricus* in the Society's Museum, all have the tail imperfect; and it is curious that

\* The curious Australian Pigeon, *Lopholaimus antarcticus* (v. *Col. dilopha*, Tem.), which in XIV, 885, I suggested was probably a subgeneric form of *Carpophaga*, is allied rather (as I now find from inspection of specimens) to that *Carpophaga*-like group of true *Columbinæ*, having twelve tail-feathers only, which is referred to *Dendrotreron*, Hodgson, in p. 53 ante, but which will bear the prior name *Alsocomus* of Tickell, as *Col. punicea* must also be assigned to it.

the rectrices of this bird, which are pure white in the adult, are, in the young of the same, green-glossed black as the wing-primaries:— at least I presume the species to be the same, the Society's black-tailed young one being from the Nicobars, and one of the adults from the Cocos Isles (a group of rocks lying northward of the Andamans,) the other from the Malayan Peninsula.

*Zanclostomus viridirostris*, Jerdon, would seem to be a common species in Ceylon; thus confirming my suspicion (XI, 1096,) of its being Daniell's *Handee Kootah*, as well as the supposed Indian race (mentioned by Levaillant) of *Serisomus cristatus* of Madagascar.

Captain Tickell has favoured me with the following description of a new Spiny-tailed Swift:—

“*Acanthylis sylvatica*, Tickell. Entire length, from tip of bill to end of tail, four inches and a fifth; wing from shoulder to tip four inches and a half, and reaching an inch and a half beyond the tail. Form typical: the details being as in *Ac. nudipes*, (Hodgson). Wiry-tips to the shafts of the rectrices well developed—sharp and stiff. Thumb versatile but opposite (as in *Ac. nudipes*, of which I killed a fine specimen at Darjeeling\*). Colour—Bill, iris, and legs, black. Rictus, auriculars, chin, throat, and breast, iron-grey, with a dash of ashy-brown. Belly pure white, the feathers black-shafted. All the upper-parts black, with dull blue metallic reflections. Remiges brownish-black: tail and its shafts black. Across the lower back passes a broad defined space of white, including in fact the whole rump, but not the upper tail-coverts which are of the same colour as the upper-parts generally.

“I shot a specimen of this bird so far back as Nov. 1835. It haunts open cultivated ground in the midst of forest; also the cleared patches on the sides and summits of the hills [in Central India]. Is common, but local; gregarious and noisy: being often seen in company with *Cypselus melba*. When my duties call me next into the wooded regions of my jurisdiction, I will do my best to shoot some specimens and send you the dried skins, as vouchers for the above description.”

*Psilorhinus*, p. 27, ante. Lord Arthur Hay mentions, in *epistold*, —“It is very curious that though the Red-billed Jay is found alone at Simla, I should have procured only the Yellow-billed one after leaving

\* Mr. Bartlett informs me that he had lately seen a specimen of this Himalayan bird shot in England, at or near Colchester, in Essex.—E. B.

Jummoo, and in Cachemere." His lordship's description of the latter identifying it with *Ps. flavirostris* of Darjeeling, while by the "Red-billed" he probably means *Ps. occipitalis*.

*Gracula*, p. 31, ante. Two species of this genus inhabit Ceylon: one, the *Gr. religiosa* (apud nos), of southern India,\*—the other new, which may bear the name

*Gr. ptilogenys*, nobis. This has no bare skin on the cheek, but the occipital lappets are well developed, and the basal half of the lower mandible is black: bill moderately strong. Length of wing six inches. Colouring as in the others.†

*Amadina*, p. 36, ante. The *A. malacca*, or "White-breasted Indian Sparrow" of Edwards, common in Southern India, occurs rarely in Bengal, mingled in flocks of *A. sinensis*, or the "Chinese Sparrow" of Edwards; from which, indeed, it only differs in having the lower-parts pure white, with the same abdominal black patch: and it is curious that a third race inhabits the Malayan peninsula, similar to *A. sinensis*, excepting in having no black patch on the abdomen; whence the name *malacca* is ill applied to the white-bellied bird of Peninsular India.‡

\* Mr. Jerdon designates this *Gr. minor* (*Madr. Journ.* No. XXXI, 134): but if it be not admitted as *Gr. religiosa* (vera), as it is certainly the *Eulubus indicus* of Cuvier, it would therefore rank as *Gr. indica*.

† Add, as a synonyme to *Sturnia pagodarum*, the *Turdus melanocephalus*, Bahl (nec Gmelin), *Trans. Nat. Hist. Soc.* Copenhagen, 1792.—*Emberiza bruniceps*, Brandt, = *E. icterica*, Eversham; and *Coccothraustes speculigerus*, Brandt, is probably no other than *C. carnipes*, Hodgson.

‡ Immediately as the above was consigned to press, Mr. R. W. G. Frith kindly allowed me the pickings of an extensive Malayan collection just received, wherein are four species of *Amadina*, comprising one that I have been unable to identify. The Malayan peninsula yields, at least, the following six species of this genus of Finches.

1. *A. oryzivora*, (L.), which deviates a little from the type of all the rest.

2. *A. maja*, (L.): *Loxia leucocephala*, Raffles: *L. ferruginosa*, Latham; whose *L. bicolor* is probably the young.

3. *A.* — ? The race resembling *A. sinensis*, except in wanting the black patch on the abdomen.

4. *A. punctularia*, (L.): *Fringilla nisoria*, Tem. Distinguished from *A. undulata*, (Lath.), v. *Munia lineoventer*, Hodgson, of India, by the whitish-grey on the rump, upper tail-coverts and tail, which is represented by glistening fulvous in the other.

5. *A. molucca* (?), v. *Munia acuticauda*, Hodgson, which is doubtless Mr. Jerdon's supposed *A. striata* (v. *leuconota*, Tem.) of the Malayan peninsula. This agrees pretty well with Latham's description of *A. molucca*, except that the striation of the upper-parts is not mentioned; Griffith adds, however, "rump, and under breast, cross-barred, black and white." The belly in the Malacca species is pencilled with dusky, but not the white patch over the rump. Mr. Hodgson's Nepal specimens merely differ in

*Certhilauda*, p. 41, *ante*. My suggestion that Mr. Jerdon had sent me a distinct species as his *Alauda deva*, turns out to be well founded: the *A. deva* of his catalogue is a *Certhilauda* which I have not seen yet; and he has recently again obtained the true *Alauda* with pointed crest, referred by me to *A. malabarica* in XIII, 962.

In XIII, 567, it is remarked, that I had not actually compared Malayan with Bengal specimens of *Pycnonotus jocosus*, but had an impression that the crimson sub-ocular tuft is considerably less developed in the former. Dr. Cantor's rich collection from the Malayan peninsula comprises several specimens of the bird in question, which is common at Penang; and it is remarkable that the crimson sub-ocular tuft does not attain to a third of the length which it does in Indian specimens. In fine examples of the latter, the longest of the hair-like plumes composing this ornamental tuft, measure above five-eighths of an inch, passing considerably beyond the extremities of the white ear-coverts, and impeding their upper half; while in equally fine specimens of the Malayan bird, they appear as if truncated, and impend only the basal third of the white ear-coverts: in other respects the two birds exactly resemble; as does likewise the *P. monticolus*, (McClelland and Horsfield,) from the mountains of Assam, which is described to have "a scarlet ring about the eye, but no tuft beneath this organ." This, and the *Amadina malacca* group, are accordingly further exemplifications of that repetition in different districts of the *Fauna Indica*, of the same specific types with merely a variation of size, or some trivial but constant difference of colouring, or (as in the *Pycnonotus jocosus* group) a variation in the form or degree of development of an ornamental tuft: the specific value

being somewhat paler, and what white remains on the rump appears to be a little striated; but they are in very bad condition. *A. striata*? (v. *leuconota*?) of India accords with Latham's description, except that the white on the rump is not mentioned. Its upper-parts, and those of *A. molucca* (?) of the Malayan peninsula, are nearly similar; but the lower are very different: the Indian (and Arracan) bird having the throat to breast inclusive, uniform blackish, and the belly, vent, and flanks, white; whereas the Malacca bird has the chin and throat only blackish, the breast dark brown, with whitish shafts and borders to the feathers, and the belly dull white, with dusky pencillings.

6. *A. leucogastra*, nobis, n. s. (?). Size and proportions of *A. punctularia*, having the upper-parts throughout dark brown, with whitish shafts to the feathers more or less developed; throat, breast, and flanks, brown-black; the lower tail-coverts quite black; and belly white, narrowing to a point in front: margins of tail-feathers yellow-fulvous: bill and feet blackish in the dry specimens. Individuals vary in the intensity of their colouring.

of which differences will probably be ever a subject of dispute. Analogous slight differences occur in certain of the mammalia, reptiles, fishes, and insects, of the same regions, which are variously set down as allied species, or local varieties of the same, as the opinions of individual naturalists vary: but if the distinctness of such races be not admitted, there is no demarcating the line between them and what are conceded on all hands to be allied but distinct species, as every grade of approximation is abundantly manifested.\*

*Rubigula gularis*, XIV, 576. This bird is figured by Mr. Jerdon, in the third No. of his 'Illustrations of Indian Ornithology;' and besides the ruby throat, it is both represented and described to have a black chin-spot, and the tail is represented as greenish like the back. The following, however, may yet prove to be the female. Length about six inches and a half; wing two inches and seven-eighths; tail two and three-quarters: bill to gape three-quarters of an inch, and tarse five-eighths. Colour olive-green above, below yellow throughout, sullied with greenish

\* The opposite opinion is ably maintained by M. Schlegel, in his 'Essay on the Geographical Distribution of Serpents,' contained in Dr. Traill's abridged translation of Schlegel's great work on serpents: but that naturalist's hypothesis of climatal and local varieties carries him so far as to consider the Himalayan Jay (of course meaning *Garrulus ornatus*, v. *bispecularis*,) as a "variety" only of the European species; and he states—"The *Paradoxurus typus* is spread over Bengal, Siam, Sumatra, Borneo, Amboyna, Timor, &c., and forms, in these different places, numerous varieties, which are chiefly distinguishable by the tint and distribution of the colours, but sometimes also differ in size; in Sumatra, for example, the species is stronger than in Java; in Java than in Timor, &c.; there appears to exist in several places a variety with a white tip to the tail; and the individuals from certain parts of the island of Java have a pale yellow fur, with three stripes down the back." Now this amounts, in fact, to a reduction of all species that are nearly allied, to the rank of varieties only of the same one, however different their locale; and so far as climatal or local influence is concerned, it happens that several of the supposed "varieties" of *Paradoxurus typus* co-exist abundantly in the Malayan peninsula, and without intermingling so far as I have ever seen or heard of, which there can be little doubt they would do freely, were they really the same. The white tail-tip is of no consequence whatever, and occurs not unfrequently in several species of *Paradoxurus*, without affecting their other distinctive characters: white feet are also common, and occasionally these animals are largely pied with white also upon the body. If the different races of *Paradoxuri* inhabiting the Malayan peninsula are not to be regarded as *species*, all discrimination of species is at an end; no two naturalists will agree respecting the amount of specific variation; and no confidence can be reposed in any list of names representing the fauna of a region. Therefore, (at all events in the present state of knowledge,) I think it right to distinguish species or permanent races to the fullest practicable extent; and I even do not see that identity of origin is implied by absolute similarity.

on the breast and flanks: cap and ear-coverts black, but no black chin-spot: the tail dusky or blackish, laterally edged with green towards its base; its four outer feathers having a largish white spot at tip, and the two central pairs being successively more narrowly tipped with the same. Bill and feet black. From Ceylon. If new, *R. aberrans*, nobis; but I repeat my suspicion of its being the female of *R. gularis*.

Genus *Calamoherpe*, Boie. In my notice of the Indian species of this genus, XIV, 594, I cited *C. arundinacea*, (Lin.), with a mark of doubt, in referring to it the *Agrobates brunnescens* of Jerdon. By the kindness of H. E. Strickland, Esq., the Society has now been favoured with a specimen of the European bird, which proves, though very closely allied, to be certainly a distinct species from its Indian representative. It is rather larger, with a longer wing, the latter measuring above three inches and three-quarters; and a good distinction is afforded by the European bird having its first primary somewhat longer, if anything, than the next; whereas the Indian species, which will now rank as *C. brunnescens*, (Jerdon,\*) has the first primary constantly three-sixteenths of an inch shorter than the next, the third being, if anything, longer than the second: the general colouring of the European species is also rather more intense, and especially the russet hue of the flanks abdomen, and lower tail-coverts, is considerably more developed.

Another result for which we are indebted to the fine British collections just received from Mr. Strickland,—Mr. Kirtland, of the Ashmolean Museum, Oxford,—Mr. Bartlett, of London,—and Mr. W. Davison, of the Alnwick Museum,—is that the British Nuthatch is a different species from that bearing the same name of *Sitta europæa* in Norway, which latter Scandinavian bird is doubtless the true *S. europæa* of Linnæus. The Norwegian Nuthatch has the whole under-parts white, with the exception of the deep russet hue of the flanks and variegating the lower tail-coverts, which is the same in both species.† In other respects they resemble; but the difference is as marked as between various acknowledged species of *Budytes*, or the *Motacilla alba* and *M. Yarrellii*, &c.;

\* Provided, however, that it also proves distinct from *C. olivetum* (? or *olivarum* ?), Strickland, another allied species which that gentleman procured in Greece, and which is figured in Gould's 'Birds of Europe;' but no description of Mr. Strickland's bird is here accessible.

† Some specimens have an exceedingly faint tinge of fulvous on the abdomen only.

and a Himalayan Nuthatch is equally approximate (*S. cinnamoventris*, nobis, considered to be probably the *S. himalayana*, J. & S., in XIV, 579), this having merely the deep russet of the flanks spread over the whole under-parts of the male, and similarly diffused but much paler in the female,—the chin and sides of the throat below the ear-coverts being alone white, except the white variegation of the lower tail-coverts in which it resembles the two allied European species under consideration; another very slight distinction of this Himalayan Nuthatch appears also to be constant, namely that the outermost tail-feather has either no white, or the merest trace of white, on its exterior web: but its affinity with the two western European species is so close, that if the latter are held to be varieties of the same, so also must the Himalayan bird, notwithstanding that its deep ferruginous hue is as much developed as in *S. castaneiventris*, though still not so dark as in that smaller and slender-billed species of the hilly parts of India generally. Referring to the notice of *S. europæa* in the *Dict. Class.*, I observe that the British Nuthatch is there described, and hence infer that it is the species inhabiting France; the Scandinavian bird being probably confined to the north of Europe: and presuming that the latter is true *S. europæa*, Lin., I propose for the British species the name *Sitta affinis*.\*

Passing now to groups which have not yet fallen under review, I shall commence with that which should have received the name

*Muscicapidæ*. The Flycatchers (*Muscicapidæ* of authors) are an assemblage from different natural families of birds, many of which are little connected by the physiological proximity we style *affinity*, but by *analogy* rather, or similarity of external adaptations to a particular mode of life. A large proportion of those of the Old World appertain strictly to the great group, branching off from the Thrushes, which is now currently known by the name *Saxicolinæ*. Of these I have many species to describe; but the group under consideration is altogether distinct from the Flycatching *Saxicolinæ*, and though the different

\* It has lately been suggested to me that *S. nipalensis*, Hodgson, is identical with the British Nuthatch; but it is a widely different species, distinguished by its much smaller size, proportionally very short bill, and by the belly, flanks, vent, and lower tail-coverts, being uniform light ferruginous: in some (males?), the throat and fore-neck are white, passing laterally into pale buff; while in others (females?), a light buffy tint pervades the whole throat and fore-neck. The two outermost tail-feathers only, on each side, are marked with white.

Indian genera have all the *Muscicapa* adaptations fully developed, it branches off to such forms as *Piezorhynchus* and *Monarcha* of Australia, wherein those particular adaptations are much reduced. At the head of the group may be placed the *Tchitreæ*; nearly allied to which are the *Myiagræ* of Swainson, as exemplified by *M. cærulea*, (Vieillot), of India (which is *Musc. occipitalis*, Vigors, and the female—*M. cæruleocephala* of Sykes, nec *M. cyanocephala*, Gm., and 'Azure-headed Flycatcher' of Latham.\*) As seen alive, or in the recent state, the approximation of *Myiagra cærulea* to *Tchitreæ paradisi* is extremely close: there is a near resemblance in general structure; the same delicate blue bill, which loses its colour a few hours after death; and the lengthened occipital crest of the Paradise Flycatcher is represented by the short velvety occipital tuft of the other, the plumelets of which are similarly erected: even the black pectoral cincture of *Myiagra cærulea* defines the boundary of the black throat and fore-neck of *Tchitreæ paradisi*. Allied to these, again, we have *Leucocerca*, Sw.† (the Indian species of which are referred to true *Rhipidura* in XII, 935): and *Rhipidura* (vera), v. *Chelidorhynchus*, Hodgson, XII, 936, almost equally allied to *Leucocerca* and *Cryptolopha*, shews that the last-named genus comes also under the present series. The Indian *Cryptolopha* is *Musc. griseocapilla*, Vieillot, (apud Griffith, *An. Kingd.* VI, 343,) and was figured by Mr. Swainson as *Platyrhynchus ceylonensis*, afterwards altered by him to *Cryptolopha poiocephala*. It is also *Muscicapa nitida*, var A, of Latham. Its real name will therefore be, I believe, *Cr. griseocapilla*.

\* The type of this genus is *M. plumbea*, the male of which = *Muscicapa leucogastra*, nobis, XIII, 336, and the female is the supposed female of my *M. rubecula*, *loc. cit.*, which = *Myiagræ rubeculoides*, Vigors and Horsfield: but the supposed male of my *M. rubecula* would seem to be the female of another species, to which may probably also be referred the *Platyrhynchus rufiventris* of Vieillot. That I did not recognise the *Myiagra plumbea*, was owing to the overcoloured figure of this bird in both editions of Lewin's work.

† The name *Leucocerca* is not felicitous, as shewn by Mr. Swainson's own *L. laticauda*, "remarkable for its broad and perfectly black tail." (*Nat. Libr.*, 'Flycatchers.') The Society has also a species from Java or the Moluccas, with a wholly rufous tail. The common species of Lower Bengal, *L. fuscoventris*, (Franklin), was subsequently named *Musc. (Rhipidura) sannio*, by M. Sundevall; and Mr. Strickland, in referring the latter appellation to Franklin's species, erroneously adds *L. pectoralis*, Jerdon, as a synonyme. *L. fuscoventris* is the 'Broad-tailed Flycatcher' of Latham, and *L. albofrontata*, the 'White-browed Flycatcher' of that author.

This bird is generally distributed over all India, from the Himalaya to Ceylon, and it is common enough in mango groves in Lower Bengal.

Of the *Tchitreæ*, I am acquainted with three Asiatic species which have the middle tail-feathers elongated, and the *Muscipeta atrocaudata* of Eyton is perhaps a fourth.

1. *Tch. paradisi*, (L.), the fully mature bird: *Muscicapa indica*, Stephens, and *M. castanea*,\* Tem., the once moulted bird.† It is not at all uncommon to get specimens of this bird in a transitional state of plumage, variously intermediate to the phases above referred to; and not merely when moulting from the rufous to the white garb, but a variously intermediate dress is occasionally put forth. Thus, among a number of specimens before me, one white male has a considerable intermixture of rufous on many of its back and rump feathers: another is almost unmixed rufous above, and pure white below; some of the upper tail-coverts are white, and there is a streak of the same on one of the middle caudal feathers: a female is very similar to the last, but has one primary on each wing—and not the corresponding feathers—white-edged: another and remarkably fine rufous male has a single white dorsal feather only: and another again has only a single outermost caudal feather chiefly white, with a black outer margin. Females do not appear to assume the white dress until they are several years old; and it is usual, therefore, to see a white male paired with a rufous female: but, in general, the females have the whole neck and throat glossy-black, like the male, though in some the lower portion of the black passes into grey, and rarely the whole throat is ashy, with the lower half of the neck behind. In adults of either sex, the crest-feathers appear never to be under an inch in length, and vary from that to one and a quarter: but the nestling-bird is crestless, and has the head of a pale dull chesnut, with the clothing feathers altogether extremely downy and unsubstantial. Lastly, the black exterior margin to the caudal feathers occurs only in the white or fully mature livery, and the elongated central tail-feathers are never thus margined (as in the next species), but have a black shaft for about half their length. This species is more or less common throughout India, from the Himalaya to Ceylon.

\* Perhaps, however, this name belongs rather to the next, or common Malayan, species.

† *Musc. mutata* of India, Lath., can only refer to the same.

2. *Tch. affinis*, A. Hay, MS. : Malayan *Tch. paradisi*, auctorum ; *Muscipeta castanea* (?), Temminck. In any state of plumage, this species may be distinguished from the last by having the crest never more than seven-eighths of an inch in length (generally less), and the feathers which compose the crest are broader and *much more commingled* into a uniform smooth surface than in the other. The middle tail-feathers of the male rarely, if ever, attain a foot in length ; whereas in the Indian species, they often exceed fifteen inches ; in form, too, they are very much narrower than in *Tch. paradisi* (vera). The adult male is white, with glossy-black head and neck, as in the other ; but the black on the shafts of the feathers of the upper plumage generally, is much more developed ; and the middle caudal feathers are black-shafted *throughout their whole length*, or nearly so, and are more or less conspicuously margined *throughout, both externally and internally*, with black, often broadly so throughout. A mature female received from Malacca is wholly white, with black head and nape, and black centres of feathers and edges of caudals, as in the male ; the caudals being however broad, instead of narrow as in the other sex. Young males in the chesnut plumage seem never to have any black on the throat and fore-neck, which, with the nape, are wholly ash-colour, as in some young females of *Tch. paradisi* ; these rufous males, and also the younger rufous females, have little or no trace of the black centres to the feathers,—but in older rufous females the latter are well developed on the tertiaries, and the ash-colour of the nape, throat, breast and flanks, is very dark\* : the inner portion of the large alars, which in the corresponding plumage of the Indian species is commonly chesnut throughout, is in its Malayan relative always dusky black. This species is also smaller than *Tch. paradisi*. It is common in the Malayan peninsula the Tenassrim Provinces, and occurs rarely in Arracan ; replacing *Tch. paradisi* of India Proper.

The advance from rufous to white occurs in several other species ; as somewhat fantastically shown in one or two of Levaillant's plates : and it is also instanced by Mr. Swainson's figure of his *Muscipeta rufiventris*, in the 'Birds of western Africa,' *Nat. Libr.*, wherein an admixture of white is exhibited upon the wing of a rufous specimen.

\* The Society has one chesnut female with shining black throat and fore-neck, as commonly occurs in *Tch. paradisi*.

*Tch. leucogaster*, (Swainson), *Nat. Libr.*, 'Flycatchers,'—is an alleged species founded on (apparently) a female specimen, which was in the collection formed in India by the Countess of Dalhousie. It would seem to agree with *Tch. affinis* (in the rufous dress), except in its larger size, measuring "no less than five inches from the tip of the bill to the vent," and in having the posterior crest-feathers long and narrow, as in *Tch. paradisi*. If a true species, the form of the tail would indicate that the central caudal feathers of the male are elongated; which is not the case in all the genus, for instance in the small *Tch. borbonica* of the Isle of France, the general structure of which comes very close upon *Myiagra*.

*Tch. atrocaudata*, (Eyton), *P. Z. S.* 1839, p. 102. "*Toto corpore purpureo-atro, sed pectore imo abdomineque albis. Long. tot. 9 uncias.*" Hab. Malacca. Lord Arthur Hay possesses what I take to be a mature female of this species, having the head and neck glossy black, the rest of the upper parts beautiful glossy maronne, or deep chesnut-bay, with a very strong maronne gloss,—and of the lower-parts dark ash-colour, passing to white towards the vent and lower tail-coverts, which last are tinged with chesnut: shafts of the tertiaries black (as in *Tch. affinis*); and the primaries and secondaries dusky-black, margined externally with dark rufous; axillaries white: the central caudal feathers are scarcely developed beyond the rest; and the crest is still shorter than in *Tch. affinis*. Young females are scarcely distinguishable from those of *Tch. affinis*; but have a shorter crest, the middle tail-feathers about equal with the rest on either side, and more or less of the beautiful maronne gloss is generally perceptible. In this state of plumage, they constitute *Muscipeta atriceps*, nobis, XI, 203, 790.

*Tch. princeps*, (Tem.), *p. c.* 584. This superb species inhabits China and Japan. Lord Arthur Hay has received it from Hong Kong\*: and I should acknowledge that I have been indebted to his lordship for the loan of some specimens of *Tch. affinis*, &c., which first enabled me to come to some understanding of these different species.

In immediate proximity to *Tchitrea*, we have the new genus *Philentoma* of Eyton, of which two species inhabit the Malayan peninsula:

\* *Muscipeta atrocaudata*, Eyton?, apud Lord A. Hay, *Madr. Journ.* No. XXXI, 159 His lordship, however, does not agree with me in the above identification of his specimen with *Tch. princeps*. Perhaps *Tch. atrocaudata* may, indeed, yet prove to be no other than *Tch. princeps*.

viz. *Ph. pectorale* (*Muscicapa pectoralis*, A. Hay, *Madr. Journ.* No. XXXI, 161,) and *Ph. plumosum* (vide p. 10, *ante*): this is a genus which I had long instituted in *MS.*, when I found that I had been anticipated in publication by Mr. Eyton.

*Dicruridæ*. Drongos, or 'King Crows.' A very distinct group, one marked character of which is to have constantly but ten tail-feathers. An attempt was made to reduce the synonymes of the Asiatic species in XI, 799 *et seq.*; and Mr. Strickland made a further attempt in the *Ann. Mag. Nat. Hist.* 1844, p. 36. Mr. G. R. Gray, again, has more recently tried his hand at the whole series of them, and he adds the genera *Artamus* and *Irena* to his *Ampelidæ Dicrurinæ*, in which I cannot think of following him. The generic subdivisions I would retain the same as formerly.

1. *Chibia hottentota*; *Corvus hottentotus*, Lin.: *Edolius barbatus*, Gray; *E. crishna*, Gould; *Criniger splendens*, Tickell; *Chibia casia*, Hodgson. Common in Bengal, Nepal, Assam, Sylhet, and in Central India; rarer in Arracan; and partially distributed in S. India. This beautiful bird is remarkable for the arched form of its bill, which is high and carinate at base, and attenuates gradually to a point, with scarcely a trace of emargination. It has a frontal crest of a few hair-like stems, which hang over the nape; and its outermost tail-feathers are very much twisted over, forming a singular ornament.

2. *Chaptia ænea*, (Vieillot): *Dicrurus æratus*, Stephens; *Ch. muscipetoides*, Hodgson: *Butchanga* of the Bengallees. This beautiful species resembles the last in the character and lustre of its feathers, but has the general form of a Flycatcher. It is a loud and very respectable songster. Inhabits India generally.

3. *Ch. malayensis*, A. Hay. Very similar to the last in plumage, but the size inferior, the tail much less deeply forked, the bill deeper, and a considerable development of the peculiar crest impending its base, of the next species. Lord Arthur Hay will describe it more particularly in the 'Madras Journal.' From Malacca.

4. *Bhringa remifer*, (Tem.): *Bh. tectirostris*, Hodgson; *Edolius rangonensis* apud Horsfield, from Assam. This is peculiarly a hill species, common in the eastern Himalaya, and extending to the mountains of Assam, Sylhet, and Arracan. It much resembles the preceding in the general character and lustre of its plumage, but has a nearly

square tail, with the stems of the outermost feathers excessively elongated beyond the rest, and barbed only for the terminal four inches (or thereabouts), nearly equally so in both webs, and this barbed portion is not twisted as in the following species; the stem, however, which is much smoother or more completely barbless than in the others, takes half a turn, so that the barbed tips remain vertical to the axis of the body, with the upper side inwards.

We come now to the *Edolii*, as I restrict this division: and are presented with a series of species closely allied in other respects, but shewing every gradation in the degree of development of frontal crest, from the total absence of such an ornament, to one flowing backward over the occiput. Their synonyme, as may be supposed, is much involved. All have a moderately furcate tail, with the stems of its outermost feathers prolonged and naked for a considerable space, and broadly barbed on the inner side towards the extremity; the stem however giving one twist, so that this inner web appears to be the outer one: in younger specimens, the inner side has conspicuously a short web throughout its length (which is considerably less than in mature birds), and the rudiment of this inner web is seen, upon close inspection, in adults, as also a very slight rudiment of an outer web, which latter becomes further developed towards the extreme tip of the feather. Finally, the barbed tip is more or less twisted inwards, and has always its inferior side uppermost. It is worthy of remark, that the crested birds are successively larger as the crest becomes more developed; while the crestless species are smallest: also, that the latter have the longest and most spirated outer tail-feathers; while in the former, these are successively shorter and less spirated.

5. *E. malabaroides*; *Chibia malabaroides*, Hodgson, *Ind. Rev.* 1837, p. 325: *Lanius malabaricus*, as figured by Latham and Shaw, but not *L. malabaricus* as described by Latham from Sonnerat: *E. grandis* apud nos, XI, 170, and *Ann. Mag. Nat. Hist.* XIV, 46. In this species, the frontal plumes attain a length of two inches and a half, and flow backward over and beyond the occiput. The hackles of the neck are also decidedly more elongated than in the others. Length of wing commonly six inches and three-quarters. Inhabits Nepal, Tipperah, and the Tenasserim Provinces.

6. *E. grandis*, Gould, *Proc. Zool. Soc.* 1836, p. 5: *E. bengalensis*, A. Hay, *MS.* Crest-feathers attaining to an inch and a half, or in very fine specimens a trifle more, and reaching to the occiput, but scarcely ever overhanging it.\* Fine specimens are of equal size with the preceding race; though, in general, the present one is rather smaller. It is common in Assam and Arracan, and occurs in the Bengal Soonderbuns.

7. *E. paradiseus*; *Cuculus paradiseus*, Lin.: *Dicrurus platurus*, Vieillot; *Edolius retifer*, Tem.; *E. cristatellus*, nobis, XI, 171; *E. intermedius*, Lesson, apud G. R. Gray. This is the common species of the Tenasserim provinces, with crest generally from an inch to an inch and a quarter long, and the wing usually six inches and a quarter. It is not well distinguished from the last; but when a number of specimens are seen together, with a corresponding series of the Arracan bird, the average size and development of the crest-feathers of the present race is shewn to be inferior, and the tendency of the crest is always to curve back more abruptly.

Two specimens from southern India (locality not mentioned), with which the Society has been favoured by Mr. Jerdon, do not—at least that I can perceive—differ in any respect from the common Tenasserim race; but Mr. Jerdon informs me, that he possesses three *Edolii* from the Indian peninsula,—“one from Malabar, one from the Eastern Ghâts, and one from Goomsoor. This last (*E. orissæ*),” he adds, “has the bill much smaller than in *E. dentirostris* of the Eastern Ghâts. The Malabar species is crested, and therefore does not correspond with Sonnerat’s figure” below referred to.

8. *E. malabaricus*, (Seopoli), founded on *le Grand Gobe-mouche de la côte de Malabar* of Sonnerat: *E. rangonensis*, Gould. That two races even here remain to be distinguished is still my suspicion, one being the bird described as *E. rangonensis* in XI, 172, and represented in the plate to XI, 802, figs. 8 and 9; the other, the bird of Sonnerat, devoid of the slightest trace of a frontal crest, and of which (if I am not greatly mistaken) I saw a Singapore specimen in the collection of a French gentleman some time ago, who forwarded that collection to Paris be-

\* Mr. Gould, in his description of *E. grandis*, states—“The recurved feathers of the upper part of the head measure an inch and a half in length.”

fore I had examined it more particularly, as it was my intention to have done. That such a crestless *Edolius* exists, however, in Peninsular India is extremely doubtful.\*

In fine, I should not now be surprised if a most complete gradation of specimens from the *E. malabaroides* of Nepal, with frontal crest two inches and a half long, to the entirely crestless bird figured by Sonnerat, should prove to be obtainable (as we proceed southward) in the countries lying eastward of the Bay of Bengal; and such a gradation would, I think, be due to the intermixture of a succession of allied races, rather than to climatal or local variation of the same aboriginal race: such intermixture decidedly taking place between *Coracias indica* and *C. affinis*, and between *Treron phanicoptera* and *Tr. chlorigaster*, as also between the different Káldige Pheasants (as I shall take another opportunity of shewing)†. The *Edolii* of peninsular India, I am not yet sufficiently acquainted with.

9. *Dicrurus edoliformis*, nobis, n. s. This well marked species would seem to be a common bird in Ceylon. It much resembles the ordinary sub-crested bird of the Malayan peninsula, except that its tail is formed as in *D. macrocercus*, the caudal feathers being however somewhat broader. Three specimens are quite similar. Length of wing five inches and three-eighths, of middle tail-feathers five inches, the outermost an inch and a half, to an inch and three-quarters more; bill to gape an inch and three-eighths; and tarse an inch. The form of bill and plumage is as in *E. malabaricus*, the frontal crest being rather more developed than in the next species.

10. *D. viridescens*, Gould, vide XI, 173 and 802, figs. 10 and 11. Tail almost quadrate, with but a slightly furcate tendency. Both this and the preceding are, in fact, *Edolii*, with the outermost tail-feathers not prolonged as in that series of birds.

\* Since the above was written, the Society has been favoured by Mr. E. Lindstedt with a fine specimen of an *Edolius* from Malacca, having a frontal crest half an inch in length; and I feel doubtful whether this and other Malacca specimens can be safely identified with the bird having very long and very spiral outer tail-feathers, noticed in the description of *E. rangonensis*, XI, 172, and the bill of which is figured at p. 802, nos. 8 and 9.

† *Corvus corone* and *C. cornix*, and *Motacilla lugubris* and *M. alba* (apud Temminck), afford similar cases of intermixture of wild races in Europe. The Society's Museum contains a specimen of what is certainly the hybrid between *Corvus corone* and *C. cornix*, received from Norway; and we have also the well known hybrid between *Tetrao urogallus* and *T. tetrix*, from the same country.

11. *D. balicassius*; *Corvus balicassius*, Lin.: *Oriolus furcatus*, Gmelin, apud G. R. Gray; *Bhuchanga annectans*, Hodgson; *Dicrurus affinis*, nobis, XI, 174; *Corvus afer*, Licht.; and *C. assimilis*, Bechst., apud G. R. Gray. Inhabits the Malay countries, and occurs also in Nepal.\* The Australian species referred to this by Messrs. Vigors and Horsfield, is the *D. bracteatus*, Gould.

12. *D. macrocerus*, Vieillot: *Muscicapa biloba*, Licht.; *D. indicus*, Stephens, and also of Hodgson, *As. Res.* XVIII, described and figured in part II; likewise *Bhuchanga albirictus*, Hodgson, *Ind. Rev.* 1837, p. 326: *Edolius forficatus*, Horsfield (apud Strickland, *in epistolá*); *D. balicassius* apud Sykes and Jerdon, also apud nos, XI, 174; and *D. fingham* apud nos (passim). The common *Fingah*, or 'King Crow,' of India generally.

13. *D. longicaudatus*, A. Hay: *D. macrocerus* apud Jerdon, et nos passim: *Neel Fingah* of the Bengallees; described in *Ann. Mag. Nat. Hist.* 1844, p. 46. Inhabits India generally, but is much less common than *D. macrocerus*.

14. *D. cærulescens*, (Lin.): *Lanius Fingah*, Shaw: both founded on Edwards' figure. Described in *Ann. Mag. Nat. Hist.* 1844, p. 47. Not common in Lower Bengal.

15. *D. leucopygialis*, nobis, *n. s.* Similar to the last but smaller; the tip of the upper mandible (it would seem constantly) more produced; and the white confined to the lower tail-coverts, the abdominal region being merely somewhat paler than the breast. Length of wing five inches and three-eighths. This appears to be a common species in Ceylon.

16. *D. intermedius*, nobis, *n. s.* Also closely allied to *D. cærulescens*, but having no white whatever on the under-parts, which are darker than the throat and breast of *D. cærulescens*, and have a faint steel-blue gloss. The upper-parts are also glossed with steel-blue instead of steel-green. Length of wing five inches, of middle tail-feathers three and a half, and of outermost tail-feathers an inch and five-eighths more. From Penang. In general aspect intermediate to *D. cærulescens* and *D. longicaudatus*.

\* Captain Lewis took a specimen at sea, when within a few leagues of one of the Nicobar Islands.

17. *D. cineraceus*, (Horsf.) :—*leucophaeus*, Vieillot ;—*ceylonensis*, Stephens. Lord Arthur Hay has presented the Society with a Malacca example of this species. Its length, to tip of middle tail-feathers, is about ten inches, the outermost exceeding them by about an inch, and the tail-fork much divaricated ; wing five inches and three-quarters : bill as in *D. longicaudatus* and *D. carulescens*, but less carinate above, especially towards its base : general plumage deep ash-grey, passing to blackish just over the beak, also on the exterior web of the outermost tail-feathers and on the wing-primaries ; ear-coverts, and around the eye, with the vent and lower tail-coverts, albescent grey : bill and feet black.

Respecting the remaining semi-described species of oriental *Dicruridæ*, I have no information to contribute.

*Artamus*, Vieillot : *Ocypterus*, Cuv. ; *Leptopteryx*, Horsfield. I do not range this very peculiar genus here from any belief in its affinity for the *Dicruridæ*, but simply because I have no idea where else to place it. It is chiefly an Australian group, though one species inhabits the Philippines, another Java, and a third occurs throughout India. This is the *A. fuscus*, Vieillot, and *Ocypterus rufiventer* of Valenciennes, referred to *O. leucorhynchus* in *P. Z. S.* 1839, p. 158. It is also the *Murasiny\** Chatterer, and *Brown-coloured Swallow*, var. *A.*, of Latham. An allied form, the *Analcipus hirundinaceus*, Swainson, was erroneously assigned to India by that author.† *A. fuscus* has quite the same habits as the various Australian species observed by Gould : except that I could never hear of its *clustering* in the very singular manner stated of *A. sordidus* ; *i. e.* a number of them clinging together, like a swarm of bees, even to the size of a bushel-measure, pendent from a high and bare branch of a tree. In other respects, Mr. Gould's description of the habits of *A. sordidus* might be transferred to the Indian species. Wherever a high tree rises above its fellows, and projects a bare or dead branch commanding a wide view around, there may commonly be seen a party of these birds, one minute sitting together in a close row, anon sallying forth in quest of insects, and soon returning (each separately and independent of the movements of the rest,) to alight and perch together as before. Yet they are not very common,

\* Mispelt *Murasing*.

† Vide p. 45, *ante*.

but the parties are met with here and there, sometimes at long intervals through a tract of favourable country; but wherever they are seen, a number of specimens may be procured with the greatest facility.

*Laniadæ.* Of the true Shrikes (*Lanius*), the following Indian species may be enumerated.

1. *L. lahtora*, Sykes; *L. excubitor*, var. C, Latham : *Doodea lahtora* ('Milky Shrike'), Hind. This differs from *L. excubitor* in having a narrow black frontal band, and in the secondaries having their whole inner webs, and a broad tip and margin to the terminal half of their outer webs, white. It does not seem to occur in Lower Bengal; nor have I seen it from the Himalaya, or from the countries eastward: but it is of general occurrence on the plains of Upper India and the Northern portion of the peninsula, extending to Scinde, and it is likewise found at Rajmahl.

There is a remarkable specimen in the Museum, with the habitat of which I am unacquainted, and which is probably not Indian: but it seems to be a new species, and as such may be here described:—

*L. longipennis*, nobis. A large grey Shrike, with a fine blush on the under-parts, a very broad black frontal band, and singularly long straight wings, having the first primary very short, and the second nearly as long as the third. It is, therefore, a *Lanius* of Vigors, as opposed to his *Collurio*; to which latter all the other Indian species belong, even *L. Hardwickii*. Length about eight inches and a half, of wing four and three-quarters, its first primary but seven-eighths of an inch; and middle tail-feathers three and three-quarters, the outermost three-quarters less: bill to gape seven-eighths; and tarse an inch. Upper-parts ash-grey, darker and less pure than in *L. excubitor* and *L. lahtora*, except over the rump; throat, middle of belly, and lower tail-coverts, white; the rest of the under-parts subdued white, with a roscate blush; broad frontal band to a level with the eyes, and streak comprising the ear-coverts, black; wings and tail dull black; the basal third of the primaries white, forming a wing-band; tertiaries slightly tipped with the same; and outermost tail-feathers wholly white, the penultimate with only a dark spot on its inner web, and a dark shaft, with a narrow contiguous stripe on its outer web, and the two next tail-feathers white at base and tip; the ante-penultimate more broadly so. Bill black, with white spot at extreme base of lower mandible; and legs brown-black.

The following is a series of allied species, certain of which have not hitherto been distinguished.

*L. schach*, Lin. : *L. bentet*, Horsfield, *Lin. Trans.* XIII, 144 ; Lesson, in Belanger's 'Voyage.' Length eleven inches or less, of wing four and one-eighth, and of middle tail-feathers five inches to five and three-quarters, the outermost an inch and three-quarters to two inches shorter. Head and neck ashy, passing to whitish on the vertex, tinged with rufous on the back, and passing to bright light rufous on the rump, upper tail-coverts, scapularies, and flanks : lower-parts delicate rufous-white, whitest on the throat and middle of belly : a very broad frontal band, and streak through the eyes, comprising the ear-coverts, deep black : wings also black, with rufescent-whitish margins to the tertiaries, and white edge anteriorly : and the tail black, with rufescent-white tips often obsolete on its middle feathers, and successively more developed to the outermost ; the two or three outside feathers merely blackish, and margined round with light rufescent, which colour predominates on the outermost feather of all. Described from three Chusan specimens, which seem to be identical in species with the Javanese bird. This is the largest species of the sub-group, and is particularly distinguished from the others by having the black band on its forehead fully five-eighths of an inch broad.

2. *L. nigriceps*, Franklin : *L. nasutus*, Scopoli, and *L. antiguanus*, Latham, both founded on Sonnerat's figure of his *Pie-griéche d'Antique* ; but the former name is objectionable, as referring to an individual deformity of the specimen figured, and the latter, as likely to convey the idea that it is a West Indian bird, from the more familiarly known island of Antigua, instead of the province of Antigue in Panay. It is also *L. tricolor*, Hodgson, *Ind. Rev.* 1837, p. 446 ; and *Indian Shrike*, Latham. This species is at once distinguished by having the whole cap black. The rufous hue of its upper-parts varies much in depth, and many have the nape more or less ashy. Inhabits all northern and central India ; being common in the Soonderbuns of Bengal, and on many of the *churrs* (or alluvial banks and islands) in the Ganges and its branches. It is also common in Assam, Sylhet, Tipperah, and Arracan.

3. *L. tephronotus*, Vigors, *P. Z. S.* 1831, p. 43 : *L. nipalensis*, Hodgson, *Ind. Rev.* 1837, p. 445 : *Grey-backed Shrike* of Latham. Size of the last species : wing three inches and three-quarters. Colour of

upper-parts dusky-grey, faintly washed with rufous on the back in most specimens; the rump and upper tail-coverts dark rufous: lores and streak through the eyes, black; as also the feathers immediately impending the nostrils in fine adults: a slight pale streak over the eye, more or less developed: throat, fore-neck, and middle of belly, white; the rest of the under-parts rufous. The females and young have the breast, flanks, and sides of the neck, rayed more or less with dusky: wings dusky, with rufescent margins to the tertiaries and coverts, more or less developed; and tail nearly uniform brownish, with its outer feathers and the tips of all paler. Common in Nepal and Bengal, and has been received from Tipperah and Arracan; frequenting the same haunts as the last species.

4. *L. erythronotus*, Vigors and Gould (nee Jerdon). Wing three inches and five-eighths to three and three-quarters: middle tail-feathers four and a half to five inches. Has a broad black frontal band, three-eighths of an inch and upwards; a dark ash-coloured head and nape, a little albescent in some towards the frontal band; and sometimes the whole back deep rufous up to the neck, at other times the upper back is merely tinged with rufous. A good distinction from the next species consists in the broad black streak through the eyes being continued for some distance beyond the ear-coverts, instead of terminating with them. Appears peculiar to the NW. Himalaya.

5. *L. caniceps*, nobis. Nearly similar to the last but smaller; the black frontal band much narrower; the grey of the head much paler, and spreading considerably more upon the back, becoming also much more whitish towards the front and over the black eye-band: below, the breast is whiter, and the rufous of the flanks more defined; and above, this is often confined to the rump and upper tail-coverts, and the posterior scapularies only; whereas in *L. erythronotus* (verus), the entire scapularies seem to be always deep rufous, and sometimes the whole inter-scapulary region, which is never more than tinged with rufous in the present species. Wing three inches and three-eighths to three and a half, and middle tail-feathers four and a half. A marked individual variety of this species—with grown tail only three inches and three-quarters long, the whole back and scapularies grey, and scarcely any rufous on the flanks, (but its plumage altogether much abraded)—I referred doubtfully to *L. minor*, in X, 841. The present is the

*L. erythronotus* apud Jerdon and others, of India generally; extending to Scinde on the west, and eastward it would appear to inhabit Assam, as Dr. Horsfield remarks of the Assamese bird that—"compared with the figure in Gould's 'Century of Himalayan birds,' it is considerably smaller, and the colours are more dull than in the Himalayan bird." It also occurs in Arracan, and in the Rajmahal hills in Bengal, but not lower towards the mouth of the river.

Col. Sykes remarks, of the *L. erythronotus* of his list of Dukhun species, that "this bird differs from *L. bentet*, Horsf., only in the crown being ash-coloured instead of black, and in the defined black bar across the forehead." *L. schach* (*v. bentet*), however, as described by Dr. Horsfield, has no black crown, but a black forehead ("*L. fronte lateribus colli alis caudâque nigris, vertice dorsoque griseis*," &c). *L. erythronotus* and *L. bentet* are successively larger than *L. caniceps*, with a successively broader black frontal band: but in other respects all three bear a near resemblance; *L. nigriceps* chiefly differing in its black cap, which indeed constitutes its only marked distinction from *L. erythronotus*; and among some birds which Lord Arthur Hay collected in the vicinity of Benares, is a specimen which has every appearance of being a hybrid between these two: it has the cap mingled fuscous and ashy, and the forehead above deep black as in *L. erythronotus*. We may accordingly look for the latter species at that distance from the Himalaya, probably as a cold season visitant.

6. *L. phœnicurus*, Pallas: *L. cristatus*, Lin., founded on Edwards' figure (but the species is not crested); *L. rutilus*, var. A., and *L. superciliosus*, var. A, Latham: *L. melanotis*, Valenciennes: and *L. ferrugiceps*, Hodgson, *Ind. Rev.* 1837, p. 446. Brown, with more rufous head, tail, and its upper coverts; streak over the eye and the throat white, and the rest of the under-parts whitish with a fulvous tinge: lores and ear-coverts, forming a broad band through the eye, dull black. Females and young much rayed. This is one of the commonest of Indian birds, and as its particularly harsh chattering affords one of the earliest intimations of the advent of the cold season in Calcutta, its note is then far more acceptable than is warranted by the music of it. A few individuals, however, are procurable at all seasons within a few miles. This species is also common on the eastern side of the Bay of Bengal, extending southward to the Straits: where it is found together with the

*L. superciliosus* and with *L. tigrinus* of the *Dict. Class.* (v. *L. magnirostris*, Lesson, and *L. strigatus*, Eyton). Another allied species, but inhabiting further eastward in the Philippine Isles, is the *L. lucionensis*, Lin. I mention these to shew that I do not confound them.\*

A marked variety of *L. melanotis* (for it can scarcely be admitted as a separate species) was found abundantly by Capt. Boys in the country lying between Scinde and Ferozepore. It is distinguished by its pale colouring, a predominant dull sandy-grey, scarcely tinged with rufous, except on the rump and tail; the lores being whitish (in a male and female presented to the Society by Captain Boys), but with a slight black spot adjoining the orbit above. If regarded as new, *L. arenarius*, nobis.

7. *L. Hardwickii*, Vigors: *Bay-backed Shrike*, Latham. Of this beautiful species, some females perhaps resemble the males; but they usually differ in their generally duller colours, in the total absence of the black upon the forehead, and over and before the eye, while the ear-coverts are nearly brown-black: some of them have a grey head and neck, not however very pure; and others a brown head and neck, the latter having also rays on the under-parts. This Shrike is common in most parts of the country from the Himalaya southward, but does not occur below the Rajmahl hills in Bengal, and I have never seen it from the countries eastward.

*Tephrodornis*, Swainson. To this genus must be referred—

1. *T. sylvicola*, Jerdon, *Catal.* S. India.

2. *T. pelvica*: *Tenthaca pelvica*, Hodgson, *Ind. Rev.* 1837, p. 447. Nepal, Tipperah, Arracan.

3. *T. gularis*; *Lanius gularis*, Raffles: *L. virgatus*,† Tem. Malacca, Sumatra.

These three species are very closely allied. The last is distinguished by its small size, and otherwise resembles *T. pelvica*. Length of wing three inches and seven-eighths. In the two others the wing measures

\* There is a *L. ferox* described in the *Dict. Class.*, from Java, which I cannot identify; probably a female or young bird of its species. Also *L. vittatus*, Val., assigned to India, but with which I am unacquainted; the latter is probably not a true *Lanius*: *L. collurioides* of Lesson, in Belanger's Voyage, is described from Pegu.—Mr. Strickland suspects that *L. tigrinus* (v. *magnirostris*,) is probably a variety of *L. phœnicurus*; but it is a well marked distinct species.

† Misprinted *vulgatus*, in the *Dict. Class.*

four inches and a half: the male of *T. sylvicola* having the head dark ash-colour, and that of *T. pelvica* light grey; an invariable distinction.

4. *T. pondiceriana*, (Gm.): *Lanius keroula*, Gray; *L. muscipetoides*, Franklin; *L. griseus*, Tickell; *L. sordidus*, Lesson; *Muscicapa philippensis* of India, Latham; *Tephr. superciliosus*, Swainson; probably *Tenthaca leucurus*, Hodgson, *Ind. Rev.* 1837, p. 447. A very common Indian bird and generally diffused.

5. *T. grisola*, nobis, XII, 180 (*bis*). I killed an adult female of this bird with the same shot that brought down a young one of the preceding species, and I have never since met with it here: but the Society has recently received an undoubted specimen from Java, and another from Penang, so that the species has probably been named by M. Temminck.

*Hemipus*, Hodgson, *Ann. Mag. N. H.* 1845, p. 203. This genus is founded on a near affine to the *Muscicapa picata*, (Sykes): but a more typically characteristic species is

1. *H. obscurus*; *Muscicapa obscura*, Horsfield: *M. hirundinaceus*, Reinwardt; *Tephr. hirundinaceus*, Swainson. Common in the Malay countries. This bird was referred to *Tephr. dornis* by Mr. Swainson, and subsequently by Mr. Strickland; and there can be no doubt of its affinity for that group; but its generic relationship is with *H. picatus* and *H. capitalis*. I observe that different specimens of this bird vary remarkably in length of bill; thus, of two males before me, one has the bill fully a fourth longer than that of the other; but intermediate specimens prove their identity, and there is not the slightest difference in other respects. In the short-billed specimen, that organ is in form and size absolutely similar to that of the larger-billed examples of the Indian species.

2. *H. picata*, (Sykes): *Muscicapa tyrannides*, Tickell, II, 574; *Musc. hirundinacea* of Jerdon's list.\* Common in the hilly regions of Central and Southern India, and in Arracan.

3. *H. capitalis*, (McClelland,) *P. Z. S.* 1839, p. 157: *H. picæcolor*, Hodgson.† Very closely allied to the last (indeed I am not satisfied

\* Mr. Jerdon suggests that *Musc. variegata*, Auct., is perhaps the female of this bird.—*M. maculata*, Tickell, Mr. Strickland suspects to be the European *M. atricapilla* (v. *luctuosa*, Tem.), pertaining to another group of Flycatchers.

† Dr. McClelland's coloured figure (unpublished) of his *Musc. capitalis* is decidedly Mr. Hodgson's bird, not very well represented.

of the propriety of its separation); but the back and scapularies appear always to be of a pitchy-brown colour instead of green-glossed black; while the cap of the male is as black as in the other, and in the female is marked by a blackish tinge: the tail, too, is, I think, generally somewhat longer, and the scapularies are often more or less brown, like the back. Inhabits Nepal and about Darjeeling, as also Assam.

A closely allied diminutive of these is the *Muscicapula melanoleuca*, nobis, XII, 940: a species common in the Himalaya and in Arracan, and which the Society has lately received from Java, so that M. Temminck has probably named it. By this and other *Muscicapulæ*, the present group would be linked to the various black-billed blue Flycatchers; but I cannot pass conveniently to these just now.

*Lalage*, Boie. This genus connects the preceding birds with the *Grauculinæ*. I know but of two species, the *L. orientalis* Gm., v *Turdus striga*, Raffles, and *Sylvia leucophœa*, Vieillot,—and another nearly allied, but without the white supercilium, and shewing less white on the distal half of the wing. from Australia; this I take to be *Campephaga leucomela* of Vigors and Horsfield, *Lin. Tr.* XV, 215,—those authors describing only a mutilated female.

*Grauculus*, Cuv. The *G. papuensis*, Cuv. (v. *Macei*, Lesson, and *nipalensis*, Hodgson, *Ind. Rev.* 1837, p. 327,) is a tolerably common bird throughout India, as well as eastward of the Bay. Wing six inches and a half, and tail five and a half. *Ceblepyris javensis*, Horsfield, is perhaps distinct, as Mr. Strickland writes me word that its wing measures but six inches, and total length ten inches instead of a foot.\*

*Campephaga*, Vieillot: *Ceblepyris*, Cuv.

1. *C. fimbriata*, (Tem.) apud Strickland (*in epistolâ*): *Lanius silens*, (Tickell†); *Volvocivora melaschistos*, Hodgson; *Grauculus maculosus*, M'Clelland and Horsfield; *Ceblepyris lugubris*, Sundevall; *Blue-grey Thrush* of Latham. Tolerably common in Bengal, Nepal, Assam, and in Central India; but has not hitherto been observed south of Goomsur.

\* Mr. Jerdon remarks of the Indian species — "It appears doubtful if this be the true *papuensis* — if not, it is perhaps the *Gr. Macei* of Lesson." *Madr. Journ.* No. XXXI, p. 122.

† The South African *L. silens* of Levaillant is a true *Curruca*, of which Mr. Strickland has lately favoured the Society with a fine specimen.

2. *C. melanoptera*, nobis, n. s. Nearly allied to the next, but larger, and of a deep ash-grey colour, paler on the belly, and passing to white on the lower tail-coverts; the wings wholly black; and tail the same, with large white tips to its outermost and penultimate feathers, and successively smaller ones to the rest. Bill and feet black. Length about eight inches, of wing four and a quarter, and tail four inches, its outermost feather an inch shorter than the middle ones. Discovered in Arracan (with so many other new species) by Capt. Phayre.

3. *C. Sykesi*, (Strickland), *Ann. Mag. N. H.* 1844, p. 36: *Cebl. fimbriatus* apud Jerdon, and probably *C. canus* apud Sykes (the young): *Eastern Thrush* of Latham. Adults of either sex of this species have the body light pure ashy; the head, neck, and breast, deep black; the lower breast and abdomen pale grey, passing gradually to white on the lower tail-coverts, &c. The young (or apparently one-year old birds) have the head grey, like the back; the throat and the entire under-parts whitish, with dusky cross-rays, and the rump also rayed less distinctly. It is about equally common in Lower Bengal with *C. fimbriata*, perhaps rather less so; I have never seen it from the Himalaya, or the countries eastward, and it seems to be tolerably common in Southern India.

A *Ceblepyris cinereus*, Lesson, from Java, is described in the 'Zoo-logie du Voyage de M. Belanger,' of which I have taken the following rough note. Length eight inches. Bill robust, hooked, toothed, dilate at borders; wings short, scarcely passing the croup. Tail of mean length, rounded as in the others. Colour ash-grey above, beneath whitish-grey; a little brown spot before the eyes; wings brown, the primaries slightly edged with white, and secondaries tipped with pale grey. Approaches the Shrikes in form of wings, tail, and tarse; and the *Artami* and *Drongos* in its beak.

There is also a *Cebl. culminatus*, A. Hay, from Malacca, described in the *Madr. Journ.* No. XXXI, 157.

The following species, from the Isle of France, I presume to be *Tanagra capensis*, Gm., referred to *Campephaga* in the *Dict. Class.* The beak is much stouter than in the Indian species, also straighter, and more strongly toothed at tip, but not very strongly hooked: the tip of the lower mandible curves upward, to lock within the notch of the upper one. Length of an adult female nearly nine inches; wing four and an eighth;

and tail three and a half: bill to gape above an inch; and tarse an inch. Upper-parts wholly deep cinereous, darker on the crown, and paler on the rump and upper tail-coverts; lores, and a streak beyond the eye, blackish-cinereous, surmounted by a slight whitish supercilium; wings blackish, the feathers margined with grey, and two or three of the primaries slightly with whitish; winglet and coverts of the primaries wholly blackish, and anterior two-thirds of the wing white underneath; the throat and lower tail-coverts are white, the breast light ashy, with faint traces of cross-rays in the specimen; belly slightly fulvescent white; and the tail is black, its feathers successively more deeply tipped with white to the outermost; form of the tail slightly graduated, its outermost feathers being half an inch shorter than the middle ones; bill and feet dull black. A young male differs in having its upper-parts tinged with rufous-brown, deepening considerably on the rump; breast and belly also with ferruginous patches; tibial feathers the same; and I am informed that the old male has the under-parts light ferruginous. Gmelin describes his *Tanagra capensis* to be yellowish, and such is likely to be the case with a still younger specimen than the male here noticed.

In XI, 463, I described a species from the island of Luzon, by the name *Ceblepyris cærulescens*. This is a very interesting bird, from its close affinity for *Irena*, which genus I had considered to approximate to the *Grauculinæ*, previously to remarking the affinity of this particular species. In the female and immature plumage of *Irena*, the resemblance to the *Grauculinæ* is seen more especially. *Campephaga cærulescens* is probably allied to *C. cinerea*, (Lesson), just noticed; having a larger and stouter bill than the Indian species, more as in *Irena*, only that the tip is more abruptly hooked and emarginated. Size and general characters of *Irena*, but the rump-feathers spinous to the feel, and the tail sub-quadrate, except that its outermost feathers are three-eighths of an inch shorter than the penultimate, which latter are also very slightly shorter than the rest. This bird might be regarded as the type of a new division, to which *C. cinerea* should also probably be referred.

*Irena*, Horsfield. A curious distinction between the Indian and Malayan *I. puella*, auctorum, has been pointed out by Lord Arthur Hay; to whom we are indebted for the discrimination of numerous

other closely allied species. In the Malayan bird, the under tail-coverts reach quite to the end of the tail ; while in *I. indica*, A. Hay, they are never less than an inch and a quarter short of the tail-tip in the males, and generally an inch and a half short in the females. I have verified this observation upon so many examples from both regions, that there can be no doubt of the fact ; and the Arracan *Irena*, and I think also the Tenasserim one, are identical with that of India. A third beautiful species (*I. cyanogastra*, Vig.), from the Philippines, has been recently figured by Mr. G. R. Gray.

*Pericrocotus*, Boie: *Phœnicornis*, Swainson ; *Acis*, Lesson. This genus has been approximated by Mr. Swainson and others to the *Grauculinæ* ; but the affinity is not particularly close. The following species are comprehended—

1. *P. miniatus*, (Tem ) Malay countries. (*Non vidi*).
2. *P. speciosus* ; *Turdus speciosus*, Lath : *Muscipeta princeps*, Vigors and Gould. Himalaya, hill ranges of Central India, and sparingly those of South India ; common in Arracan, and extends southward to the Malayan peninsula. A few visit Lower Bengal in the cold season.
3. *P. flammeus* ; *Muscicapa flammea*, Forster, figured in Pennant's 'Indian Zoology,' also in Swainson's Illustrations, and more recently by Mr. Jerdon: *M. subflava*, Vieillot ; *Phœnicornis elegans*, (?) McClelland and Horsfield, *P. Z. S.* 1839, p. 156 ; *August Flycatcher* of Latham, but the preceding species also referred to. Hab. South India and Ceylon. The description and unpublished figure of *P. elegans*, from Assam, would seem to indicate this species of Southern India.
4. *P. brevirostris* ; *Muscipeta brevirostris*, Vigors and Gould. Himalaya, and more sparingly the hill ranges of Central and Southern India.

5. *P. igneus*, nobis: Malayan *P. flammeus*, auctorum, and probably of Temminck, *p. c.* 263.\* Size small, barely larger than *P. peregrinus*, the wing measuring but two inches and seven-eighths, and the rest in proportion ; bill to gape five-eighths, and tarse nine-sixteenths of an inch. Colour as in *P. speciosus*, except that the outer tail-feathers are less deeply red, and the wing-band is proportionally

\* If this be the *Musc. flammea* of Dr. Horsfield's Javanese list, it would account for his describing what appears to be the true *flammea* from Assam, by another name.

smaller ; the fore-part of the wing underneath, with the band as there seen, is deep yellow, and the axillaries are yellow, irregularly tipped with red. Altogether the red is of a shade more igneous than in *P. speciosus*, but considerably less so than in *P. flammeus*. The female I have not seen. Described from Malacca specimens.

6. *P. solaris*,\* nobis, n. s. Length about seven inches and a half, of wing three and three-eighths, and tail four inches ; bill to gape five-eighths, and tarse nearly five-eighths. Male fuliginous-ashy above, verging to black on the wings, and quite black on the tail ; the rump, wing-spot, greater portion of the three outer tail-feathers, (and the under-parts, bright reddish flame-colour (or as in *P. flammeus*) ; throat orange-yellow, and the ear-coverts pale grey : bill and feet blackish. The female has the head dark ashy, like the male, but the back olive-green, and the flame-colour of the male is replaced by yellow ; sides of the throat whitish. The bill of this species is broader and shorter than in the others. It is common at Darjeeling.

7. *P. roseus* ; *Muscicapa rosea*, Vieillot : *Phœnicornis affinis*, McClelland and Horsfield†. Not rare in Lower Bengal ; and occurs also in Assam, Arracan, and in the forests of Malabar.

8. *P. peregrinus* ; *Parus peregrinus*, Lin. India generally.

9. *P. erythropygius* ; *Muscicapa erythropygia*, Jerdon : *Cawnpore Flycatcher*, and *Turdus speciosus*, var. B., of Latham.—South India, Upper Bengal. (?) This is a very aberrant species, and even separable as a subgroup ; deviating, as remarked by Mr. Jerdon, in “its more depressed bill, weaker legs and feet, and in the mode of variation of the female. In its colour,” he adds, “the male resembles most of the species of *Pericrocotus*, except in having a white stripe on the wings, and on some of the tail-feathers. The female differs from the male in having ashy-brown instead of glossy-black, and cinereous-white where the male has bright orange-red. The irides also are light-coloured.” It seems, in fact, to be an intermediate form between *Pericrocotus* and *Hemipus* of Hodgson (p. 305 ante) ; near which latter Mr. Jerdon formerly arranged it, considering it allied to *H. picatus*‡.

\* In some collections which have gone to Europe, I have called this species *P. flavogularis*, MS.

† Identified from Dr. McClelland's unpublished figures.

‡ Add, as a doubtful member of the group, *Phœnicornis? aureopygia*, A. Hay, from Hongkong ; *Mad. Journ.* No. XXXI, 158 ; also, probably, *Lanius cruentus* of the *Dict. Class. D'Hist. Nat.*, from Java.

*Eurylaimus*, Horsfield. This group, the geographic limits of which, according to Mr. Swainson, "seem to be restricted to the hottest parts of India," is only admissible into the *Fauna Indica* from the occurrence of two Himalayan species, the range of both of which extends to Assam, Sylhet, and Arracan. These birds are the *Raya sericeogula* and *R. rubropygia* of Mr. Hodgson, *J. A. S.* VIII. 36; the former standing as *Psarisomus Dalhousiæ*, (Jameson) Sw., and the latter falling under Mr. Swainson's *Serilophus*, being very closely allied to *S. lunatus*, (Gould), for which it was mistaken in *Proc. Zool. Soc.* 1839, p. 156. The differences are as follow:—*S. lunatus* has the whole upper-parts rufescent, including the crown and cheeks; and it exhibits a remarkable structure of the tips of its primaries, the third and fourth especially, which terminate in acute points, as if artificially clipped, while the secondaries and tertiaries are truncate, and strongly emarginate at tip; moreover the third and fourth primaries are terminated by a large triangular white spot, and the secondaries and tertiaries have no white bar near the end of their outer webs:—*S. rubropygius* has the upper-parts deep ash-colour, with a faint rufescent tinge on the back; the primaries rounded at their tips, and narrowly terminated with white; the secondaries and tertiaries slightly truncate and emarginate at tips, with a triangular white spot near the end of the black outer web of each, beyond which the colour is bluish-grey. The white lunate mark tipping certain feathers of the sides of the neck is alike in both species, and does not seem to be a sexual distinction, but, I suspect, is attained after two or three moultings by both sexes. *S. lunatus* occurs in the Tenasserim Provinces, where also are found the *Corydon sumatranus* (which is the species described by Capt. Hay, in X, 575),—*Eurylaimus javanicus* (the range of which extends northward to Arracan),—*Eu. ochromalus* (v. *cucullatus*, Tem.),—and *Cymbirhynchus nasutus* (v. *lemniscatus*, Raffles), all common Malayan species, to judge from their frequency in collections from the Straits.

*Cymbirhynchus* was separated by Mr. Vigors on account of the forward position of the nostrils and some other particulars; and Mr. Swainson lays much stress upon the vertical depth of its bill, which certainly is a marked feature in the common Malayan and Tenasserim species (*C. nasutus*); but there is a very closely allied species in

Arracan, which, until I had obtained a good series of both, I declined to venture on distinguishing, but which I shall now designate

*C. affinis*, nobis. In this, while the general characters and colouring are the same as in *C. nasutus*, the bill is invariably much smaller and flatter, as in the restricted *Eurylaimi*, but the nostrils are placed forward as in the other. The general dimensions are also less, the usual length of wing in *C. affinis* being three inches and a half, rarely three and five-eighths, and the middle tail-feathers three inches; in *C. nasutus* the wing measures three and seven-eighths to four inches, and the tail, three and five-eighths to three and three-quarters. *C. affinis* has also, constantly, an oblong red spot margining the tip of the outer web of two of its tertiaries, and a third margining the inner web of the uppermost tertiary: in what appear to be the females, the latter spot is red as in the supposed males, while the former are white: these spots do not occur in *C. nasutus*. Lastly, the white upon the tail is more developed in *C. affinis*, and placed nearer the tips of the feathers: a white spot at the base of the inner primaries is also larger and more conspicuously shewn.

If the affinity of the *Eurylaimi* with the South American *Pipridæ* admit of doubt, the question would seem to turn on the relationship of the former for *Calyptomena*; for this Malayan genus appears truly to approximate to *Pipra* and more especially to *Rupicola*.\* Mr. Swainson distinguishes two species of *Calyptomena* (*Lardner's Cyclopcædia*, 'Menageries', p. 296), as *C. Rafflesii* and *C. caudacuta*; and he assigns *India* as the habitat of the latter, erroneously unless by that word he means vaguely "the East Indies", a term now rapidly and properly falling into disuse. Notwithstanding, however, the difference in the form of the tail, and which is not so great as Mr. Swainson represents it, I feel satisfied that his *C. caudacuta* is the young of *C. viridis*, Raffles, who states that "the female does not differ in appearance from the male." The tail is a little graduated in these presumed young birds, but I have never been able to recognise the pointed form of the feathers represented by Swainson, nor the difference of size which he indicates; indeed

\* Another Malayan genus with syndactyle feet, and which I have not yet seen, is the *Crataionyx* of Eyton, *P. Z. S.* 1839, p. 104: and to judge from the brief Latin definitions of his two species, *Cr. flavus* and *Cr. ater*, I think there is every reason to suppose them to be the sexes merely of the same species.

he adds, as a note, that he had entertained suspicions that *C. caudacuta* was merely the young of the other; but continues—"and yet the different form of its tail-feathers is so totally opposed to this supposition, that until such a similarity" (meaning specific identity) "is established beyond all doubt, I must continue to hold the opinion here acted upon." That his *C. caudacuta* is a bird in immature plumage, I feel no doubt whatever; and I can only say, that I have again and again seen it associated with adult *C. viridis* in Malacca collections, the two being evidently intended by the dealers who prepare these collections for male and female of the same.\*

Near the *Pipridæ* of course rank the *Ampelidæ*, to which Mr. Hodgson refers his genus *Cochoa* (since called by him *Prosorinia*), V, 359, XII, 450; but this remarkable genus wants one noted character of the *Ampelidæ*, (including the Waxwings) and *Pipridæ*, in common with various other South American groups, having the first primary but one third of the length of the second, which again is considerably shorter than the third. Of the two species, *C. purpurea* seems common in the S. E. Himalaya, as at Darjeeling; *C. viridis*, decidedly rare. For a specimen of this latter beautiful bird, the Society is indebted to the lady of W. H. Oakes, Esq., C. S.; and the late Mr. Webb, of Darjeeling, among numerous other specimens with which he favoured the Society (including *Alcedo grandis*, *Accentor mollis*, *Pericrocotus solaris*, *Troglodytes punctatus*, *Tesia pusilla*, *Pomatorhinus ferruginosus*, *Certhia discolor*, *Chleuasicus ruficeps*, and other novelties yet to be described), obliged us with what is evidently a male, in nestling plumage, of *C. purpurea*, which is worthy of a particular notice. The wings and tail are as in the adult male; but the back is quite black, the scapularies and smaller wing-coverts having a central brown spot on each feather; coronal feathers broadly tipped with white, having a black margin at their extreme tips; a portion of the ear-coverts similarly marked with white; and the entire under-parts are light ferruginous, with a broad black tip to each feather, less developed on those of the middle of the throat. The plumage of the back, scapularies, and under-parts, recalls to mind that of a young male English Blackbird.

\* Since writing the above, I have had an opportunity of examining several dozens; and should remark that I could find no instance of a transitional moult, or indeed of any moulting bird among them.

POSTSCRIPT.—A further collection of Cingalese birds has just been received from Dr. Templeton, including some of considerable interest,—as the *Gallus stanleyi* of Gray, hitherto I believe only known from Hardwicke's published figure of the hen,—and the *Tetras bicalcaratus* of Pennant, which is quite distinct from the 'Curria Partridge' of Latham (*Perdix benulasa*, Val., v. *Hardwickii*, Gray, and *Francolinus spadiceus*, Ad. Delessart), but ranks with the latter and *G. spadiceus* in my genus *Galloperdix*, which represents, in India, the Polyplectrons of the countries eastward, to which they are much more nearly allied than is generally suspected.\* Col. Sykes thought he recognised the *Gallus stanleyi* in what he terms a short-legged variety of *G. sonneratii*, occurring at an elevation of 4000 feet above the sea on the Malabar coast; but Mr. Jerdon and other subsequent observers know of but one species of jungle-fowl in that part of the country—the ordinary *G. sonneratii*, and the females of this bird have not (as Col. Sykes states) the "cartilaginous spots on the feathers," but young males have, when in plumage otherwise resembling that of the females. Moreover, *G. stanleyi* is quite as high on the legs as *G. sonneratii*; and, lastly, Mr. Jerdon has found no indications whatever of *G. sonneratii* having ever been domesticated, such as would have appeared in the plumage of its tame descendants—or of its having mingled its blood with the ordinary domestic stock, as Col. Sykes' remarks lead me to suppose.

It is worthy of notice that specimens of *Acridotheres tristis* from Ceylon are considerably darker-coloured than any I have seen from the mainland of India; whence the contrast between the vinaceous-brown of the body and the blackish hue of the neck is very much less decided, and the white of the vent and lower tail-coverts is in like proportion more strongly contrasted with the blackish vinaceous colour of the breast and flanks.

A similar relationship seems to hold between *Dicrurus leucopygialis* (p. 298 ante) of Ceylon, and *D. carulescens* of continental India: the latter I have never observed to vary; but some specimens of the Cingalese bird have the corresponding portion of the abdominal region albes-

\* This affinity is well exemplified by the general plumage of the females, and by the vertical carriage of the tail, as well as by the form of beak irregular number of spurs, &c. The *Polyplectron Northiæ*, of Hardwicke's 'Illustrations' is thus the female of *Galloperdix spadiceus*. *Ithaginis* of Wagler, with which Mr. G. R. Gray confounds these birds, is an allied, but very distinct division.

cent, which in the continental race is pure white; the upper-parts being also a shade blacker; and the bill (as previously remarked) seems always to be more strongly falcate at tip than in *D. caeruleus*. The average dimensions, too, of the continental race are decidedly greater.

*Pomatorhinus horsfieldii* of South India has an analogous representation in *P. melanurus*, nobis, of Ceylon, which I shall describe with other species of this genus. Though approximating very closely, it is as well characterized as several admitted species of *Malacocercus*.

From these and similar instances, it would appear as if several species had a tendency to become more intensely coloured towards the equator; *Gallus bankinus* of Malacca is much deeper-coloured than that of India: and the difference of *Halcyon capensis* of India and of Malacca (pointed out in XIV. 190) is so marked that Mr. Jerdon proposes to call the Indian bird *H. bruniceps* (*Madr. Journ.* No. XXXI, 143;) but if considered distinct, it would bear the prior name of *H. gural*, (Lath.) Pearson, X, 633.\* Our little tailor-bird of India (*Orthotomus longicauda*) occurs, but of a considerably darker colour, at Malacca, and together with two other species of its genus, *Orth. edela* and *O. cinereus*. I could mention two or three more instances; but nevertheless, in the great majority of cases, examples of the same species from the most various localities are absolutely similar.†

(To be continued)

Notes, chiefly Geological, from Seringapatam, by the Hegulla Pass, to Cannanore. By CAPT. NEWBOLD.

The geology of the country around Seringapatam I have already noticed.‡ Having passed its walls, my route lay westward over a strong, kunkerous, uneven, and rather sterile tract to Hussairpore (eighteen miles), on the banks of the Lachmi Thirth stream, a tributary to the Cauvery, where stands a ruined bungalow, built by the Hon. Arthur Cole.

*Hussairpore*.—The formation is a micaceous gneiss with veins of quartz, and beds of the same mineral, evidently interstratified with the layers of gneiss. These beds, on weathering, leave the surface soil

\* The Malacca *H. capensis* is also smaller than its Indian representative.

† On the question of the very close approximation of numerous allied species, vide Agassiz, in the Edinburgh New Philosophical Journal, 1842, p. 97.

‡ Madras Journal, January 1840, pp. 129—33.

covered with their angular and rust-stained fragments. Glimmering hornblende rock, veined with milky quartz, and a pale flesh-coloured felspar alternate with the gneiss. The outgoings of two or three dykes of basaltic greenstone are passed on the roadside. The surface of the country from Seringapatam gradually rises as it approaches the ghauts.

*Periapatam.*—This place is twenty-five miles westerly from Hussairpore, and forty-three miles from Seringapatam. It stands on the rise of the western ghauts from the table lands of Mysore, on the frontier of the wild territory of Coorg. To the west the scenery is mountainous and clothed with forest; fifteen miles to the north rises Bettadapore to the supposed height of 6,000 feet, one of the loftiest summits of this part of the western ghauts: the elevation of Periapatam, barometrically calculated, is 4,000 feet above the sea's level.

The country between Hussairpore and the ghauts is a succession of rocky risings and falls of the surface, covered for the most part with reddish alluvial soil, over the face of which are scattered numberless angular fragments of the surrounding rocks; especially white and iron-stained quartz, and occasionally kunker. Some of these alluvia have not travelled far, since we often find the colour of the surface soil a true index to the nature of the rock beneath: viz. dark-red or coffee-coloured soil over hornblende rock and trap; light-red to sandy soil over gneiss and granite; light greenish-grey over talc-schist, and white, or what is nearly white, over felspar and quartz rocks.

The quartz beds, being usually harder than their neighbours, are written in white bas-relief characters over the face of the country. They never weather—like the felspars, hornblendes, and micaceous rocks—into clay, but usually break up into fragments by imperceptible fissures, into which water, impregnated with iron from the surrounding weathered rocks, soon insinuates itself and stains the rock. At length the particles, composing the fragments themselves, lose their cohesion, and break up into an angular gritty sand.

In the low grounds, intervening between the rocky swells, is a black or dark-coloured mould, which I should hesitate to call *regur*. It appears to me to be the result, first of vegetation produced by water resting there (like the oases of the desert), and finally of artificial culture, manuring, &c.

In these vallies flourish groves of palms and wild dates; and here the ryot carries on his simple process of cultivation.

At Periapatam itself, basaltic greenstone is seen in the bed of a nullah crossing the gneiss and hornblende rock, and veined with kunker. Large blocks of fine red granite are seen in the ruined fort walls, brought evidently from no great distance.

The ghaut line west of Periapatam presents a succession of round-backed hills and smooth knobs, which continue to Verajunderpetta in Coorg. Their surface is covered with dark vegetable mould, and shaded by a fine forest, the roots of which strike into the red loam or clay on which the vegetable mould rests. It produces excellent sandal wood for which Periapatam is a depôt. It was formerly the capital of Coorg, but fell under the Mysore Rajas in 1744, A. D. A little to the west, General Stewart in 1799, with two regiments of Europeans and three of Native Infantry, repulsed the Mysorean army under the personal command of Tippoo. The fort was blown up during the preceding campaign in 1790 by Tippoo, in anticipation of General Abercrombie's advance from Cannanore.

*Verajunderpetta.*—About eight miles from Periapatam the Mysore frontier is crossed into Coorg. The soil is so thick as to cover the rocks of the ghauts from observation in most part, and the dense forest adds to the difficulty of getting a good *exposé* of the strata. In one place I saw gneiss veined with a fine crystalline reddish granite. Both rocks rapidly weather from the moisture and heat of the climate.

A well, dug on the side of the road, exhibited a stratum of red clayey loam, about five feet thick, underneath which lay a bed of gravelly local detritus; about three feet below which, was gneiss with much silvery mica. The gneiss was penetrated by a large granite vein which appeared on the summit of the hill in blocks. This granite passed into pigmatite. Scattered blocks of hornblende rock, and basaltic greenstone also occur, the outgoings of dykes or beds.

*Laterite.*—About seven miles east of Verajunderpetta, I first observed laterite capping, and partially covering, a small round-topped hill. Its surface was bare, and cleared by the rains of the ochreous and lithomargic earths, which usually fill the cavities, and keep soft and sectile the weather-protected under-layers of this rock. It had almost the dark scabrous aspect of an iron slug in some parts, but in others, might be seen distinctly passing into the sectile lithomargic laterite, so much used in building. Like sandstones and other rocks, it varies in mineral composition even in the same mass—being, in one place,

argillaceous or felspathic; in another, quartzose; now, so ferruginous as to pass into clay ironstone; and at another time, presenting nothing but a bed of compact lithomarge.

The soil in the flats and vallies, where the Coorgs cultivate rice, is generally of a pale ochreous colour; and is clayey from the disintegration of the felspars which prevail now in the hypogene rocks. Fragments of quartz iron, aggregated garnets, and quartz, mica slate, schorl and kaolin were picked up loose on the road.

Junction of laterite with granite.—The hill on which the Coorg Raja's palace stands at Verajunderpetta is of granite, capped with laterite. This granite is composed of a brownish felspar, resembling that of Mount Horeb, of quartz, black mica, and hornblende. The line of superposition is seen on the descent towards the Portuguese Chapel. The granite is hard and crystalline at the junction, and not in the least soft or friable, as it would have been had the mass of laterite, which caps it, been nothing more than its weathered (*in situ*) upper portions; as supposed by many theorists and speculators on the origin of this singular rock.

*Quarries of laterite.*—At a little distance are the quarries whence the blocks of laterite used for building are excavated. The laterite here lies under a thick layer of moist turfy earth, which keeps its surface from hardening under the sun's rays or atmospheric exposure, and is so soft and seetile as to be cut out with the Indian spade, like turf from a peat bog.

*The town.*—The palace of Verajunderpetta was built only two generations back, by the then Raja of Coorg, whose name it now bears. It is a large building, partly in the European style, on the top of a hill or rising ground to the west of the Pettah. The portico is supported by two elephants, twelve or fourteen feet high, constructed of stucco and brick, over iron frames.

The woodwork, glazed windows, roof, and every thing about the palace, is finished in a massive style; and convenient outhouses are enclosed, with the palace, within a high and massive wall.

The town is said to contain about 300 houses, inhabited principally by the Coorg Lingayet cultivators of the soil, a few Telingas, Bengalis, Mussulmans, and a flock of Roman Catholic Christians (about 100), under their Portuguese pastor. There are two *Jungum maths*.

The houses are neat, usually thatched, and shaded by a small verandah in front: all romantically situated in a sylvan amphitheatre, surrounded by mountain peaks and ridges.

It being market day, the bazar was so crowded that I could scarcely pass. Here were Mapillays groaning under bundles of odoriferous salt-fish from Malabar and Canara, and hundreds of bullocks laden with salt from Cannanore and Tellicherry, which is sold all over Mysore. Then came the Coorg market people from their sequestered villages, with bags of rice and paddy, baskets of eggs, fruits, fowls, &c. &c.

The clean, neat, white dress of the Coorg females is pleasingly contrasted with the gaudy dark petticoats of the wandering Brinjaris, who never wash or change this article of dress until it drops off, heavy with filth and vermin.

The Coorg men generally wear a sort of smock-frock, like the *Baju* of a Malay or Bedouin woman, and usually go armed with their peculiar knives which serve as weapons of defence, and also to clear the jungles they daily tread.

The larger of these knives (a sort of hatchet), is carried unsheathed in a brass socket, attached to the belt on the right side; the smaller is in front.

The Coorg does not differ much in feature from the Mysorean, but is invariably fairer, from the sandy forest and moist climate in which he lives. He is grave in manner, and in general studiously civil to Europeans. They are nearly all Lingayets, and I observed many of them worshipping the numerous images of the Indian Apis-Nundi, set up in the recesses of the forest.

Like the Malays, they usually live in separate campongs, on the edge of the rising swells which divide the rice fields, and which are well shaded by cocoa, jack, and other fruit trees.

*The Heggulla Pass.*—From Verajunderpetta to the top of the Heggulla Pass, is about five miles of forest, ascent and descent, but rising on the whole to the edge of the pass at Bokerah.

*Gneiss*—in some places overlaid with laterite and penetrated by dykes of basaltic greenstone—massive hornblende rock, and glimmering hornblende schist, are the rocks seen both in detached blocks, and *in situ* at this watershed of the great line of elevation. The dense nature of the jungle and the rain which now began to pour down, were great obstacles to a full examination of the geological features of this

chain: a few angular blocks of a large grained, and a syenite, granite were also seen.

The descent to the foot of the pass is about six miles, and extremely steep. At its upper extremity I observed in a road section, first a thin layer of dark vegetable mould, then a thick bed of red clay, under which lay a stratum of laterite. Farther down in the pass, gneiss outcropped. Some of the cavities, in the laterite, contained a black bole.

Fragments of white quartz, imbedding large crystals of felspar, often pinkish, were picked up imbedding a silvery-white mica, in large plates.

Farther down the pass I did not see the laterite. Hornblende schist with garnets of a massive thick-bedded structure was the prevalent rock. This had often been blasted to improve the road; and the beds of clay, which covered it, had been removed, exhibiting the different stages of weathering which this rock undergoes.

Blocks of this kind not only often exhibit a concentric structure like that of granite, but still oftener a pseudo internal structure, from weathering internally in layers conformable to their exterior surfaces.

Fragments, several feet in diameter, are seen thus weathered; with nothing but a dark crystalline nucleus of the rock in its original state in the centre, to tell us what the variegated soft mass before us once was. Even the nucleus disappears before the ravages of this *maladie du granit* in due time.

This decay does not commence from the core, but from the exterior of the block, whence it sinks by successive phases from the circumference towards the centre.

The effect of these different stages of decay is to produce, in the substance of the block, differently coloured bands, one within another, (like the lines of agate) often arranged around a nucleus of sound dark crystalline hornblende rock in the centre. The first band around this nucleus is of a grey colour, from the felspar whitening, and the segregation, &c. of the iron, which coloured it. The hornblende crystals are little affected, and the felspar is often seen running among them in whitish reticulation.

The next band exhibits the rock in a state of greater decay. In this the hornblende crystals have commenced to oxidize; and, without mingling with the felspar, assume an orange-brown hue, still mottled slightly with dark specks. This band has a mottled appearance, and resembles a weathered granite.

The third stage shows the felspar reduced to a white clay, and the oxidated hornblende crystals losing their shape, spreading their colouring matter in irregular patches through the clay. Where nests of garnets occur, their disintegration imparts a crimson-mottled appearance, often seen in the white lithomargic earths of the ghauts. The faint violet, or lilac-coloured, spots result from the decay of amethystine quartz or other minerals, impregnated with manganese which imparts this beautiful colour: mica usually imparts a light bright-red.

Lastly, the whole of the colouring matter—iron, titanium, and manganese—become equally diffused through the clay, which is now either of a light ochreous-brown colour, or reddish-brown, according to the greater or less ferruginous character of the rock. Where quartz prevails the decayed mass is more friable and earthy, and the colours are in general lighter than in the clays resulting entirely from the disintegration of felspar rock; a fact probably to be attributed to the action of the alkali, contained in the latter mineral, on the metallic oxides.

The red variety of clay prevails most on the hornblendic rocks of the Heggulla pass: near the base of the pass it lies in a stratum twelve feet thick, imbedding angular blocks of hornblende rock, fast decaying.

It rests immediately on hornblende rock *in situ*, and is covered by a light brown earth, of mixed alluvial and decayed vegetable matter, intersected by roots of trees, shrubs and grasses, and three or four feet thick.

The roots of the larger forest trees descend into the clay bed, which is sometimes intersected by crumbly veins of white quartz, which may be seen continued into the substance of the clay from the subjacent bed of rock; proving the disintegration to have taken place *in situ*; and that these clay beds are not the result, in general, of aqueous transportation. Where much iron and quartz prevail, the clay is apt to become cellular, an appearance which must not induce observers to confound it with true laterite. The pass is much steeper than those of Devamunni, Hossamucki, and Bisly, farther north, but is nevertheless practicable for lightly laden bullocks. The Bombay army, in 1791, advanced towards Mysore by this route, and expended two days in dragging twenty light field guns up two miles, and three weeks to bring up fourteen battering guns with their tumbrils, none heavier than eighteen-pounders. Near the bottom of the pass, the true laterite

is found, which, from the base, covers the low hills and knolls westerly to Vyathoor.

*Stony River: foot of Heggulla pass.*—In the bed of this river lie large irregular blocks of massive hornblende rock with garnets, and a granite with both mica and hornblende, evidently rolled down (like those on the slope of the pass,) from the adjacent heights. The hornblende rock is usually crystalline, but there occur globular masses of compact basaltic greenstone, with needle-shaped crystals of augite shooting irregularly through its substance; those probably are from some large dyke in the vicinity. The garnet occurs both massive, dodecahedral, and semi-foliated; the last is the most common variety.

*Vyathoor.*—The Coorg frontier is crossed into Malabar, close to the Stony river, from which the first Malabar village, Vyathoor, is about five and a half miles distant, and about twenty-nine and a half miles inland from Cannanore. The adjacent country is rocky, and covered with jungle: laterite continues capping the granitic and hypogene rocks, principally granitic hornblende schist. The beds of the mountain-streams abound with fragments of garnet. I found none of the crystallized specimens of any magnitude. Magnetic iron-sand also is found in their beds in small quantities. The Moplay town of Ercoor lies about eleven miles farther, on a fine clear stream, called the Rokaat, which debouches near Mount Delli at Markaree. The houses have upper stories, are built of laterite, and have a remarkably substantial and neat appearance.

*Cudully.*—This place is about ten miles inland from Cannanore. The surface of the country is rugged and uneven, with low hills and cliffs of laterite, and still covered with luxuriant jungle. In many places the jungle has been fired, leaving the black precipitous tabular masses of laterite, which cap them, exposed. The hornblende schist is still seen in low situations. Black pepper, betel and rice, are extensively cultivated.

*Cannanore.*—Nearer Cannanore, passes are cut through high cliffs of laterite, and steps planed down the sides of the terraces, which descend towards the sea coast. Hornblende schist veined with quartz is still seen as the underlying rock. At Cannanore, the laterite terminates in high, sea-washed cliffs.

*Proceedings of the Asiatic Society for the month of APRIL, 1846.*

The monthly meeting of the Society was held at the usual hour at the rooms on Wednesday the 1st of April. Colonel Forbes, Vice-President, in the chair.

Read a letter from the Secretary, apologising for his inability to attend the meeting, and intimating that Mr. Heatly would officiate for him during the evening.

J. T. Shave, Esq., proposed at the last meeting, was ballotted for and declared to be duly elected as a member. The usual communication was ordered to be made to him.

The Proceedings of the March meeting were then read, confirmed, and directed to be published.

Read the following list of Books :—

*List of Books received for the Meeting of Wednesday, the 1st April 1846.*

BOOKS PRESENTED.

1. Meteorological Register for February, 1846, from the Surveyor General's Office.
2. The Calcutta Christian Observer for March, 1846.—By the Editors.
3. The Oriental Christian Spectator for February and March, 1846.—By the Editor.
4. Brief lectures on Mental Philosophy and other subjects, delivered in Sanscrit to the Students of the Benares Sanskrit College, with an address to the Pundits and Students. (2) Copies.—By J. Muir, Esq. C. S.
5. The Oriental Translation Fund.—By the Oriental Translation Fund.
6. Ibn Khallikans Biographical Dictionary, Translated from the Arabic by Baron Mac Guckin de Slane, vol. iii. Part 1. By the Oriental Translation Fund.
7. Astronomical Observations made at the Observatory of Cambridge, by the Reverend J. Challis, M. A. By the University of Cambridge.
8. Journal of the Royal Geographical Society of London, vol. 15, Part II. 1845.—By the Society.
9. The London, Edinburgh, and Dublin Philosophical Magazine, No. 184.—By the Editor.

## PURCHASED.

10. The Classical Museum, No. 10.
11. The Annals and Magazine of Natural History, No. 109.—January, 1846.
12. Journal des Savants.
13. Shaw's Metal Work.
14. The Hindústání Manual. By Duncan Forbes.—
15. Bhagbut Gita.

## EXCHANGED.

16. The Athenæum, January 3d, 10th, 17th, 24th, and 81st, 1846.
17. The Edinburgh New Philosophical Journal.—By Professor Jameson.

Read the following memorandum by the Secretary, accompanying a copy of a Pálí inscription laid on the table for the inspection of members :—

The inscription was sent, through Mr. Beadon, by Mr. Latour, Magistrate of Behar. Further details as to the exact place of its discovery have been requested to be supplied; in the meantime care has been taken to attempt to decypher the character, which is as a whole new; some of the letters will be readily recognized as coincident with certain of the old Pálí of the Jats, but the greater part are of a decidedly Tibetan type. Mr. Paul, who with the late Pundit Kamlakanta was employed by my predecessor Mr. J. Prinsep in aiding to decypher, has been referred to as a Tibetan scholar. The Pundit, Sarodah Pershad, will also prepare a list of the recognizable characters of the Pálí occurring in it. When these preliminary labors have been performed, should Dr. Hæberlin, the Reverend Mr. Long, Captain Marshall or other Orientalists of the Society not desire to take up the examination, I would suggest its being referred to Mr. Hodgson, the inscription being in all probability valuable, and on subjects relating to the early history of Buddhism. The site of its discovery (ancient Magbodha) and the philological affinity of its characters both point to this conclusion.

Dr. Hæberlin having intimated his willingness to examine and report on the inscription, if provided with information regarding the facts of its discovery, the Secretary was instructed to make it over accordingly to that gentleman, with all the information that had transpired relative to it.

Read the following letter from Colonel Low (Penang) :—

*To the Secretary of the Asiatic Society.*

*Province Wellesley, Penang 10th Feb. 1846.*

DEAR SIR,—I will esteem it a great favour if you can supply me with *specimens*, where they differ from each other, of the inscriptions in the Pálí or Pracrit character which have been discovered hitherto in the East—since such would mate-

rially assist me in my antiquarian researches here. I do not wish for specimens of Sanscrit inscriptions. I wish to have the numerals also of each kind.

I beg to refer, in explanation of this my request, to p. 412-13 of No. X11. of the Journal of the Bengal Asiatic Society, my object being to have specimens of the Inscriptions arranged by Mr. Wathen (vide p. 413) of the said language, as well as of any other of value, beginning from the earliest and up to the latest.

I have requested Mr. Morgan to defray any charge for copying, should the Society favor me by permitting it, and to receive your reply.

I remain, Dear Sir,

Your's very faithfully,

JAMES LOW.

P. S.—I am also very anxious to have a correct alphabet of the language employed by the Priests of Chang in Assam, and the characters used by them, with a vocabulary of, say 100 of the most prominent words, and the numerals. From the rather scanty specimens in my possession I am induced to believe both to be of Siamese origin, i. e. that Siamese Priests carried them to Assam.

A list of Assamese records and numerals would likewise be very desirable, for I believe they can be nearly identified with the Siamese spoken language.

Read also a letter from Messrs. Macintyre and Co., stating that they were prepared to pay for the expense of copying the inscriptions Col. Low applies for.

Referred to the Secretary to report in what manner Col. Low's request could be complied with.

Read a letter from Messrs. John Munro and Co., requesting the return of a statue of Silenus belonging to Col. Stacy, but in deposit with the Society.

Resolved that the statue be returned to Col. Stacy, and a *cast* taken from it with the proprietor's permission.\*

Read the following extract of a letter from J. R. Logan, Esq., Singapore:—

*To the Secretary of the Asiatic Society of Bengal.*

By the Peninsular and Oriental Company's Steamers I have forwarded, under cover to your address, a paper on the Geology of Singapore, &c., which if thought worth insertion in the Society's Journal is much at your service. It is I regret rather long, but it contains the results of much observation and reflection, directed to a locality hitherto almost unexamined and from swamps, dense jungle and want of roads not

\* The Journal (vol.—p.—) already contains an account and delineation of the sculpture. Ed.

easily examinable. If too long to appear in one number a convenient break will be found at the end of p. 33.

The paper alluded to in it on the Straits of Malacca and the alluvial plains on its borders is well advanced, but as it is mostly a collection of facts gathered from various sources not always accessible, it may be some time before it is completed.

From time to time I will send notes on different localities in Singapore and the vicinity, and ere long I hope, with the co-operation of Mr. Thomson, to furnish you with a geological map with sections.

A short time ago I transmitted through Mr. Prinsep an account of a hill range in Penang, and I requested him to ascertain from you whether translations or abstracts of Malayan works would be suited for the Journal; my professional avocations allow me occasional leisure but the little that I have I shall willingly bestow in advancing to the utmost of my power the objects of the Society, and I shall value any suggestions you may oblige me with touching any enquiries it would desire to be prosecuted here.

Read the following letter from Edward Madden, Esq., Almorah:—

*To the Secretary of the Asiatic Society, Calcutta.*

DEAR SIR,—Last autumn I performed a journey from Simla over the snowy range into Kūnawur, of which I have drawn up some notes, chiefly botanical, which perhaps you might deem acceptable for publication in the Journal of the Asiatic Society. They extend or will extend to some 60 pages of foolscap and will be ready by the end of this month, and I shall then be happy to forward them to you on receipt of intimation from you that such matters would be desirable for the Journal.

The route referred to includes the Shatool and Roopice Passes, and other districts not often travelled, and some of them little known.

Your's faithfully,

EDWARD MADDEN.

*Almorah, 17th March, 1846.*

Read the following letter from Captain Hollings, Lucknow:—

*To the Secretary of the Asiatic Society, Calcutta.*

MY DEAR SIR,—I have been desired by Eusoof Khan, an intelligent officer in the service of His Majesty the King of Oudh, to forward to you for presentation to the Asiatic Society a Book in Persian containing an account of his voyage to England and journey through that country and part of France, &c., in 1837-38—and some coins, said to be of ancient date, which he picked up in different parts of Oude. I have sent a copy of the work written in Oordoo to Dr. Sprenger at Delhi, with the view to its publication being undertaken by the Translation Society.

As Eusoof Khan is anxious to return to England if he can get sufficient money, I trust that if there is any chance of a profitable sale the Society will undertake the publication of the work.

As I am about to leave Lucknow and proceed to join my Regiment by Dak, I shall feel obliged by your addressing any reply you may send to the address of Eusoof Khan, Adjutant Artillery, H. M. K. of Oudh's service, Lucknow, care of Captain Drake, officiating Superintendent of Police, Lucknow.

The coins were given to me on the 4th December, but I delayed sending them until I could also send the Book. I saw Eusoof Khan yesterday, and told him that I would send the Book to you with the coins.

I remain, &c.

G. E. HOLLINGS.

*Lucknow, 20th January, 1846.*

The book has been sent to you by dák banghy to-day.

Read a letter from W. Knighton, Esq., Secretary to the Ceylon branch of the Royal Asiatic Society :—

TO H. TORRENS, ESQ. *V. P. and Secretary Bengal Asiatic Society.*

SIR,—I am directed by the Committee of Management of the Ceylon Branch of the Royal Asiatic Society, to acknowledge the receipt of your letter of the 20th October last, as also of the case of books, per Brig "Emerald," containing sets of the Asiatic Researches, and of the Journal of the Asiatic Society of Bengal, for all which I am directed to convey to you the best thanks of the Society.

It gives our Society great pleasure to find itself in co-operation with a body so distinguished by its success in Oriental Researches as the Asiatic Society of Bengal, and it is our hope that the anticipations expressed in your letter may not be disappointed.

I have the honor to be, &c.

WM. KNIGHTON,

*Hon. Secy.*

*Ceylon Branch Royal Asiatic Society, }  
Colombo, 4th January, 1846.*

The arrival in the river of the specimens, &c., from the Royal Norwegian University of Christiana was announced.

Read a letter from Col. Jackson, Secretary to the Royal Geographical Society, complaining of non-reciprocity in exchange of publications, and that the Geographical Society have been obliged to purchase copies of the Journal of the Asiatic Society up to and including No. 56, New Series, when with a view to necessary economy it was given up.

Resolved, that it be explained to the Royal Geographical Society, that the omission to exchange the Asiatic Society's publications for the Journals of that Society could only have arisen from some mistake, and

that the Secretary be instructed to forward to Col. Jackson the numbers of the Journal subsequently to No. 56.

Read a letter from Mr. H. Piddington, resigning the Secretaryship of the Burnes' Committee.

Mr. Heatly, as reporter to the Committee appointed last year to consider the feasibility and advantage to the Society of renewing its statistical researches, gave a verbal account of what had been done with a view to ascertain the assistance on which the Society might reckon. Extracts of a letter from Col. Sykes were read stating that the hearty co-operation of the London Statistical Society might be expected, and that the late measures of the Court of Directors were sufficient evidence of the favorable disposition with which it would be disposed to regard such labours on the part of the Asiatic Society.

The Rev. J. Long was then placed on the Committee of Report, in consequence of Mr. Alexander's departure to England.

For all the presentations and communications the best thanks of the Society were accorded.





हासयाटिक् सोसाइट्, संस्कृत नागराक्षर ॥

महाभारतं आद्यन्त ४ खण्ड	...	...	४०
महाभारतीयान्तर्गतसूचीपत्रं आद्यन्त			
४ खण्ड	...	...	६
नैषध आद्यन्त सटीक् १ खण्ड	...	...	६
हरिवंश आद्यन्त १ खण्ड	...	...	५
राजतरङ्गिणी आद्यन्त १ खण्ड	...	...	५
सुश्रुत आद्यन्त २ खण्ड	...	...	८
सूची पुस्तकं १ खण्ड	...	...	१
लासनेन रचितं सर्व साधारण	...	...	४
गीतगोविन्द १ खण्ड	...	...	२॥
यज्ञदत्तवधः १ खण्ड	...	...	२२॥
शकुन्तला नाटक्	...	...	१०

فهرست کتابهای عربی و فارسی مطبوع که در خانه اشیا تک  
 سوسیتهی حسب تفصیل الذیل بقیمتهای مناسب برای فروخت  
 موجود اند

اسامی کتب	قیمت
فتاوی عالمگیری مرتب بشش جلد فی جلد	هشت روپیه
عنایه جلد ثانی وثالث و رابع فی جلد ...	هشت روپیه
شرائع الاسلام ... ..	هشت روپیه
انیس المشرحین ... ..	پنج روپیه
جوامع علم ریاضی ... ..	چهار روپیه
اصطلاحات صوفیه ... ..	پنج روپیه
خزانة العلم ... ..	هشت روپیه
تاریخ نادری ... ..	هشت روپیه
فهرست کتب کالج فورت ولیم و اشیا تک سوسیتهی	یک روپیه

*Proceedings of the Asiatic Society of Bengal : MAY, 1846.*

*(Wednesday Evening, the 6th May, 1846.)*

The usual monthly meeting of the Society was held at the Rooms on the above evening, at half-past eight, P. M.

S. G. T. Heatly, Esq., the senior member of the Committee of Papers present, in the chair.

The proceedings of the April meeting were read, confirmed, and directed to be published.

James Hume, Esq., was proposed for election as a member at the next meeting, by the Secretary and seconded by Mr. Heatly.

*List of Books received for the Meeting of Wednesday the 6th May, 1846.*

PRESENTED.

- 1.—Meteorological Register for March, 1846, from the Surveyor General's Office.
- 2.—The Calcutta Christian Observer for April and May, 1846. By the Editors.
- 3.—The Oriental Christian Spectator for April, 1846. By the Editor.
- 4.—Notes on the renewal of statistical researches by the Asiatic Society. By S. G. T. Heatly, Esq.
- 5.—Journal of the Bombay branch of the Royal Asiatic Society. By the Society.
- 6.—History of Ceylon. By the Author.
- 7.—Sketch of the religious Sects of the Hindoos, by H. H. Wilson, F. R. S. By J. Muir, Esq. C. S. (20 copies).

*Books presented by the University of Christiania.*

- 8.—Norsk Magazin for Laegevidenskaben udgivet af Laegeforeningen i Christiania, 1840 to 1844. 27 pamphlets.
- 9.—Nyt Magazin for Naturvidenskaberne udgives af den physiographiske Forening i Christiania, 1843 to 1845. 4 pamphlets.
- 10.—Enumeratio Plantarum Vascularium quae Circa Christianiam sponte Nascuntur Auctore M. N. Blytt. (2 copies.)
- 11.—Indere Scholarum in Universitate regia Fredericiana sexa gisimo quarto ejus semestri Anno : 1845 Ab A. D. XVII. Kal Februarias Habendarum. (3 copies.)

12.—Solennia Academica in Memoriam Sacrorum per Lutherum reformatorum ab universitate regia Fredriciana Die X. Mensis Novembris Celebranda indicit Collegium Academicum. 1842 and 1844 (2 copies.)

13.—Om de Sanitaire Forholde i Faengsler efter nyere systemer. Ved Professor Fred. Holst, M. D. 1840.

14.—Om Sygepleien i Straffeanstalterne i Norge Ved Professor Fred. Holst, M. D. 1841.

15.—Indistilling fra Strafanstatts Commissionen, 1 vol.

16.—Udkhast til Lov om Medicinal væsenet i Norge med Motiver, 1 vol.

17.—Holst om de Britiske Fængsler, 1 vol.

18.—Om Sindovages i Norge, 1 vol.

19.—De Acide Nitrei usa Medico Dissertatio, 1 vol.

20.—Det Kongelige Norske Frederiks Universitets Aarberetning for 1842, 1 vol.

21.—Berotningor om Den economiske Tilstand mm. (Statistics) i Norge, 1 vol.

22.—Ovissight over de af Amtmændene af gione (Statistics). Rapporter, 1 vol.

23.—Registrum piodiorum et reditium adelisious, &c. 1 vol.

24.—Fortegnelse over telstedelevende Studerende, &c. 1 vol.

25.—Statistic Tables illustrative of the Social of Norway, 6 vols.

26.—Beretning om Kongredt, &c. 1 vol.

27.—Cabeller, 1 vol.

28.—Eaca Norvigien, 1 vol.

29.—Foreningen for Norske fortids Mindesmarkers Bevaring, 1 vol.

#### EXCHANGED.

Asiatic Journal and Monthly Register for British and Foreign India, China and Australasia, vol. 10. (N. S.), January to April, 1833, vol. XI. May, 1833, and April to December, 1840 with supplement Vols. XXXI, XXXII and XXXIII.

The Athæneum, Feb. 7th, 14th, 21st and 28th and March 14th, 1846.

Journal Asiatique Quatrieme Seric, Vol. VI. No. 27. September and October, 1845.

The London, Edinburgh and Dublin Philosophical Magazine and Journal of Science, Third Series, No. 185, February, 1846.

#### PURCHASED.

North British Review, No. VIII. February, 1846.

Journal des Savants for Dec. 1845.

The Birds of Australia, by J. Gould, F. R. S. &c. Part XXI.

The Annals and Magazine of Natural History, No. 110, Feb. 1846, with Supplement, No. 108.

Read a letter from Capt. T. Latter expressing his wish to have corrected a misnomer in a late article, by him, in the Society's Journal. The passage occurs in No. 165, page 629, and the correction wished is

as follows: "*Dentals*. I have since learnt that this is a misnomer, the drop-shaped objects to which I refer being, I believe, styled *Guttæ*, from their supposed similarity to drops of water." Instructions were given accordingly.

Read the following extract of a letter, dated 23d March, 1846, from H. T. Prinsep, Esq., to the Secretary:

You may recollect that about a year ago, when I reported what had passed between myself and Baron Brunnow, the Russian ambassador, ament the proposed interchange of articles of Oriental literature, I mentioned a suggestion I had made for extending the interchange to mineral and other specimens that might conduce to advantageous comparisons between the Altai and Himalaya mountains.

A few days ago I saw the Secretary of the Russian legation, and he put into my hands the enclosed as the result of my suggestions. You will see that the Russian authorities profess a willingness to entertain the proposition, and refer me to Col. Helmerson, with whom the manner of carrying it out is to be arranged. I have yet had no communication with the Colonel, and I learn that he will not be in England till August or September. In the meantime I think it right that you should know what is in agitation, that you may bring the subject before the Society, and with Mr. Piddington's aid, and that of other scientific proficient in the department point out what classes of specimens you most wish to procure from Russia, and what you can furnish out of your own duplicate stores. At the suggestion of Baron Brunnow, I called upon Mr. Murchison, in order to talk over the subject with him, but found he was not prepared to make any specific suggestions as to the articles first to be interchanged. Expense I pointed out was a consideration on your side, but if the Russian authorities would be content with the duplicates of what we had in store, this consideration would not apply, so much as if we were to collect new specimens, and in this case there must be delay. However, I should be glad to learn the views taken of this matter by the scientifics of Calcutta.

I have had a summons to sit for completion of my picture to-morrow; it has been untouched for more than a year in consequence of the painter's (Mr. Say) serious illness \* \* I guess it will now very shortly be completed, perhaps in time for exhibition, but that is uncertain.

The Royal Asiatic Society will have out very shortly Col. Rawlinson's arrow-headed inscriptions from Behistoor, and Mr. Norris's reading of the Kupoordigeri, (rock inscription.)

Both are highly interesting, the first the most wonderful that has ever been found and deciphered.

The communication from Baron Ouwaroff to Baron Brunnow, referred to in the above extract, was also read and is as follows:—

MONSIEUR LE BARON,

Par l'office du 13th Avril, 1844, sub No. 40. Votre Excellence a bien voulu me communiquer la proposition de Mr. Prinsep établir entre les Musées de St. Petersbourg et de Calcutta, un échange de fossiles et de produits mineralogiques, ains que la lettre qu'il vous a adressé a ce sujet. Je me fais un devoir de vous instruire que j'ai eu l'honneur de soumettre cette proposition a Monseigneur le Duc de Leuchtenberg ; le corps des mines et ses riches collections des mineraux, se trouvant sous les auspices et la direction immediate de Son Altesse Imperiale. Son Altesse a daigné me répondre qu'Elle n'a aucune objection à entrer dans un pareil arrangement et qu'Elle accepterait tous les échanges qui Lui seront offerts par le Musée de Calcutta ; en y ajoutant, qu'Elle approuve fort ce systeme, qui est en pleine vigueur dans l'établissement, que Monseigneur dirige. L'Académie Imperiale des sciences, a laquelle j'ai communiqué en meme temps la proposition de Mr. Prinsep, vient de me presenter son rapport à ce sujet. De son avis un pareil échange ne peut être que très utile au Musée mineralogique de l'Académie.

En Vous faisant part, Monsieur le Baron, des mesures que j'ai prises, je crois de mon devoir de Vous instruire, que l'Académie des sciences, ayant en vue l'achèvement d'un nouveau catalogue des mineraux de son Musée, ne manquera pas de charger son Adjoint, le Colonel Helmerson de se mettre en rapport direct avec Mr. Prinsep.

Je me plais à espérer que Votre Excellence voudra bien prêter son assistance bienveillante à ces relations qui certainement ne laisseront que de contribuer à enrichir les collections mineralogiques de l'Empire de Russie.

Veuillez, Monsieur le Baron, agréer l'assurance renouvelée de ma considération très distinguée.

OUWAROFF.

*St. Petersbourg, ce 31 Janvier, 12 Fevrier, 1846.*

Some conversation took place as to the best mode in which the Society could reciprocate Mineralogical and Geological specimens with the Russian Government, a conversation which ended with instructions to the Society's Curator in that department to report on the subject, with special reference to the duplicates in the ability of the Society to devote to such exchange. It was particularly suggested by Mr. Blyth, and approved by the Society, that application should be made for casts of the most remarkable specimens of fossils in the Imperial Museum of St. Petersburg, together with such original specimens, as could be spared, of the more common species. Mr. Blyth offered on his own part to draw up a list of various zoological specimens from northern Asia, the possession of which and comparison of them with Himalayan specimens might

throw much light on many doubtful points. The offer was accepted with thanks.

Read a letter from Lieut. Yule accompanying a paper entitled, "A Canal Act of the Emperor Akbar, with some notes and remarks on the history of the western Junna Canals, by Lieut. Yule, Bengal Engineers, First Assistant W. J. C. Thanks were specially returned for the contribution, and it was ordered for publication in the Journal.

Read the following letter from J. Muir, Esq. C. S.

To H. W. TORRENS, ESQ. *Vice President and Secy. Asiatic Society of Bengal.*

MY DEAR SIR,

The subject briefly proposed in the following letter from the "*Friend of India*" of the 26th ult. seems well worthy the notice of the Asiatic Society. Our immediate province, no doubt, is to discover and describe whatever the past has produced or the present possesses, of the beautiful, curious, or interesting in art, literature, or natural phenomena. But the reproduction and development of the scattered elements of Hindu architecture in the way proposed in the letter, is very closely connected with our professed objects, even in their most confined and literal sense; inasmuch as nothing could conduce so greatly towards the formation of vivid conceptions of the past as the revival of its forms in our modern works of art.

These considerations, with the others urged in the letter, appear to me to give the subject a strong claim on the attention of the Society, and on such efforts as our association may properly make for the furtherance of such objects.

"SIR,—When the construction of such buildings as the Kishnaghur College is in contemplation, it appears to be a favourable time for considering whether we could not do something towards perpetuating and improving the old national architecture of India. That the elements of this style have already been combined in structures of considerable beauty may be seen from the specimens given in Col. Tod's work on Rajasthan, among which the ancient Jain Temple, of the interior of which a drawing is given at page 778 of the 1st Vol., is deserving of particular mention; and that these elements are capable of being united in a manner suited to compose an extensive building, and without any such profusion of minute ornament as would render the adoption of this style more expensive than any other, I have been informed by a high architectural authority. It is even probable that the style may be developed by persons of taste into combinations more beautiful than it ever assumed under the hands of its original inventors, or their successors. However this may be, it appears to be only due to the Hindus to gratify their natural predilections in favour of any thing national by constructing after this model any buildings to which it may be properly applicable from use or association. Such a course would no doubt interest and gratify the people of this country, in a way too, which would involve no sacrifice of principle on our parts; a result which it is often difficult to attain

“when we would endeavour to conciliate their good will. And to descend to a lower consideration, this appeal to the national feelings of the natives might have the effect of inducing them to subscribe more liberally in cases where it was employed.

I remain, my dear Sir, your's truly,

*Azinghur, April 21, 1846.*

J. MUIR.”

The meeting fully concurred in the view taken by Mr. Muir, and the Secretary was requested to call the attention of Capt. Kittoe, the author of an able work on Indian Architecture, to the subject.

The Secretary exhibited to the meeting a sectional sketch of the borings lately made in the beds of the Soane River by Mr. F. De Garnier, Engineer to the East India Railway Company, during the survey carried on by that Company. The sketch, together with a memorandum explanatory of it, was referred for publication in the Journal.

Read the following extract of a letter from Walter Elliott, Esq. C. S. dated Madras, May 1st, 1846.

“I have now got my Buddhist sculptures safely landed and deposited in the College, after great trouble and difficulty in transporting such heavy blocks down the Kistna to Masulipatam and thence by sea to Madras ; some of them weigh upwards of two tons, and the expence has far exceeded what I bargained for. I am now engaged in trying to get a sketch of the Dehgope restored, and I am sanguine of succeeding. The volume of McKenzie's drawings is invaluable, and I am happy to say that from it I have ascertained that many of the finest sculptures are still in existence at Masulipatam, where they have passed into the hands of an individual, who however has no right to them, and they may be recovered.”

Read a letter from Dr. Taylor, dated Dacca, April 16, 1846, accompanying a paper, entitled “Remarks on the Sequel to the Periplus of the Erythræan Sea, and on the country of the Seres, as described by Ammianus Marcellinus.” The special thanks of the Society were ordered to be returned for the contribution, and the paper was referred for publication in the Journal.

Read the following extract of the letter dated Almorah, 6th April, 1846, from E. Madden, Esq.

“I think it was in the 17th ultimo I had the pleasure to address you relative to the diary of a trip over the snowy range near Simla, made by me last season, and which I proposed to transmit to you for insertion in the Journal of the Asiatic Society of Bengal.

\* \* \* \* \*

I think it best to forward the paper to you, with the request that should it not

suit the purposes of the Society, you would be good enough to return it to me at your earliest convenience."

The thanks of the Society were ordered to be returned for the contribution, and the paper was referred for publication in the Journal.

The Secretary, with reference to the recent completion of the *Tareekh-i-Nadiree*, read the following preface:—

The text of this work has been prepared by careful collation with a number of manuscripts of the *Tareekh-i-Nadiree*, procured from various quarters, the best of which were two manuscripts brought by Major William Anderson, C. B. from Candahar, and two kindly lent by Nawabs Busheer-ood-deen and Ruhcem-ood-deen, grandsons of Tippoo Sultan. I have likewise to express the acknowledgments of the Society, for the loan of manuscripts, to Ilajee Kurbelai Mahommed, of this city, Hafiz Uhmud Kubeer (Principal of the Calcutta Madrussah), Molvee Abdool Wahab, (Mcer Moonshee to the Government of India), and other gentlemen. The manuscripts were, even Major Anderson's, more or less defective, and it would have been impossible to produce a good edition of the work without the examining and collating at least twelve different copies, so incorrectly did the work seem to have been generally preserved. Among the manuscripts was a translation of the work into Oordoo by Moonshee Syud Hyder Buklish, belonging to the Library of the Society, which was to a certain degree useful, as respected the collation of the narrative.

The rough draft or first editing of a manuscript from all the copies of the work available, was undertaken by Molvee Gholam Ukbur, Persian Librarian to the Society; who aided by some literary friends, executed this task with great patience, and much ability. The five best manuscripts were then taken, and the collated work was gone through, and carefully compared by me with them in conjunction with our Librarian for the purpose of selecting preferable readings, any question of doubt being referred to Hafiz Uhmud Kubeer, and the professors of the Calcutta Madrussah.

Molvee Gholam Ukbur then prepared a rough vocabulary of the Toorkee words occurring in the manuscript, which, principally by the aid of a gentleman named Shah Oolfut Hoossein, was finally put into its present shape. I have been careful to record the names of those gentlemen, by whose gratuitous aid the difficult work of preparing a good copy of the *Tareekh-i-Nadiree* has been principally accomplished, as feeling that this at least was due to them, the Asiatic Society of Bengal being so mainly indebted to their labours for the production of a work long called for, and much valued, in a complete and creditable shape.

H. TORRENS,

*Vice President and Secretary,*

*Asiatic Society of Bengal.*

The following memorandum was read, enumerating the Oriental publications of the Society sold during the month of April, 1846 :

Naishada (one copy) .....	6	0	0
Index to the Mahabharata Vols. 1, 2, 3, 4.....	6	0	0
Fatwa Alemgiri 1 Vol. 2 copies .....	}	152	0 0
"    "    2    "    2    "    .....			
"    "    3    "    3    "    .....			
"    "    4    "    4    "    .....			
"    "    5    "    4    "    .....			
"    "    6    "    4    "    .....			
Harriwansa, one copy .....	5	0	0
Tariki Nadiri, one copy .....	8	0	0
<hr/>			
Total.. Co.'s Rs....			177 0 0

KISSORY CHAND MITTRA,

*Librarian and Asst. Secy.*

A library order, was then read out, for the information and sanction of the meeting, giving Babu Kissory Chand Mitra, the Officiating Librarian and Assistant Secretary, three months leave of absence on urgent private affairs, and appointing Babu Raj Krishna Mitra to act for him.

The Secretary explained the absence from the meeting of the Society's Geological Curator, as arising from recent and severe indisposition. The usual report of the Zoological curator, on the acquisitions to his department during the month, was then verbally delivered.

At the conclusion the Secretary exhibited a curious and interesting painting of Raja Kissen Chunder Roy, Bahadoor and his principal officers, which had been copied from the original in possession of the Raja's present representative, the Raja of Nuddeah.

For all presentations the thanks of the Society were ordered to be returned.





For use in Library only

