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XVII. *Descriptive Catalogue of a Zoological Collection, made on account of the Honourable East India Company, in the Island of Sumatra and its Vicinity, under the Direction of Sir Thomas Stamford Raffles, Lieutenant-Governor of Fort Marlborough; with additional Notices illustrative of the Natural History of those Countries. By Sir Thomas Stamford Raffles, Knt. F.R.S. Communicated by Sir Everard Home, Bart., F.R.S. and L.S.*

Read December 5, 1820.

THE interest excited by the researches carried on during my administration in Java, early induced me to extend similar inquiries to the more extensive island of Sumatra; and I esteemed myself fortunate in obtaining the assistance of Dr. Joseph Arnold, a gentleman already advantageously known to the scientific world. Unhappily he fell an early sacrifice to his zeal in the cause, and his loss cannot be more regretted in a public view, than it is lamented by those who were best able to appreciate his amiable disposition and private virtues. He lived, however, long enough to lay the foundation of an extensive plan of research. I was subsequently induced to engage the services of two French gentlemen, who appeared qualified to assist in the collection and preservation of the zoological specimens, and to furnish such anatomical details as might require observation in recent subjects, it being stipulated that on the payment of the monthly sum of 500 dollars, the whole of their collections and observations should be the exclusive property of the East India Company. On these terms I intrusted to them the charge of the collection,

collection, and used all my influence to bring into it whatever was interesting in zoology. A year had scarcely elapsed when circumstances rendered it necessary to discontinue this arrangement. They advanced pretensions diametrically opposed to the spirit and letter of their engagement, and altogether inconsistent with what I had a right to expect from them, or they from me. Thus situated, I had no alternative but to undertake an immediate description of the collection myself, or to allow the result of all my endeavours and exertions to be carried to a foreign country. I should observe, that the papers delivered to me as containing all their observations, were for the most part so speculative and deficient in the kind of information required, that I could make no use of them myself, nor give them to the world under the sanction of my authority. I have therefore returned them, and left these gentlemen at liberty to publish or amend them as they think proper. They are young men not deficient in zeal, and though misled for the moment by private and national views, will, I doubt not, profit by the means I have afforded them, and eventually contribute to our further knowledge of the zoology of these islands.

I have thought it necessary to say thus much respecting these gentlemen, in order to prevent the possibility of misrepresentation; and I need only add, that as my descriptions have been made without assistance from them, and may contain particulars not only unknown to them, but at variance with their ideas, they are of course not responsible for any part of them. The Catalogue now submitted has been drawn up by myself from actual examination of the subjects, combined with the result of extensive personal inquiries among the best informed natives of the country. It has no pretensions beyond accuracy and the simple statement of facts.

PART

BOS.

There is a very fine breed of cattle peculiar to Sumatra, of which I saw abundance in Menangkabu when I visited the capital of that country in 1818. They are short, compact, well made animals, without a hump, and almost without exception of a light fawn-colour relieved with white. The eyes are large and fringed with long black eye-lashes. The legs are delicate and well shaped. Among all that I saw I did not observe any that were not in excellent condition; in which respect they formed a striking contrast to the cattle generally met with in India. They are universally used in agriculture, and are perfectly domesticated. This breed appears to be quite distinct from the Banting of Java and the more eastern islands.

Of the Buffalo, the white variety is the most frequent at Bencoolen. It does not appear to differ from the black in any thing but the colour, which is a reddish white.

EQUUS.

The Sumatran horses are small, strong and hardy. Those of the northern parts of the island, particularly Acheen, are the most prized. The Batta horses are rather larger, very strong, but not handsome. They are distinct breeds from the horses of Java and Bima, which are nearly of the same size, about twelve hands.

ELEPHAS.

Wild Elephants are extremely numerous in the forests of Sumatra; but few attempts have been made to catch and domesticate them. At Acheen alone have they been trained to the service of man; and I have now in my possession a young one presented to me by the King of that country.

RHINOCEROS SUMATRANUS.

BADAK. بادق

TWO-HORNED RHINOCEROS OF SUMATRA.

Dr. Bell's description and representation of this animal in the *Philosophical Transactions* are extremely correct. The drawing of the skull is however erroneous in one particular; the incisor bone of the upper jaw is straight and horizontal, and not curved as there represented. It must also be remarked, that the original number of incisor-teeth is four in each jaw, the same as in the one-horned Rhinoceros of India. Of these incisors, two in each jaw are very small, and soon fall out, and were therefore probably wanting in the adult head figured by Dr. Bell. The small incisors of the upper jaw are situated behind the large and persistent ones; those of the lower jaw between them. The number of persistent molars in each jaw is six on each side, as represented by Dr. Bell; but it appears that there is a seventh, which soon falls out. The number in the young subject is six, with the rudiment of a seventh behind. As this seventh advances, the first molar begins to be obliterated, and falls out before the last arrives at its full size; so that at no period are there seven completely formed teeth existing in the jaw. The skin of the Sumatran Rhinoceros is much softer and more flexible than that of the Indian one, and is not, like it, corrugated into plates of mail. It has however some doublings or folds, particularly round the neck, shoulders and haunches, rather more distinct and defined than in Dr. Bell's drawing. The natives assert that a third horn is sometimes met with; and in one of the young specimens procured, an indication of the kind was observed. The female has a larger and heavier head than the male, but is similar in other respects.

They

They are not bold, and one of the largest size has been seen to run away from a single wild Dog.

The one-horned Rhinoceros of India is not known to the natives of this part of Sumatra; and the single horns which are occasionally procured, appear to be merely the larger horns of the two-horned species separated from the small one. There is, however, another animal in the forests of Sumatra never yet noticed, which in size and character nearly resembles the Rhinoceros, and which is said to have a single horn. This animal is distinguished by having a narrow whitish belt encircling the body, and is known to the natives of the interior by the name of Tenu. تنوق It has been seen at several places; and the descriptions given of it by people quite unconnected with each other, coincide so nearly, that no doubt can be entertained of the existence of such an animal. It is said to resemble in some particulars the Buffalo, and in others the Badak or Rhinoceros. A specimen has not yet been procured; but I have several parties on the look-out, and have little doubt of soon being able to forward a more accurate description from actual examination.

It should be remarked, that the native name, Tenu, has, until lately, been understood to belong to the Tapir. It is so applied at Malacca, and by some of the people at Bencoolen. In the interior however, where the animals are best known, the white-banded Rhinoceros is called Tenu, and the Tapir Gindol, and by some Babi Alu. It is not impossible, that, as both animals have white bands, the names may have been confounded by people little in the habit of seeing either, and deriving their information solely from report. In a country like Sumatra, where the inhabitants, in a great measure shut out from general communication, are divided into an infinity of tribes, speaking different dialects, a perfect consistency or uniformity of nomenclature

ture cannot be expected, and it is not always easy to reconcile the synonymy.

TAPIRUS MALAYANUS.

The first notice that I received of the existence of this animal was in the year 1805; a living specimen having been sent to Sir George Leith, when Lieutenant-Governor of Penang: it was afterwards observed by Major Farquhar in the vicinity of Malacca. A drawing and description of it was communicated by him to the Asiatic Society in 1816, and a living subject was afterwards sent to the Menagerie at Barrackpore from Bencoolen. At this latter place the specimens contained in the present collection have been procured.

It is known by different names in different parts of the country. By the people of Limun it is called Saladang, سلاڠ by those of the interior of Manna, Gindol, گندول in the interior of Bencoolen, Babi Alu; and at Malacca, Tenu.

Little can be added to the original description of Major Farquhar, the substance of which is as follows:

The Malay Tapir resembles in form the American, and has a similar flexible proboscis. Its general appearance is heavy and massive, somewhat resembling the hog. It is particularly distinguished by its colour, the body having a broad defined belt or band of white, while the fore and hind parts are black. This band extends circularly round the body from behind the shoulders to the root of the tail, and contrasts strongly with the glossy black of the rest of the animal. The skin is thick and firm, thinly covered with short hair. There is no mane on the neck as in the American species. The head is black, and furnished with a proboscis of six or eight inches in length. The eyes are small. Ears roundish and bordered with white. The teeth are forty-two in number. In the upper jaw there are

are seven molars on each side, one small canine inserted exactly on the suture of the incisor-bone, and in front six incisors, the two outer of which are elongated into tusks. In the under jaw there are but six molars, the canines are large, and the number of incisors, the two outer of which are the smallest, is the same as in the upper jaw. There is a vacant space of about two inches between the molars and canines in each jaw. The tail is very short, and almost destitute of hair. The legs are short and stout; the fore-feet furnished with four toes; the hind-feet with three.

These animals are large, particularly in the body, which is equal to that of the Buffalo. It may be interesting to give the exact dimensions of two, one a male, described by Major Farquhar; the other a female, killed at Bencoolen. It is remarkable that all the females that have been procured have been considerably larger than the males.

	MALE.		FEMALE.	
	Ft.	Ins.	Ft.	Ins.
Extreme length from the nose to the tail, measured along the back	6	10 $\frac{1}{2}$	8	1
Circumference of the body	6	0	6	3
Height of the shoulder	3	2	3	5
Ditto at the haunch	3	4	3	9

In a subsequent communication to the Asiatic Society, Major Farquhar gave an account of a very young Tapir which he had alive in his house. It appears that until the age of four months it is black, and beautifully marked with spots and stripes of a fawn colour above, and white below. After that period it began to change colour, the spots disappeared, and at the age of six months it had become of the usual colour of the adult. Major Farquhar says that he found this animal of a very mild and gentle disposition, that it became as tame and familiar as a dog, fed

fed indiscriminately on all kinds of vegetables, and was very fond of attending at table to receive bread, cakes, or the like. The living specimen sent from Bencoolen to Bengal was young, and became very tractable. It was allowed to roam occasionally in the park at Barrackpore, and the man who had the charge of it informed me that it frequently entered the ponds, and appeared to walk along the bottom under the water, and not to make any attempt to swim.

The flesh is eaten by the natives of Sumatra.

SUS SCROFA.

BABI. بابي

The Wild Hog of Sumatra offers nothing peculiar.

HALICORA DUGONG.

DUYONG of the Malays. دويونغ

Of this singular and interesting animal I have already sent an account to England. The specimen which accompanied it was procured at Singapore, and presented to me by the Sultan. They are occasionally met with in the bay of Tappanuli on the west coast of Sumatra.

Since writing the above a new and very singular animal has been brought to me, which agrees with *Viverra* in the number of incisors, but differs in their proportions and disposition. The naked rat-like tail is also peculiar. If it be considered as a *Viverra*, the specific name of *gymnura* would be appropriate.

It is above a foot in length from the nose to the root of the tail, which

which is ten inches more. The body, legs, and first half of the tail are black. The head and neck to the shoulders are white. There is a black stripe above the eyes, and there are black hairs intermixed with the white on the top of the head between the ears. The tail is nearly naked, somewhat scaly, black to the middle, and white from thence to the tip. The body is covered with two sorts of hair, one short, silky and dense, forming a fine coat of fur; the other longer and coarser. The muzzle is elongated, and the snout projects nearly an inch beyond the lower jaw. The nostrils are prominent, and have their margins convoluted. There are in the upper jaw six incisors, the first two largest and remote from each other, the last pair very small; two canines about the same length as the first incisors, and six molars on each side, the first of which is small and has two points, the second is larger and has one point. The fourth and fifth molars are the largest, and are marked with four tubercles; while the last is imperfect, and has only three. In the lower jaw there are six incisors, of which the last pair is the smallest; the others nearly equal, and with a space between the first two as in the upper jaw. There are two long canines, and six molars, similar to those above. Tongue large and soft. Eyes small. Ears rounded, erect and bare. Whiskers long, some of the hairs white, some black. Legs and feet scantily covered with short hair, the fore-ones thick and muscular. Feet five-toed, with compressed, curved, sharp claws. The animal emits a strong musky smell.

An animal was brought to Major Farquhar some years ago from the woods in the interior of Malacca, under the name of *Tikus Ambang bulan*, which appears to be the same as the above.

In concluding this part of the catalogue, it may be proper to observe that I have information from the natives, of several additional Mammalia existing in Sumatra, but which I have not felt myself justified in noticing until that information is more full and complete. The King of Acheen assures me that there is an animal called Jumbing nearly the size and make of a horse, with two unequal horns, to be found in the eastern part of his dominions; and several smaller animals, which appear to be yet undescribed, are mentioned by the natives as existing in the forests of the interior of Bencoolen, which I hope in time to procure.