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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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The American Journal of Science and Arts, Vol. XXXIII. No. 98.

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The Literary Gazette, Nos. 195 to 198.

Natural History Review for April, 1862.

The Annals and Magazine of Natural History, Third Series, Vol. IX, No. 52.

Revue et Magasin de Zoologie Nos. 1 and 2 for 1862.

Revue des Deux Mondes, Tome XXXVIII. for 15th March and 1st April, 1862.

Comptes Rendus Hebdomadaires des Séances de l'Académie des Sciences, Tome LIV. Nos. 9, 10, 11 and 12.

Mahābhāshya—Edited by Dr. J. R. Ballantyne, Vol. I.

Christianity contrasted with Hindu Philosophy—By Dr. J. R. Ballantyne.

Lectures on the Science of Language delivered at the Royal Institution—By Prof. Max Müller.

Makāmāt Hameedee.

4th June, 1862.

LA'LGOPAL DUTT.

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*Report of Curator, Zoological Department, February, 1862.*

During the long interval that has elapsed since the publication of my last report, the Society's collection of *Vertebrata* has been largely increased, and we have been favoured with numerous valuable donations.

1. From Col. A. P. Phayre, Chief Commissioner of British Burmá, a large collection principally of bird-skins, collected mostly in the Tonghoo district of the valley of the Sitang and on the route thither across the hills from that of the Irawádi, in 1860. Also some specimens of mammalia, which are as follow.

VIVERRA MEGASPILA, nobis, *n. s.* (or distinguishable race). Flat skins from vicinity of Prome. There are four recognisable races of Asiatic Civet, all of which differ from the African *V. CIVETTA*, L., in the erectile mane commencing between the shoulders instead of between the ears. Three of them are of the same large size as the African species, the fourth being (so far as I have seen) constantly much smaller. One, *V. ZIBETHA*, L., is well known from Buffon's figure, and is at once distinguished from all the others by the comparative indistinctness of its body-markings. It is common in Bengal,

Nepal, Asám, Sylhet, Arakan, Siam, Southern China, and was obtained by the late Dr. Cantor in the Malayan peninsula, being noted by him from Pinang and Singapore. A second race, *V. CIVETTINA*, nobis, inhabiting Southern Malabar, quite resembles *V. CIVETTA*, except in the particular of the mane. A third race, *V. MEGASPILA*, nobis, has been confounded with *V. TANGGALUNGA*, Gray, but is as large as the preceding, and has the spots fewer and much larger, and entire for the most part (or shewing little tendency to group into *ocelli*); and on the sides they tend less to unite into vertical bands or stripes than in *V. CIVETTA* and *V. CIVETTINA*. Such are the specimens from Prome; and I think that the late Dr. Cantor possessed a similar one from Pinang (which he referred to *V. TANGGALUNGA*); while a third (stated to be Sumátran,) was assigned to *V. ZIBETHA* in Waterhouse's Catalogue of the Zoological Society's late museum.\* *V. TANGGALUNGA*, Gray, is always smaller (so far as I have seen), with much smaller and more numerous spots grouping more or less into *ocelli*; a comparatively broad black dorsal stripe, and tail somewhat peculiar in its marking. This race inhabits the Malayan peninsula, Sumátra, Borneo, Celebes, Amboyna, and the Philippines (from which last locality I have seen examples). All are very closely akin; but as races are easily enough distinguishable, and they do not appear to grade into each other; being about equivalent to those of *MARTES FLAVIGULA* noticed in *J. A. S. XXVI*, 316.†

*HELICHTIS ORIENTALIS*, Horsfield. Skin from Prome; and skeleton and stuffed skin of examples procured at Rangoon, in which locality I have observed the species wild.‡ Referring to the figure of *H. ORIENTALIS*, (Horsf.), in the *Zool. Res. in Jáva*, I cannot perceive in what respect the *H. NIPALENSIS* differs; nor can I learn in what the *H. MOSCHATA*, Gray, of China, also differs. *H. ORIENTALIS*, (Horsf.), would seem to be the animal with somewhat abraded fur. The Society's museum contains fine examples from Sylhet and Arakan.

*SCIURUS BICOLOR*, Sparrman; *SC. FERRUGINEUS*, F. Cuv. (*Kerandrenii*, Lesson); and *SC. PHAYREI*, nobis. The second belongs to Arakan

\* *Vide J. A. S. XVII*, 1842, p. 344.

† *Martes Gwatkinsii*, C. H. Smith, from Másuri, would seem to be merely *M. FLAVIGULA* in summer vesture (*vide P. Z. S.* 1858, p. 516); but the Nilgiri race is, I believe, permanently black on all the upper parts. I find *MARTES FLAVIGULA* cited from the valley of the Amúr.

‡ Syn. *Melogale personata*, Is. Geoff., Belanger's Voy.; procured near Rangoon.

and Pegu, or essentially to the dividing range of hills which separate those provinces. The third is emphatically the Martaban Squirrel. I obtained it in the Martaban hills opposite to Moulmein, but never on the Moulmein side of the river; though Mr. Atkinson procured one lower down towards Amherst. (*J. A. S.* XXVIII, 275.) On the hills behind Moulmein, it is replaced abundantly by *SC. ATRODORSALIS*, Gray, which, however it may vary, is readily distinguished from all its Burmese congeners by having conspicuously white whiskers. *SC. HYPERYTHRUS*, nobis (said to be from Moulmein, but more probably from the hills bordering the Sitang valley), is very like *SC. ATRODORSALIS*, but has black whiskers, the back, sides, and exterior of limbs, quite uniformly coloured, and no trace of the black patch upon the back.\* *SC. PHAYREI* I found to be the common species of the Martaban jungles, as high up as I went, far into the Yunzalin district of Upper Martaban; and the only other Squirrel which I observed there was *SC. BERDMOREI*, nobis, both near Martaban station, and far in the interior. This largest of the striped species is a thorough ground Squirrel, which never ascends a tree, so far as I have seen, but on alarm retreats to the under-wood; its tongue is remarkably long and protrusile. At Rangoon the only species that I observed was *SC. PYGERYTHRUS*, Is. Geoffroy, which is the ordinary Squirrel of Lower Pegu; but high up the Irawádi, in the Shan hills east of Ava, and again above Ava, Mr. W. T. Blanford met with a peculiar race, *SC. BLANFORDII*, nobis, *n. s.*, which resembles *SC. PHAYREI* except in wanting the black stripe along the flank, and in having the entire upper-parts greyer or less fulvescent. The four paws are albescent-fulvous in both races, tending more or less to rufous; and both have the tails black-tipped, and the cinnamon hue of the lower parts extending as a median stripe along the under surface of the tail. Neither of these, too, has any ruddy colouring on the face and ears, as in *SC. ATRODORSALIS* and *SC. HYPERYTHRUS*. From *SC. HYPIRYTHRUS*, *SC. BLANFORDII* is readily distinguished by its larger size, conspicuously black-tipped tail with pale line underneath, and also by the albescent-fulvous colour of the four paws above.† *SC.*

\* We have specimens of *SC. ATRODORSALIS* without the black dorsal patch; but the whiskers are white, and the general colouring, especially that of the tail, readily distinguish them from *SC. HYPERYTHRUS*.

† Two additional specimens of *SC. BLANFORDII* have since been examined, which have been taken to England by Mr. W. T. Blanford.

ATRODORSALIS would seem to be the characteristic Squirrel of Amherst province; and southward again, in that of Tavoy, the ordinary species would appear to be SC. CHRYSNOTUS, nobis; with also the pygmy striped SC. BARBEI, nobis; which is closely akin to SC. MCCLELLANDII of Sikhim and Butan. The only Squirrel-skin we have from Mergui is like SC. CHRYSNOTUS, but without a tinge of golden-ferruginous on the upper parts, though there is a trace of this hue on the sides of the neck and body: it nearly resembles an example from Malacca, which I have named SC. CONCOLOR; but this has no trace of the golden-ferruginous on the sides of the neck and body, nor a well defined black tail-tip as in the other.\*

Here it may be remarked that the CERVUS (PANOLIA) ELDI, Guthrie (*C. frontalis*, McClelland, *C. lyratus*, Schinz, *C. dimorphe*, Hodgson,—with horns a little abnormal as developed in captivity,—*Panolia acutirostris* et *P. platyceros*, Gray), is common in Pegu, ex-

\* The following are the ascertained SCIURI of British Burma:—

1. SC. BICOLOR, Sparrman. The only species of the *giganteus* group inhabiting the range of territory; and found on all the hilly tracts from the E. Himálaya to the Straits of Singapore. Burmese specimens have very commonly a pale cineture, more or less broad, at the middle of the body.
  2. SC. LOKRIAN, Hodgson. Eastern Himálaya; Khásyas; Arakan hills.
  3. SC. ASSAMENSIS, McClelland; *Sc. Blythii*, Tytler. Abounding in Asám, Sylhet, Arakan, and in E. Bengal; common about Dacca.
  4. SC. FERRUGINEUS, F. Cuv., *Mamm. Lithog.*; *Sc. Keraudrenii*, Lesson, *Zool. Voy. de Belanger*. Common in the hills of Arakan and Pegu.
  5. SC. PYGERYTHRUS, Lesson, *ibid.* Abundant in Lower Pegu.
  6. SC. BLANFORDII, nobis, *ut supra*. Valley of the Irawádi and neighbouring hills about Ava; perhaps not within the British territory.
  7. SC. PHAYREI, nobis. Common throughout the province of Martaban.
  8. SC. BERDMOREI, nobis. The common ground Squirrel of Martaban province; found also as far south as Mergui (?).
  9. SC. HYPERYTHRUS, nobis. Hills bordering the valley of the Sitang?
  10. SC. ATRODORSALIS, Gray. The common species of Amherst province; abundant on the hills behind Moulmein (certainly not Butan, as asserted by Dr. Gray. *Br. Mus. Catal.*)
  11. SC. CHRYSNOTUS, nobis. The ordinary Squirrel of Tavoy province, if not also of the interior of Amherst province (*J. A. S.* XXVIII, 275). A permanent variety (?), or race, without the golden-fulvous colouring of the back, in Mergui province.
  12. SC. BARBEI, nobis. The diminutive striped Squirrel of Tavoy, and of Mergui (?); closely akin to SC. MCCLELLANDII of the E. Himálaya. It also inhabits the interior of Amherst province; and, I suspect, Lower Pegu; and it is doubtless the SC. MCCLELLANDII apud Gray, from Camboja. *P. Z. S.* 1861, p. 137.
- N. B. There can be little doubt that additional species inhabit the provinces of Tavoy and especially Mergui: and this sketch of the geographical distribution of the various races will doubtless have to be improved upon.
- A SC. SIAMENSIS is described by Dr. Gray in the *Proc. Zool. Soc.* for 1859, p. 478; and several species from Camboja in *P. Z. S.* 1861, 371.



tending thence northward to the Munnipur valley : it is also in Siam, as I have been recently informed by Sir R. H. Schomburgk ; and the late Dr. Cantor obtained a fine skull with horns from Kedda, within the eastern confines of the Malayan peninsula ;\* but it does not appear to inhabit Martaban and the Tenasserim provinces. I repeatedly saw the venison of this species (the *T'hámíne*) for sale in the Rangoon provision bazar, together with that of the Sámur (or *Scháp*), Hog-deer (*Durai*, pronounced *Dray*), and Muntjac (*Gee*), indeed the four species together on one occasion ; but always frightfully haeked by the Burmese, who do not even skin the animal before chopping it up. In Moulmein the Sámur is commonly brought to the bazar in two entire unskinned halves, with the entrails taken out ; and there also I remarked Hog Deer and Muntjac or 'Barking Deer' venison, but brought in less quantity than to Rangoon. With Major S. R. Tiekell, at Moulmein, I saw a young living buck of the *T'hámíne*, bearing its second horns, small, but of the typical or ultimate configuration ; and a skull with similar horns (of the same age) was presented through me to the Society by Dr. Prichard of Rangoon, procured in the provision-bazar of that place ; † the living animal is exceedingly like the Indian *Bárá Sing'ha* (C. DUVAUCELII) in all but the horns, but is inferior in size ; having the summer-coat bright rufous, with traces of *menilling*, more conspicuous in some does (as likewise in C. DUVAUCELII and C. PORCINUS). Among the drawings bequeathed by Gen. T. Hardwicke to the British Museum is one of a very spotted buck of C. DUVAUCELII from the Bengal Sundarbans. That this species does inhabit the Eastern Sundarbans, I have been assured ; and the winter-coat is much darker and browner, of coarser texture, and considerably elongated about the neck. The habits resemble those of the Indian *Bárá Sing'ha* : this animal being much more gregarious, and more confined to open glades in the forest, than are the other Deer of the same region. Lt. Eld has well described the habits of the species in the Calc. Journal N. H., II, 415. The horns of the Munnipur animal can generally be distinguished from those of the more southern race, by being longer,

\* Many years ago, Capt. Harold Lewis presented the Society with a fine pair of horns of this species on the frontlet, which he obtained at Pinang, and which were, doubtless (like those of Dr. Cantor), from the Kedda district.

† To Dr. Prichard, the Society is also indebted for the photograph of the two Andamanese, figured in Vol. XXX, 251.

smoother, and less branched; the brow-antler especially is more elongated; and the crown is usually bifid, or with but a slight third prong, instead of being strongly trifid, or in some instances with even a fourth large coronal prong; but I have seen southern examples of intermediate character, and one of the largest size which was well elongated. Col. C. S. Guthrie lately assured me that he had possessed a large Munnipur pair of horns which were quite single or unbranched, and the brow-antler in a continuous line with the beam.\* This is an exaggeration of the ordinary Munnipur character of horn. Mr. Hodgson's *C. dimorphe* I consider exceedingly doubtful as having been captured north or west of the Brahmaputra.

To Col. Phayre, we are further indebted for some loose horns of (Burmese) *BOS GAURUS*; and for (now in all) three skulls of bulls of *B. SONDAICUS*, all from Pegu, and an imperfect skin of a cow: the latter being of a bright chesnut-dun colour, and exhibiting the characteristic white patch on the buttocks.

As regards the former species, the Gaour seems to attain even a higher development in the Burmese countries than in India; not unfrequently, it would seem, attaining to 19 hands from the summit of the elevated dorsal ridge; and the horns, generally, are much more robust and considerably shorter, in both sexes, than in Indian Gaours.† A remarkably fine skull, with horns, of the latter (*minus* the lower jaw) in the Society's museum weighs just 30 lbs.; an equally fine skull of the Burmese race (*minus* the lower jaw), belonging to Col. A. Fytche, (Commissioner of the Martaban and Tenasserim provinces,) weighs 34 lbs.: both skulls of highly developed bulls, of course. From what I remember of a fine bull-skull, from the mainland near Singapore, I think that the horns were longer, as in the Indian race; but further observation is necessary of the Malayan animal, which probably resembles that of the Indo-Chinese region.‡

The *BOS SONDAICUS* appears to be common enough in parts of Upper Pegu, again in Mergui, and it occurs in Keddá, within the eastern confines of the Malayan peninsula, in Siamese territory; probably, also,

\* A small specimen (3rd year), thus characterized, he has since presented to the Society.

† This I partially remarked in *J. A. S.* XXI, note to p. 433.

‡ Some Burmese heads and horns are, indeed, quite similar to Indian specimens. Such an example is figured as "the head of a Tenasserim Bison," in Col. Low's *History of Tenasserim*. *Jour. Roy. As. Soc.*, Vol. III, p. 50.

elsewhere in the Malayan peninsula, as likewise\* in Jáva, Báli, Lombok, and Borneo. The horns of a female I saw with Col. Fytche are precisely similar to those figured by Dr. Salomon Müller; but the skull of this sex is still a desideratum in the Society's museum. Capt. Lloyd (Assistant Commissioner of the Tounghoo district, valley of the Sitang), is now endeavouring to procure a perfect skeleton of a bull of this species for the Society's collection.\*

\* In the 'Journal of the Indian Archipelago' for May, 1852, p. 270, the late G. Windsor Earl identified the Banteng of Jáva with the (wild Ox) of the Malayan peninsula; but he merely gives the English appellations, and may have confounded *B. GAURUS* with *B. SONDAICUS*. Dr. Cantor knew only of *B. GAURUS* as indigenously wild in the Malayan peninsula. (*Vide J. A. S. XI, 272.*) The Count de Castelnau (French Consul at Bangkok) recently wrote me word from Singapore, that "The domestic cattle of Siam are of two races, one being the common Zebu, and the other humpless: the latter is the more common, and the horns of both are of very moderate size. I will write to Siam to get the horns and skull for you, and all possible information about the animal. The wild Ox is very rare in Siam: I only saw one, and it certainly belonged to *B. GAURUS*. In the Malayan peninsula there are *two sorts*, but only found in the central parts; and my collectors could not bring back specimens of such bulky animals. If you wish for the skulls, I will endeavour to obtain them for you."

Sir R. H. Schomburgk also writes—"The Buffalo is the animal used for agriculture and economical purposes in Siam. A murrain broke out some time since among them, and all export of them was forbidden. There is another kind of cattle here, to which you allude on Crawford's testimony: they are but small in size, and are quite different from the Zebu, not possessing the hump. I do not consider them indigenous. But the species to which you principally allude [I meant *B. SONDAICUS*,] is what I take to be the Gaour (*B. GAURUS*), roaming wild, and [illegible] in Camboja. I have never seen it, but possess a pair of horns, which I will forward to you with the skull of the kind of Ox that Crawford alludes to. You are probably aware that in the same way that the flesh of the Swine is forbidden to the Israelites and Mahomedans, that of the Ox and other substantial animals is interdicted to the Siamese [*vide J. A. S. XXXY, 302*]. The latter do not adhere very strictly to the ordinance; and, with the Americans residing here, we Europeans may taste occasionally some beef, though weeks may pass without it. Now I have addressed myself to the butcher who furnishes my house, and I have told him that I require the skull of one of the domestic cattle that Crawford mentions. He told me that there were not any now in Bangkok, but he would proceed into the interior where he might get them if I procured him a passport from the Siamese authorities. I have done so, and we must now await the result. If he succeeds, I shall insist upon being present when the animal receives its death-blow, to ensure its individuality." I have written to my very old personal friend, Sir R. H. Schomburgk, to request that he would send a bull-skull, if procurable, rather than that of an ox.

As our knowledge of the Tsoing or Banteng (as a continental species) is still but scanty, the following notice of it may be deemed worthy of transcription. Mr. H. Gouger, in his 'Personal Narrative of Two Years' Imprisonment in Burma' in 1824-6 (published in 1860), was returning from captivity, when he "landed on the right bank of the river [either the Gyne or the Attaran] with three boatmen, leaving the fourth in charge of the jolly-boat. As the forest was dense, and as we had to make a pathway for ourselves through the brushwood where there was any, we walked in Indian file, one of the men leading the line, in which I followed second, the others bring up the rear. To avoid the danger of losing our way, we took the usual precaution of clipping the bark. \* \* \* We had not proceeded in this way more than a quarter or half a mile, when my leader, an



The Gayál or Mit<sup>h</sup>hun (*BOS FRONTALIS*) I have vainly endeavoured to trace southward of Akyab; but it abounds (in the domestic state)

intelligent wood-man, stopped suddenly and dropped on his knee, a backward motion of his hand told me to be quiet, I followed his example, repeated the signal to those behind, and so we all remained still, until the leader, without venturing to look round, motioned me forward with a finger. The nature of the ground enabled me to creep in advance without the noise even of my footstep, until I reached the spot where the man was hidden.

"A beautiful spectacle now opened upon us. A few bushes screened us from a circle of verdant herbage, which had apparently been covered with water in the rainy season, and in this little shallow basin were to be seen a herd of wild Cows quietly grazing on the rich pasture [*i. e.* not *browsing*, like so many Gayáls]. The herd might have numbered about sixteen or eighteen, and from the placid, unconcerned manner in which they enjoyed their food, appeared to have no sense of danger or knowledge of the proximity of any unusual intruders. Not so the bull; when I first caught sight of him he was motionless as a statue, his bold front turned towards us, and his head and neck stretched so erect towards the sky that his nose was perpendicular with his fore-legs. He could not see us, but he evidently smelt us, though there was no wind to carry the scent in his direction. It was a hot day and a dead calm. The sight was beautiful beyond description.

"I remained gazing at them in deep silence and admiration for more than half a minute, my double-barrelled gun laden with balls was in my hand, and I could easily have brought down the bull, as he was not more than thirty yards off; but the sight was too engaging, and I let him off. On a sudden the beautiful statue seemed to have come to the decision that there was danger in the wind, as he set off at full gallop into the forest in the direction opposite to me; the cows, who to the last manifested not the slightest sense of danger, left off feeding in a moment and followed their lord at full speed, the crashing of the brushwood for some time after we lost sight of them attesting their alarm. I did not know at the time what a rare sight I was witnessing, one which I was afterwards told by an accomplished naturalist had not been enjoyed by any European traveller before. This was unfortunate, as, had I known it, my observations would have been more minute. The following facts, however, may be depended upon:—

"The cows were small in stature, considerably smaller than the breed of Alderney [?]; their shape and figure were light and elegant; they did not possess humps, like the domestic cattle of India; they were, without exception, of the same colour, a light reddish-dun; their beautiful slender legs being, all four, white below the knee. The bull was rather larger and thicker-set than the cows, he had a respectable dewlap, which, together with the breast and shoulders, was covered with longer dark hair, approaching to black. I do not well remember the horns, but I am inclined to think that they were not long, or I should most likely have remarked them. Both the bull and the cows were exceedingly sleek in their coats, which shone as though they had been subjected to careful daily brushing."

The above is the most detailed description that I have yet met with of the *Tsoing* of the Burmese countries, and (so far as it goes) it tallies sufficiently with *B. SONDAICUS*; the bull evidently young, with horns not fully developed, and in progress of assuming the blackish colouring of the body.

On the W. coast of the N. E. of Borneo, near Quabong, remarks Mr. Spencer St. John—"Along this beach, herds of wild Cattle are often seen wandering, particularly on bright moonlight nights, in search, most probably, of salt, which they are so fond of licking. All the natives declare that the species found here is smaller than those monsters I saw up the Limbang and Barang. It is very likely there may be two kinds." 'Life in the Forests of the Far East' (1862), I, 283. In the narrative of his Limbang journey, the same author remarks—"Pigs [*SUS BARBATUS*] are very numerous here, and wild Cattle and Deer are also abundant." *Ibid.* II, 38. He designates them *Tambadau*, and mentions

in the hills along the Kaladyne river (which flows from the north into Akyab harbour), and thence northward through Chittagong and Tipperá, to the Khásya hills and ranges of mountains bordering the valley of Asám to the south, and along them eastward to the Mishmi hills at the head of that valley, where abundantly wild. The domestic herds are even found together with those of Yaks: thus Lt. K. Wilcox, in his memoir of a survey of Asám and the neighbouring countries (*As. Res.* XVII, 387), notices that "Mit'huns and chori-tailed cows were grazing in great numbers;" which indicates that the Gayál can withstand a considerably low temperature for a member of its particular group, that of the flat-horned taurine cattle of S. E. Asia.\*

The domestic humped cattle of Burmá are remarkably handsome animals, though with small and commonly abnormally developed horns, that are mostly directed forward. Col. Yule notices this race as one of "sturdy and well-conditioned red oxen." The prevalent colour is, indeed, a chesnut or bay of various shades, or commonly a dun, as in the cows and immature bulls of *B. SONDAICUS*. White or pale grey cattle, retaining the black tail-tuft, so very general in India, are rare, even at Akyab, where the common Bengali type prevails. Col. Yule continues—"These cattle, though much smaller than the stately breeds

an islet which is named Tambadau Island from the occurrence of these wild Cattle upon it. Elsewhere, he mentions a *piebald* individual! "About 2 A. M., our garci [boat] being well ahead, we saw before us a herd of wild Cattle, quietly picking at a few blades of grass on a broad pebbly flat. I landed with a couple of men, to get between them and the jungle. I was within twenty yards of the nearest, a piebald, and was crawling through the tangled bushes to get a sight of him, which I could hear browsing [grazing?] near me, when there arose a snort, then a rush, and the Cattle were off dashing close to me, but perfectly concealed by the matted brushwood. It was the crew of one of the newly-arrived boats that, regardless," &c. &c. "About five, we were passing down a rapid at a great pace, when one of the men touched me and pointed. I looked up, and there was a magnificent bull, three-parts grown, standing within fifteen yards of me." *Ibid.*, II, 162-3. Such cursory notices are all that are given by Mr. St. John!

Since the above note was printed, I have received a living two-year-old bull of *BOS SONDAICUS* from Col. Phayre, for presentation to the London Zoological Society. He is more nearly akin to the Gaour, and less so to the true *B. TAURUS*, than I had anticipated; and is perfectly quiet and tractable. He habitually grazes. Colour that permanent in the cow, a bright chesnut-dun, with the white *stockings* and oval rump-patch on each side.

\* As regards the notice by Col. Low of three presumed species of wild taurine cattle in the Malayan peninsula, and that by Dr. Helfer, of three presumed species in the Tenasserim provinces (both quoted in *J. A. S.* XXIX, 299), I have now arrived at the conviction that both writers intended *B. GAURUS* and the different sexes of *B. SONDAICUS*, the latter supposed to be distinct animals. Of the *Jungli Gau*, figured M. Fred. Cuvier, I may remark that the male undoubtedly represents a hybrid between this and the humped species; but his female would seem to be a Gayál of pure blood,

of central India and the Deccan, are considerably larger than the Bengali bullocks, and are more universally in good condition than is the case perhaps in any other country. The carts are small, and the cattle share with their masters in the exemption from everything like overwork. But probably the main reason of their good condition is, that there is no demand for milk; the calves are robbed of no part of their natural food,"\* I was much struck with the *game* appearance of these animals, which are as superior to the ordinary Bengali bullock as are the admirable Shan ponies to the wretched *tats* of Bengal (seen also at Akyab). They are longer in the body and shorter in the limbs than ordinary Indian cattle, more as in the humpless *B. TAURUS*; invariably in fine condition (as Col. Yule remarks), and particularly active and graceful in their movements, which are those of a wild animal, especially the cattle seen about the villages of the interior; and they are of Shan origin, so far as Burmá is concerned, as I am assured.

The Buffalo does not appear to be indigenous either in the Indo-Chinese or Malayan countries, though many have reverted to a state of wildness, as elsewhere. At Tavoy I first observed the superb domestic Buffaloes of Burmá, which differ in no respect from the wild animal of Bengal: they are large and plump in condition, with well developed horns. Tavoy is famous for its Buffalo fights; and I was shewn the 'champion' Buffalo, which had vanquished every competitor: he is a splendid creature of his kind, and so gentle that children fondled him. Near Tavoy I saw a large herd of albino Buffaloes, with about half a dozen of a buff colour intermingled. Stalking amidst this herd were about a dozen of *TANTALUS LEUCOCEPHALUS*, and numerous white Egrets (*HERODIAS INTERMEDIA* of my Catalogue). The leprous-looking albino breed of Buffaloes is common

\* Col. Yule adds, in a note,—“I believe the aversion to milk, as an article of food, obtains among nearly all the Indo-Chinese and Malay races, including specifically the Khásias of our eastern frontier, the Gáros and Nágas, the Burmese, the Sumatran races, and the Javanese. In China itself, it is also prevalent, as Sir John Bowring mentioned it in a letter on the population of China, published in the Journal of the Statistical Society. The use of milk has, however, been adopted at the Burmese Court, and the supply is furnished by some families of Kattrá Brahmans, who maintain a number of cows near the capital. But it is a foreign usage.” (*Narrative of the Mission to the Court of Ava in 1855*, p. 2. *Vide* also *J. A. S. XXIX*, 286, 302, 378). Of the natives of Kandy, likewise, Sir J. E. Tennent remarks, that—“Milk they never use, the calves enjoying it unstinted; and the prejudice is universal, that the cows would die were it otherwise disposed of.” (*Ceylon*, II, 452. *5th edition*.)



also in Siam, the Malayan peninsula, and Sumátra. I saw some immense bull Buffaloes drawing hackeries near Martaban station, that would have astonished the natives of Bengal; and many others in the interior, feeding in the forest near the Karen villages, and which are oftentimes unsafe for Europeans to approach, though quite tractable to the natives to whom they are accustomed.\*

Of birds, the following new species were procured by Col. Phayre.

*GECINULUS VIRIDIS*, nobis, *n. s.* Differs from *G. GRANTIA*, (McClelland), in being wholly of a dull green colour, more yellowish towards the nape; the rump feathers crimson-tipped: inner webs of the wing-feathers dusky, with round white spots as seen from beneath, these spots being much smaller than in *G. GRANTIA*: tail dusky above, the feathers green-edged for the basal half, and all but the middle pair having four small whitish spots bordering the basal half of their inner webs. Bill ivory-white, save laterally towards base, where livid. Feet green. The male would doubtless differ (as in *G. GRANTIA*) by having a red coronal patch. From Tounghoo.

*CRYPsirina cucullata*, Jerdon.† Form typical, except that the

\* At Mergui, I was riding along a beautiful jungle-road, when, coming to a swamp, a herd of about thirty of these huge beasts rushed suddenly from the jungle, and made direct for me through the shallow water, menacing by tossing their heads and raising their tails and stamping with their fore-feet, when at last they came to a halt, one after another. I confess that I did not overmuch like the look of them, but still could not help admiring their noble appearance. To have run from them would have been to entice them on; so I checked my pony, not to appear alarmed, and walked quietly by in front of them, they continuing to menace all the while; after a short time I broke into a trot, and thought that I had well passed the Buffaloes, when, looking behind, I found that I was pursued by two bulls, who were already in unpleasant proximity to my nag's tail, their foot-fall producing no sound on the thinly turfed sandy road. I turned suddenly round and shouted at them, when they made off right and left, to my relief and rather to my surprise. I was afterwards necessitated to re-pass the same herd on my return, when half a dozen of them were fronting me in the centre of the only path, though scarcely threatening as before. I thought it best policy to ride direct towards them at a fast pace, and, when quite close to them, again shouted aloud, whereupon they at once dispersed, trotting off quietly into the swamp. A little afterwards I passed another and much larger herd of these wild-looking Buffaloes, but which took not the slightest notice of me. A native child will belabour them with a stick, and soon clear a passage through the herd. But they are not always to be trusted. When I was first at Moulmein a *must* bull tore through the main street of that town, killing one man and injuring others, and then betaking himself to the river, when the ebb-tide being at the time very strong, it was supposed that he was carried out to sea.

† This and the next species, with some others procured at Thayet-myo, have been lately described by Dr. Jerdon in *The Ibis*. My written descriptions, however, of this and one or two others, were awaiting publication for a considerable time before my friend, Dr. Jerdon, obtained his specimens. Of course I now adopt his appellations.



beak is much shorter than in *CR. VARIANS*, and there is no velvety frontal band as in the other: ten tail-feathers only; and the long middle pair expanding greatly at tip, as in *CR. VARIANS*. General colour silvery pearl-grey, with a black hood and white nape; the primaries and their coverts black, the secondaries having a whitish exterior border; middle tail-feathers black, a little tinged with greyish except on the expanded tips; the graduating lateral tail-feathers albescent-greyish, with a faint tinge of brown. Bill black, the base of both mandibles, below the nasal tuft of the upper, bright yellow in the young; and feet dusky. Length about 13 in., of which tail  $7\frac{1}{4}$  in., its penultimate feathers  $1\frac{1}{2}$  in. less: closed wing  $4\frac{1}{4}$  in.: bill to gape 1 in.; and tarse the same. Tounghoo.

The *CR. VARIANS* (also sent) is particularly common in the hills behind Moulmein; and is one of several Javanese species that likewise inhabit the Burmese region, and have not hitherto been observed in the Malayan peninsula. Another is *PLOCEUS HYPOXANTHUS*, (Daudin), a flock of which I observed in Rangoon (in addition to the common *Báyá*, the two species associating apart), and specimens were obtained by Dr. Jerdon in Thayet-myo. *CRYSIRINA CUCULLATA* is interesting, as constituting a second well-marked species of its genus, both of them being remarkable among the *Corvidous* Pies for having only ten caudal *rectrices*.

*TEMENUCHUS BURMANENSIS*, Jerdon. A fine species, approaching to *ACRIDOTHERES* in size, the markings of its wings and tail, and also in having the skin bare under and behind the eye. Length about  $9\frac{1}{2}$  in., of closed wing  $4\frac{1}{2}$  in., and tail 3 in.; bill to gape  $1\frac{1}{4}$  in.; and tarse  $1\frac{1}{4}$  in. Culmen of bill compressed and elevated above the nostrils. Head, cheeks and throat, white; the back and scapularies pure ashy; and the lower parts vinaceous, passing to white on the lower tail-coverts: wing-primaries white at base, the remainder black; secondaries and tertiaries, with their coverts, bronzed, and having a narrow black margin to each feather; underneath, the wing is white on the anterior half and dusky for the remainder; middle tail-feathers brown, and black-margined like the tertiaries, the rest black—each feather more largely white-tipped to the exterior. Bill coral-coloured, with the basal half of the lower mandible and below the nostrils black: legs and claws bright yellow. Tounghoo. Procured also at Thayet-myo by Dr. Jerdon, and at Ava by Mr. W. T. Blanford.

It is also evidently the species to which Major Tickell directed my attention, as a white-headed Maina common about Rangoon; and which he had only observed in that vicinity; but I did not chance to meet with it.\*

*ANTHOCINCLA*, nobis, *n. g.* A very remarkable Thrush-like *Myiotherine* (?) form, with short tail and rounded wings; the tarse moderate or somewhat short, and the toes furnished with straight claws, especially that on the hind toe. Bill as in the coarser-billed *OREOCINCLÆ*, with no perceptible notch to the upper mandible. No rietal *vibrissæ*. Plumage devoid of bright colours.

*A. PHAYREI*, nobis, *n. s.* Length about  $9\frac{1}{2}$  in., of which tail barely 2 in; closed wing 4 in., the fourth and fifth primaries longest, and the first primary measuring 2 in.: bill to gape  $1\frac{1}{2}$  in.; tarse  $1\frac{1}{8}$  in.; hind-claw  $\frac{9}{16}$  in. Colour a rich brown above, paler and more fulvous below, where each feather has a black spot on either web: middle of throat white, bordered laterally with black, and this again by a streak of black-margined fulvous-white feathers, below the brown ear-coverts; a long supercilium of feathers resembling those of the white moustache-streak, and above this again the feathers on the sides of the crown are squamate and pale-centred: primaries and their coverts black, save an angular fulvous spot at the base of the first primary; tertiaries plain brown, like the back, but the coverts of the secondaries black with broad fulvous sagittate tips. Bill dusky; and feet and claws pale. Tounghoo.

*PYCNONOTUS FAMILIARIS*, nobis, *n. s.* Form typical. Plumage light earthy-brown, paler beneath, less so on the breast; the lower tail-coverts a little rufescent: stems of the ear-coverts conspicuously white. Bill dusky-corneous; and legs apparently the same. Length about 8 in., of which tail  $3\frac{1}{2}$  in.; closed wing  $3\frac{1}{2}$  in.: bill to gape  $\frac{7}{8}$  in.; and tarse the same. Tounghoo. This dull-plumaged species was also procured at Thayet-myo by Dr. Jerdon, who informs me that

\* *ACRIDOTHERES TRISTIS*, *ACE. FUSCUS*, and *STURNOPASTOR CONTRA*, *var.*, I observed abundantly so far south as Mergui; but I know of only the second as an inhabitant of the Malayan peninsula. Tenasserim specimens of the first are dark-coloured, like those of Ceylon. At Mergui there is also the *CALORNIS DAURICUS*, a common Malayan species. *TEMENUCHUS MALABARICUS* I observed abundantly near Moulmein, and far in the interior of Martaban province. The *Pastor peguanus*, Lesson (Belanger's *Poy.*), is no other than the young of *P. ROSEUS*!

its habits are remarkably confiding and familiar, whence the specific name.

OSMOTRERON PHAYREI, nobis, *n. s.* : *Treron malabaricus* apud nos, *passim*. Distinguished from OSM. MALABARICUS (*verus*) by having the entire cap ash-coloured in both sexes, and the male, by having a large ochreous patch on the breast. Common in Asám, Sylhet, Arakan, Pegu, Martaban, and rare in Lower Bengal. It is the only species of the group which I observed in the forests of the Yunzalin district, Upper Martaban, where exceedingly abundant. At Moulmein I obtained the OSM. BICINCTUS, (Jerdon).

(The following kindred races have to be recognised.)

OSM. MALABARICUS, (Jerdon), *Ill. Ind. Orn.* ; *Vinago aromatica* et *V. affinis*, Jerdon, *Catal.* Has the forehead whitish-grey, and no defined ash-coloured cap, though a tinge of that colour on the crown. Throat and front of neck yellow. Malabar. *N. B.* The *V. affinis*, Jerdon, seems rather to accord with the female of OSM. PHAYREI; but the latter race can hardly occur in Malabar.

OSM. FLAVOGULARIS, nobis, *J. A. S. XXVI*, 225 ; *Vinago aromatica* apud Selby, Jardine's *Nat. Libr.*, 'Pigeons,' p. 97 ; *V. aromatica* var., Jerdon, *Catal.* Distinguished by its yellow forehead as well as throat, and by having the lower tail-coverts of the male white-tipped green, as in the female, and as in both sexes of OSM. CHLOROPTERA, nobis, of the Andamán and Nicobar Islands ; whereas in the other species the lower tail-coverts of the male are of a dark cinnamon-colour. Hab. Malabar and Ceylon.

OSM. POMPADOURA ; *Columba pompadoura*, Gmelin. *Vide J. A. S. XXVI*, 225. Ceylon.\*

\* The other birds collected by Col. Phayre are—*PALEORNIS JAVANICUS*, *HÆMATORNIS CHEELA*, *CIRCUS MELANOLEUCOS*, *MIGRASTUR BADIUS*, *ATHENE CUCULOIDES*, *UPUPE LONGIROSTRIS*, Jerdon (rufous Burmese race), *CORACIAS AFFINIS*, *MEROPS QUINTICOLOR*, *CERYLE RUDIS*, *MEGALAIMA LINEATA*, *M. INDICA*, *HEMICERCUS CANENTE*, *CHRYSOCOLAPTES SULTANEUS*, *TIGA INTERMEDIA*, *GECCINUS VIRIDANUS*, *G. OCCIPITALIS*, *GRACULA INTERMEDIA*, *MUNIA PUNCTULARIA* (the Malayan type), *PASSER FLAVEOLUS*, *EUSPIZA AUREOLA*, *PARUS FLAVOCRISTATUS*, *SITTA CASTANEOVENTRIS*, *DENDROPHILA FRONTALIS*, *CORYDALLA RUFULA*, *PIPASTES AGLIS*, *NEMORICOLA INDICA*, *GARRULAX BELANGERI*, *G. PECTORALIS*, *G. MONILIGER*, *CHATARRHÆA GULARIS*, *ABROBNIS SUPERCILIARIS*, *REGULOIDES SUPERCILIOSUS*, *PHYLLOSCOPUS INDICUS*, *PH. AFFINIS*, *CAMPEPHAGA SYKESI*, *IRENA PUELLA*, *PERICROCOTUS SPECIOSUS*, *P. PEREGRINUS*, *CHIBIA HOTTENTOTA*, *EDOLIUS PARADISEUS*, *DICRURUS LONGICAUDATUS*, *CHAPTIA ÆNEA*, *ARTAMUS FUSCUS*, *HIRUNDA RUSTICA*, *TCHITREA AFFINIS*, *MYIAGRA AZUREA*, *CRYPTOLOPHA POLOCEPHALA*, *CRINIGER FLAVEOLUS*, *PYCNONOTUS HÆMORRHOUS*, *P. JOCOSUS*, *P. MELANOCEPHALUS*, *PHYLLORNIS AURIFRONS*, *PH. COCHINCHINENSIS*, *IORA*

II. Col. Fytche, Commissioner of the Martaban and Tenasserim provinces, Moulmein.

The skeleton of an Andamán savage, a male of about 35 or perhaps 40 years of age, who died in the hospital of Moulmein at the time of my first visit to that station.\* Finding that there was no hope of his recovery, I requested Col. Fytche to direct that his bones should be prepared for the Society's museum; but as I was just leaving at the time, I was unable to superintend the preservation of them. I regret now to find that the skeleton is very imperfect; too much so, in fact, to be set up. Of the vertebral column, the *axis* and one of the lumbar vertebræ are missing, also several of the ribs, and most of the small bones of the hands and feet. Of the teeth, the two medial and the left lateral upper incisors have been lost, also the first upper right præ-molar, the left lower canine and all the lower incisors, though one or more of these last may have been lost during life, as were the last upper true molars right and left, the *alveoli* of which have quite disappeared. As usual among savage races, the molars are ground evenly flat, or very nearly so. The skull is essentially of the Indo-Germanic type, very similar to some Hindu skulls, and exhibiting no tendency to the negro peculiarities. The parietal bones are rather broad and posteriorly flat; and the *glabella* (or inter-orbital space) is somewhat wide. The general character thus conforms to my observations of the living men, as embodied in Col. Fytche's notice of them, *J. A. S. XXX, 364, et seq.*; and at the time of making those remarks, I may observe that I had not seen Prof. Owen's notice of the skeleton of an Andamánér read before the British Association in 1861. The left *zygoma* of the individual had been fractured, but the bone had re-united, with a considerable bend inward occupying the anterior half of the arch.

Col. Fytche has also favoured us with the skull of a Rhinoceros, shot by Dr. Hook of Tavoy near Tavoy Point, where there is a small isolated colony of the species. I refer it to the narrow type of R.H. SONDAICUS.

(To be continued.)

TYPHIA, ORIOULUS MELANOCEPHALUS, O. TENUIROSTRIS, DICEUM CRUENTATUM, NECTARINIA ASIATICA, N. PHENICOTIS, CARPOPHAGA SYLVATICA, TURTUR TIGRINUS, T. HUMILIS, FRANCOLINUS PHAYREI, TURNIX OCELLATUS, SARCOGRAMMA ATROGULARIS (the Burmese and Malayan type, which I procured so high as at Akyab, distinguished from the Indian by having the neck largely black all round, set off below by a white border), CHARADRIUS PHILIPPINUS, GALLINAGO STENURA, and STERNA JAVANICA.

\* The individual known as 'Punch Blair,' vide *J. A. S. XXX, 259.*