landrail displays its cunning. If surprised suddenly and caught, it will often feign death, and remain perfectly stiff and motionless for several minutes, to all appearance dead, but in reality only waiting for an opportunity to steal off unobserved. We have known three instances in which this *ruse* has been practised with success upon unsuspecting naturalists. To those who intend, therefore, to investigate the subject of hybernation should be on their guard against what at first sight might strike them as an instance of torpidity.

J. E. Harting.

MORE ABOUT RHINOCEROSES.

When treating of these animals (p. 184, *antea*), I believed with the secretary of the Zoological Society, that the small black species which had then recently been received in the Regent's Park collection was the true R. sumatranus, originally described and figured by Bell in the "Philosophical Transactions" for 1793 (p. 282 and pl. ii.); in which supposition Mr Sclater bestowed the name lasiotis upon the animal previously received from Chittagong. The authorities at the British Museum (Drs. Gray and Günther), however, have arrived at a different conclusion, and consider that the larger animal of the two represents the original R. sumatranus, and that the smaller species of the subject, I cannot help entertaining a still different opinion, namely, that the Sumatran species figured as such by Bell and S. Müller is neither one nor the other, but a third representative of the same peculiar type, denominated Ceratorhinus by Dr. Gray. F. Cuvier's figure in the "Histoire Naturelle des Mammifères" is evidently *made up* from that of Bell, although without acknowledgment!

I am also of opinion that the animal which F. Cuvier figures as R. javanicus represents a very young individual of the smaller kind recently living in the Zoological Gardens (for I regret to have to add that it has died quite suddenly and unexpectedly), represented without its posterior horn, which most assuredly would have been conspicuously apparent at the age figured. Mons. F. Cuvier would seem to have copied an original drawing (doubtless sent to the Paris Museum by either Diard or Duvaucel, and obviously by a native artist), and his descriptions and measurements are manifestly mere compilations; but, recognising that he had figures of two distinct, although kindred, species, he seems to have thought that one of them must necessarily represent the single-horned Javanese rhinoceros, as distinguished from the two-horned Sumatran one, and in all probability he therefore corrected what he supposed must have been an error on the part of the native artist when he suppressed the indication of a second and posterior horn, which could hardly fail to have been delineated (however small the rudiment) in the original drawing—taken evidently from life—from which his published figure was copied. That he was not overmuch particular in such a matter is shown by his republishing as original Bell's figure of sumatranus. Not only, however, does he commit the mistake of confounding the pygmy dark-coloured rhinoceros with the comparatively large and exceedingly different Javanese species, but in his description of veritable sumatranus, he remarks that Messrs Raffles and Horsfield have named it B. sondaicus, which name was bestowed by Dr Horsfield on the Javanese rhinoceros, *i.e.* the lesser one-horned species, which now proves likewise to inhabit Sumatra as well as the mainland of S.E. Asia; a skull of it, undoubtedly from Sumatra, having been received quite recently at the British Museum.

Mons. F. Cuvier, accordingly, in his "Histoire Naturelle des Mammifères," figures two species of ceratorhinus, or Asiatic two-horned rhinoceros, one of which appears to be identical with the small kind lately living in the Regent's Park collection, it being represented when very young, and without indication of the posterior horn, of which a rudiment must needs have been sufficiently apparent in the living animal. The comparatively rough skin, even at that early age, the blackish-brown colour of the skin, and especially the length and peculiar form of the tail, combine to indicate the correctness of this identification; but a difficulty still occurs in the animal being represented so very slightly hairy, especially upon the ears, which I hardly think is to be sufficiently accounted for by the youth of the individual.

The original figure of Bell, and those (representing adult and young) of Dr. Salomon Müller and Professor Temminck, represent Sumatran specimens of evidently the same species, and having the hair exceedingly scant and inconspicuous even upon the ears and tail-tip, which renders highly probable that the species which Messrs Raffles refer is identical with either of those which we have seen alive in London. Again, in Sir T. Stamford Raffles's remarks on the same Sumatran rhinoceros (published in the 13th volume of the "Transactions of the Linnæan Society," p. 208), when commenting on Bell's figure and description, he makes no reference to the shagginess observable in lasiotis, nor to its particularly conspicuous long pendent fringe of hair bordering the ear-conch, and copiously tufted tail; but the tail is comparatively short, and the skin is described as smooth and of a pale colour. There is one great error in F. Cuvier's figure of sumatranus, in that the fold or crease upon the flank is represented to be continued upwards across the loins; and this error is exaggerated in the copy from that figure which is published in the "Naturalist's Library."

Bell's Sumatran rhinoceros is stated to have been a male; "*the height of the shoulder was 4ft. 4in.* [over the curvature of the body?]; at the sacrum nearly the same; from the tip of the nose to the end of the tail, 8ft. 5in. From the appearance of the teeth and bones, it was but young, and probably not near its full size. The general colour was a *brownish ash*; under the belly, between the legs and folds of the skin, a dirty flesh-colour. . . . The ears were *small and pointed, lined and edged with short black hair.* . . . The whole skin of the animal *is rough, and covered very thinly with short black hair.*" Clearly this description does not apply neither to lasiotis nor to the small blackish species, and I therefore infer that sumatranus is probably distinct from either, and moreover that javanicus *apud* Frederic Cuvier is either the small blackish one living in the Regent's Park, or (not at all improbably) still another, with very much less hispid skin.* Bell's figure of sumatranus is corroborated by those of Salomon Müller, as well as by the accurate testimony of Raffles; and bears the same relationship to lasiotis which his other figure does to the small blackish species, an example of which has just died at the Zoological Gardens. Again, the last referred to inhabits for certain the Malayan peninsula and the adjacent Tenasserim provinces of British Burma. I would not attach undue importance to the amount of development, the quality, and the colour of the hairy vesture; but the chances nevertheless are that difference of the kind betoken others which are not so unmistakable. When only one species of the particular type was recognised, any one appertaining to it would be assigned (as has happened) to that particular one; while, now that a plurality of species is undeniable, exhibiting the same general form and character, it is necessary that one should scrutinise with the utmost attention every differential detail that may be presented to our notice. I still think it probable that the long and extraordinarily curved horn which the cross figure was presented by Dr. Gray will prove to have been borne by an individual of lasiotis. To me it appears of normal shape and curvature, and therefore not a monstrosity; and, if I am right in this opinion, I think it likely that the posterior horn of such an animal would be very short, and thus analogous to the short posterior horn of Ceratotherium simum, as contrasted with the exceedingly long anterior horn of that huge African representative of quite another type of the formerly still more extensively diversified rhinoceros family.

Upon looking over a portfolio of drawings at the India House, belonging formerly to the Earl of Mornington (subsequently Marquis of Wellesley, Governor-General of India), representing animals taken from the life in India, I found two of single-horned rhinoceros. One of these is a fair representation of a very young individual of R. sondaicus; the other—which, however faulty in general outline (being much too lean in the body), is finished elaborately as regards details, appears to me to represent a peculiar and undescribed species. The folds of the cuirass are the same as in both indicus and sondaicus, except the one which crosses the nape in the latter, and is deflected backward over the middle of the shoulder-blade in the former; this one is intermediate in its direction, for it is deflected backward much higher upon the shoulder than is regular in the case with indicus. The most remarkable peculiarity, however, consists in the cuirass being throughout conspicuously studded with uniformly small tubercles (as in sondaicus), while the head and limbs are represented as wrinkled, but the skin quite smooth and devoid of tubercles, and in this respect contrasting remarkably with the adjacent parts of the cuirass. I cannot think that anyone who looks at the elaborate finish of this drawing from a living animal can readily suppose the peculiarities described to be freaks of the native artist; and in the other figure (of indubitable sondaicus) the head and limbs are represented as being uniformly tuberculated with the cuirass. Moreover, in the figure of very juvenile sondaicus, a slight hairiness is represented upon the back between the shoulder-fold and that which crosses the loins, and I doubt not that this is correctly copied from the living specimen. No habitat is assigned to either, nor aught to guide respecting the dimensions; but, without desiring to attach overmuch importance to any drawing made by an unscientific artist, I still cannot help thinking that the one in question indicates, in all probability, a species hitherto unsuspected—as much so as were, until quite recently, the additional species of Asiatic two-horned rhinoceros which must now be generally recognised. In the India House Museum, I may add, there are four sculptured rhinoceroses in black marble, brought from Gya (in Behar), all of which are evidently representations of R. sondaicus as distinguished from R. indicus.

To the ordinary reader it will doubtless appear strange that all about such big creatures as rhinoceroses has not long ago been settled; but a rhinoceros to the generality of sportsmen is, simply, a rhinoceros; he may casually remark that one that fell to his gun was single-horned or two-horned, but he usually has no idea that there are different kinds of such animals, and, for the most part, he is about as likely to note the distinctions of diverse species, even though very strongly pronounced, as the pre-historic savage of yore—indeed, actually less so; and the circumstances under which an animal of the sort is slain, in most instances, are such as to preclude an observer not specially qualified from turning his opportunity to any account. It is seldom indeed, I may add, that such very much coveted opportunities fall to the lot of any competently instructed naturalist.

Z.

NOTES AND QUESTIONS ON NATURAL HISTORY.

VANESSA ANTIOPA.—In the latter part of August I saw a splendid specimen of the Camberwell Beauty (Vanessa antiopa) on Eston Hills, about five miles from this town, but did not succeed in capturing it; two, however, have been captured in this district, one in a garden close to this town, and one in the neighbourhood of Hartlepool.—R. Lofthouse (Middlesbr ugh).

THE MARSUPIAL SUB-CLASS.—A contributor to a late *Field* (p. 280) remarks that "it is not strictly correct to assert that the marsupials are found only in Australia and America; the order is represented in New Guinea and the Malay peninsula, and probably in many of the islands of that archipelago." Species of marsupialia inhabit the Austro-Malayan region of Wallace, but not any have been discovered in the Indo-Malayan region of Wallace, which comprehends the Malayan peninsula, the mammalian fauna of which is particularly well known from the researches of the late Dr. Cantor and others. Opossums of the genus Cuscus inhabit Celebes and the Moluccas, and other genera are known in New Guinea and certain adjacent islands; but there is not the slightest reason to suppose that any animal of the sub-class inhabits the Malayan peninsula.—Z.

ANOTHER HAIRLESS RAT.—Mr Osmond, of Tharp-le-Soken, near this town, has kindly sent me another hairless rat, which was shot in the village street, by Mr Sparling, a solicitor in Clacton. Thorp is a mile and a half from Mr Fairbarn's barn, where the other two mentioned by me in a former communication were killed. Probably a new race is in the way of being formed, and we may have an interesting permanent variety added to our fauna, which of course, in these days, would soon become a species. As, however, I am a firm believer in the Horatian maxim "Naturam expellas furcâ, tamen usque recurret," I shall look closely after these individuals. I told the farmers in the Tendring hundred kindly let me know if hairless rats are ever seen in their districts, and I sent the specimen to the College of Surgeons to be placed next its probable parent. It was a buck about three-parts grown, quite hairless except the whiskers.—C. B. Barr, D. (Colchester, Sept. 30).

THE CALCUTTA ADJUTANT.—It will surprise me much if you are not inundated with letters from Calcutta to inform you of the inaccuracy of "Old Log," who states that the adjutant is one of the first objects to attract a stranger's eye on his arrival during the cold season in Calcutta. A correspondent for (vide *Field*, July 6, 1872) pronounces this to be an inaccuracy, "the fact being that the adjutant leaves Calcutta during the rainy season." I am glad to be able to confirm the statement of "Old Log," from whose writings I have derived so much amusement and instruction. I arrived in Calcutta on the 5th of November, 1857, and left it again on the 1st of February, 1858; during which time I only visit to the City of Palaces. One of the first objects to attract my attention was the gigantic adjutant stalking about in front of the Government House. Within a few days of the landing in which I listed some 40 adjutants could be seen upon the house tops. Whether they remained there during the whole of my stay I cannot remember, but am perfectly certain that they were there in large numbers in the month of November.—C. A. Andrews, Surgeon 8th Regt. M.N.I. (Mercara, Aug. 31).

—As a reader of your paper, and observing a controversy upon the adjutants in Calcutta, I wrote on the subject to my brother-in-law, who has been in Calcutta for many years, and, as a sporting man, is a good authority. His reply is as follows: "Z. is correct in contradicting 'Old Log's' assertion that the adjutant is one of the first objects to attract attention in the cold weather here, for it is only by searching in secluded spots on the banks of the 'nullah' or canal which skirts Calcutta to the south that one or two of these gigantic birds are to be found at that season; and these isolated stragglers are supposed to be old fellows more devoted to good living than to the pleasures of the breeding swamps, which lie in the direction of Burmah; consequently they may be invalids. The adjutants make their appearance in Calcutta soon after the commencement of the rains, say early in July; and after September, or at latest Oct. 15, not one is to be seen within Calcutta proper. A number linger on the banks of the stream mentioned for a few days, apparently reluctant to leave, but by Nov. 1 they all depart, and none are visible to the casual observer. The adjutants, as seen here, appear to be a perfectly voiceless species when in motion in the air, when a croaking sound only is sometimes emitted in their short flights from one perch to another; their bills are long, broad, and straight, without any depression at the tip, and from the lower jaw the immense air bag is suspended. In the marshes, distant about seven miles to the south-east of the town, numbers of the younger birds are to be seen all the year round."—T. W.

ZOOLOGICAL SOCIETY OF LONDON.

ADDITIONS TO THE MENAGERIE, REGENT'S-PARK, FROM SEPT. 22 TO SEPT. 28.

Sept.	Name.	Country.	How obtained.	Where placed in Gardens.
23	1 Vulpine Phalanger (Phalangista vulpina) ♀	Australia	Presented by Mr R. Cranston, Jun.	Sma l Mammal House
"	1 Rhesus Monkey (Macacus radiatus) ♀	Continental India	Presented by the Hon. Chas. Lowther	Monkey House
"	1 Bonnet Monkey (Macacus radiatus) ♂	Ditto	Presented by Mr T. Dodd	Ditto
"	3 New Zealand Parrakeets (Cyanorhamphus Novæ Zelandiæ)	New Zealand ...	Purchased	Parrot House
"	3 Golden-headed Parrakeets (Cyanorhamphus auriceps)	Ditto	Ditto	Ditto
"	2 Alpine Parrakeets (Platycercus alpinus)	Ditto	Ditto	Ditto
24	1 Grey Snake (Coronella cana)	Robben Island S. Africa	Presented by Mr G. H. B. Fisk	Reptile House*
25	3 Common Guillemots (Uria troile)	British Isles ...	Presented by Mr W. H. Sheppard, F.Z.S.	Eastern Aviary
"	3 Wild Cats (Felis catus)	Scotland	Presented by the Rev. Lord Arthur Hill	Small Mammal House
"	1 ♂ and 1 ♀ Bennett's Wallaby (Halmaturus Bennettii)	Tasmania	Presented by Mrs Bennett	Kangaroo Sheds
"	1 Platypthine Wombat (Phascolomys platyrhinus) ♀	Victoria, Australia	Presented by Dr. F. Von Mueller, C.M.Z.S.	Wombats' House
26	1 White-fronted Lemur (Lemur albifrons) ♂	Madagascar ..	Purchased	Monkey House
"	1 Garnett's Galago (Galago Garnettii) ♀	East Africa	Ditto	Ditto
27	A Collection of Anemones	British Coast ...	Presented by Mr W. Thompson	Fish House
"	1 Common Chameleon (Chamaeleon vulgaris)	North Africa ...	Presented by Mr G. Hollis	Reptile House

* Never previously exhibited. ♂ Male. ♀ Female.

[Advertisement.]—Rheumatism, Palsy, Gouty Affections, Lumbago, Numbness, Paralysis, Sprains, Bruises, and Chilblains.—Established 70 years.—Whitehead's Essence of Mustard, after an extensive and successful experience of upwards of 70 years, is confidently recommended as a remedy of extraordinary efficacy. The essence of mustard is perhaps the most active, penetrating, and successful remedy in the world for the above disorders, and for curing the severest sprains and bruises. Sold in bottles, 2s. 9d. each by Messrs Barclay and Sons, 95, Farringdon-street. Wholesale agents: Sanger, 150, Oxford-street; Starkie, 4, Strand; and by all medicine vendors.

[Advertisement.]—"In nothing has the application of machinery caused a greater reduction of prices than in the case of the best pigskin hunting and riding saddles, which have consequently been reduced from six to three guineas. Messrs Davis, of 14, Strand, to whom this invention is due, have brought their machinery to such perfection, and use such care in the selection of materials, that they have practically secured a monopoly in several large hunts, and many famous M.F.H. speak warmly in their praise. The same processes are now adapted by Messrs Davis to harness of all kinds, from the humble cab to the 'four-in-hand;' and certainly never before have they been able to please the members of the Coaching Club are equal to any we have ever seen."—*The Standard.*

* Since writing the above, I have found that the stuffed skin of a young male in the British Museum accords fairly with Bell's description, which lasiotis decidedly does not. Unfortunately, the tail of that specimen is mutilated.

THE NATURALIST.

THE LANDRAIL.

SPORTSMEN who during the early part of September follow their "birds" into seed—clover, rape, or mustard—seldom fail in such places to pick up a landrail or two, and add in this way a pleasing variety to their bag. The appearance of a rail usually gives rise to some comment, and not unfrequently to an expression of surprise that a bird of such skulking habits and apparently of such weak flight should be able to leave the country periodically, and return to it. That it does so, however, is certain. It arrives here towards the end of April, and remains with us till the end of September. During May and part of June its incessant craking note is constantly reminding us of its presence; and if in July and August its silence has caused us for a time to forget it, we renew acquaintance once more in September, when in quest of nobler and more important game. After that month we may look for it almost in vain, for, although a landrail now and then turns up during the winter months, its appearance at such times is exceptional, the great majority of these birds having left our shores before the first day of pheasant shooting has come round. We can only account for the appearance of landrails in winter by supposing them to be individuals of a late brood, unprepared to leave at the proper time, or wounded birds unable to take part in the autumnal migration. In Ireland, however, their occurrence in winter and early spring has been noticed so much more frequently than in England, that a good naturalist there, Mr Blake Knox, has suggested that the bird hybernates. Writing in the *Zoologist* for 1867, at page 679 he says:

I cannot divest myself of the belief that the corncrake hybernates, notwithstanding my having found it repeatedly dead in the sea, both during autumn and spring, which many would say should prove migration to the most sceptical. I do not for one moment doubt that it leaves Ireland in numbers in the autumn, but where does it go? Does it hybernate where it goes to? Is it to be met with anywhere in numbers, flying or running, during our winter? Does it only crake in its spring or summer haunts? In support of hybernation, we have the great amount of fat, coming on in winter (corncrakes often burst from fat when they fall on being shot), which all hybernating animals attain; the number of uninjured and healthy birds found in Ireland during winter, their peculiar skulking habits at this season, the old hollow ditches they frequent, their peculiar apathy and disinclination to fly, and their early appearance without "craking." (I have seen them in the middle of March along the sedges of rivers, which would be the first places they would make for after their winter rest. I do not see why hybernation of birds is so much scouted, for scores of animals and millions of insects do so. Many fishes, too, become so torpid that you may fish for weeks and not get one, yet some fine dozens of the kind you look for will reward your patience; still you have been told or read somewhere that that species migrates from our shores in autumn "to seek more genial seas," and that is why they are not caught in winter. The subject is very far from being absurd, though many have considered it equally so with "corncrake turning to water rail." I knocked down a ditch bank some years ago in January, and turned out three living corncrakes, and ate them too. In the year 1861, during November and December, I used frequently to turn out of a particular hole one of these birds; I caught it at last one night in the hole—or nest I might say, for it was thickly bedded with leaves from a neighb ring dunghill, on which beech leaves had been thrown; but I let it go after some time—in honesty, not through kindness, but because I could not help it, for it could pass through any hole, almost, as Paddy used to say, "as limber as a glove." I could also state many instances of dogs chasing corncrakes in winter to holes, and in one case remember how nearly I was summoned for tearing down a man's ditch bank "in pursuit of rats," as he said, though he had two eyes and saw the bird run from hole to hole. More learned men than he may have often thought the same thing. Hybernating, in my view, would not mean a dead, torpid state. I should consider it a sleepy, inactive state—a lying up in cold weather, and a temporary arousing during genial days; and in this state I have met the corncrake in winter.

Before we can accept the hybernation theory, however, some stronger evidence in its favour would be desirable—the discovery, for instance, of a landrail in a torpid state from which it might be observed to recover. At present we do not remember to have heard of such an instance, and, so far as our knowledge of the bird extends, it seems far more probable that it seeks holes in banks and old walls merely for shelter and warmth, in the neighbourhood of which it contrives to find sufficient nourishment to keep it alive, until such time as the increasing warmth of spring brings increase of insects and molluscous food. An examination of the alimentary system of the water rail (Rallus aquaticus) shows that this bird is no better fitted to withstand an English winter than its cousin the landrail, and yet it is frequently found by sportsmen upon snipe ground at the height of the cold season. Its good condition too at this time testifies to there being a sufficient supply of food, which should be equally obtainable by the landrail.

The nature of this food is miscellaneous—slugs and snails of several species, small fresh-water mollusca, worms, leeches, beetles, the seeds of various weeds, and tips of grass blades; in addition to which the stomach is usually found to contain numerous small particles of gravel or grit as aids to digestion.*

In its search for this kind of food, the landrail must traverse daily an immense tract of ground, for which, however, its strong muscular legs and large feet are well adapted.

For six months at least in the year it appears to be very generally distributed throughout the British Islands; and in Ireland, owing to the more humid climate and the general prevalence of meadow land, it is thought to be even commoner than in England. As regards Scotland, the latest authority on the subject, Mr Robert Gray, in his "Birds of the West of Scotland" says:

There is, perhaps, no Scottish bird more generally distributed than the familiar corncrake. It is found in every district, cultivated and uncultivated, on the western mainland, from the Mull of Galloway to Cape Wrath, and also over the whole extent of both groups of islands, and all the rocky islets on the west coast, extending to Haskeir Rocks, the Monach Islands, and St. Kilda. It will, in fact, take up its abode and rear its young on such places as are almost exclusively frequented by birds dependent on the sea for their daily subsistence, all that can be looked upon as an attraction being but an occasional patch of grass and a moist hollow, to remind it of the distant meadow where, perchance, it had its haunts the previous summer. I have observed it in the uninhabited islands of the Hebridean seas, and have heard it near the summit of Ailsa Craig, rasping its eerie cry after nightfall, as a rude lullaby to the gulls hatching on the grassy verge of a precipice.

This is by no means the limit of its haunts northward and westward; for, besides being found in Denmark, Norway, and Sweden, and the Faroe Isles, it actually visits Greenland, and on several occasions has been met with on the eastern coast of the United States, whither it must have travelled doubtless *viâ* Greenland. A single instance is on record of its having been shot in the Bermudas†, although this group of islands is distant from Cape Hatteras—the nearest point of the North American coast—about 600 miles. After this, English sportsmen need scarcely be surprised at its ability to cross the Channel.

Before the end of September it has commenced to migrate southwards on its way to its winter quarters in Algeria, Egypt, Asia Minor, and Palestine. It is said to be rare in Portugal, and seen on passage only in Spain, touching also at the Azores. It goes, however, much further south, as will be seen presently. Signor Bettoni includes it amongst the birds which breed regularly in Lombardy ‡; and Messrs Elwes and Buckley note it (*Ibis*, 1870, p. 333) as found in Epirus and Constantinople. In Corfu it is met with sparingly in April and September, on its spring and autumn migrations. A single instance is on record of its having been shot in Oudh §; but Mr Blyth informs us that he knows of no other authority for it as an Indian bird, although he has seen specimens from Afghanistan. South of the Equator the landrail penetrates to Natal (cf. Gurney, *Ibis*, 1863, p. 331), and, according to Mr Layard, ("Birds of South Africa," p. 338), a solitary specimen has been procured in Cape Colony.

Mr Ayres, who has shot in Natal, writing of its habits (*Ibis*, 1863, p. 331), says: "Having been once flushed, it is a difficult matter to put them up a second time out of the long grass; for, besides running with great swiftness, they have a curious method of evading the dogs by leaping with closed wings and compressed feathers over the long grass some three or four yards, and then running a short distance, they leap again. The scent being thus broken, they generally evade the most keen-scented dogs; and so quickly are these strange leaps made, that it is only by mere chance that the birds are seen." Many an English sportsman can testify to their power of evading good dogs, although they may not quite know how it is done. Nor is this the only way in which the landrail displays its cunning. If surprised suddenly and caught, it will often feign death, and remain perfectly stiff and motionless for several minutes, to all appearance dead, but in reality only waiting for an opportunity to steal off unobserved. We have known three instances in which this *ruse* has been practised with success upon unsuspecting naturalists. Those who intend, therefore, to investigate the subject of hybernation should be on their guard against what at first sight might strike them as an instance of torpidity.

J. E. HARTING.

* A landrail caught this year on Canvey Island, at the mouth of the Thames, lived in confinement on corn and water for a week, when it made its escape.

† Jones's "Naturalist in the Bermudas," p. 45.

‡ "Storia Naturale degli Uccelli che nidificano in Lombardia," pt. xxxii., p. 91.

§ *Bengal Sporting Magazine*, 1842, p. 870.

MORE ABOUT RHINOCEROSES.

WHEN TREATING OF THESE ANIMALS (p. 184, *antea*), I believed with the secretary of the Zoological Society, that the small black species which had then recently been received in the Regent's Park collection was the true R. sumatranus, originally described and figured by Bell in the "Philosophical Transactions" for 1793 (p. 282 and pl. ii.); in which supposition Mr Sclater bestowed the name lasiotis upon the animal previously received from Chittagong. The authorities at the British Museum (Drs. Gray and Günther), however, have arrived at a different conclusion, and consider that the larger animal of the two represents the original R. sumatranus. Upon further investigation of the subject, I cannot help entertaining a still different opinion, namely, that the Sumatran species figured as such by Bell and S. Müller is neither one nor the other, but a third representative of the same peculiar type, denominated Ceratorhinus by Dr. Gray. F. Cuvier's figure in the "Histoire Naturelle des Mammifères" is evidently *made up* from that of Bell, although without acknowledgment!

I am also of opinion that the animal which F. Cuvier figures as R. javanicus represents a very young individual of the smaller kind recently living in the Zoological Gardens (for I regret to have to add that it has died quite suddenly and unexpectedly), represented without its posterior horn, which most assuredly would have been conspicuously apparent at the age figured. Mons. F. Cuvier would seem to have copied an original drawing (doubtless sent to the Paris Museum by either Diard or Duvaucel, and obviously by a native artist), and his descriptions and measurements are manifestly mere compilations; but, recognising that he had figures of two distinct, although kindred, species, he seems to have thought that one of them must necessarily represent the single-horned Javanese rhinoceros, as distinguished from the two-horned Sumatran one, and in all probability he therefore corrected what he supposed must have been an error on the part of the native artist when he suppressed the indication of a second and posterior horn, which could hardly fail to have been delineated (however small the rudiment) in the original drawing—taken evidently from life—from which his published figure was copied. That he was not overmuch particular in such a matter is shown by his republishing as original Bell's figure of sumatranus. Not only, however, does he commit the mistake of confounding the pygmy dark-coloured rhinoceros with the comparatively large and exceedingly different Javanese species, but in his description of veritable sumatranus he remarks that Messrs Raffles and Horsfield have named it R. sondaicus, which name was bestowed by Dr Horsfield on the Javanese rhinoceros, *i.e.* the lesser one-horned species, which now proves likewise to inhabit Sumatra as well as the mainland of S.E. Asia; a skull of it, undoubtedly from Sumatra, having been received quite recently at the British Museum.

Mons. F. Cuvier, accordingly, in his "Histoire Naturelle des Mammifères," figures two species of Ceratorhinus, or Asiatic two-horned rhinoceros, one of which appears to be identical with the smaller kind lately living in the Regent's Park collection, it being represented when very young, and without indication of the posterior horn, of which a rudiment must needs have been sufficiently apparent in the living animal. The comparatively rough skin, even at that early age, the blackish-brown colour of the skin, and especially the length and peculiar form of the tail, combine to indicate the correctness of this identification; but a difficulty still occurs in the animal being represented so very slightly hairy, especially upon the ears, which I hardly think is to be sufficiently accounted for by the youth of the individual.

The original figure of Bell, and those (representing adult and young) of Dr. Salomon Müller and Professor Temminck, represent Sumatran specimens of evidently the same species, and having the hair exceedingly scant and inconspicuous upon the ears and tail-tip, which renders it improbable that the species to which those figures refer is identical with either of those which we have seen alive in London. Again, in Sir T. Stamford Raffles's remarks on the same Sumatran rhinoceros (published in the 13th volume of the "Transactions of the Linnæan Society," p. 208), when commenting on Bell's figure and description, he makes no reference to the shagginess observable in lasiotis, nor to its particularly conspicuous long pendent fringe of hair bordering the ear-conch, and copiously tufted tail; but the tail is comparatively short, as in lasiotis, and the skin is smooth and of a pale colour. There is one great error in F. Cuvier's figure of sumatranus, in that the fold or crease upon the flank is represented to be continued upwards across the loins; and this error is exaggerated in the copy from that figure which is published in the "Naturalist's Library."

Bell's Sumatran rhinoceros is stated to have been a male; "*the height of the shoulder was 4ft. 4in.* [over the curvature of the body?]; at the sacrum nearly the same; from the tip of the nose to the end of the tail, 8ft. 5in. From the appearance of the teeth and bones, it was but young, and probably not near its full size. The general colour was a *brownish ash*; under the belly, between the legs and folds of the skin, a dirty flesh-colour. . . . The ears were *small and pointed, lined and edged with short black hair.* . . . The whole skin of the animal is *rough, and covered very thinly with short black hair.*" Surely this description will apply neither to lasiotis nor to the small blackish species, and I therefore infer that sumatranus is probably distinct from either, and moreover that javanicus *apud* Frederic Cuvier is either the small blackish one living in the Regent's Park, or (not at all improbably) still another, with very much less hispid skin.* Bell's figure of sumatranus is corroborated by those of Salomon Müller, as well as by the negative testimony of Raffles; and it bears the same relationship to lasiotis which his other figure does to the small blackish species, an example of which has just died at the Zoological Gardens. Again, the last referred to inhabits for certain the Malayan peninsula and the adjacent Tenasserim provinces of British Burma. I would not attach undue importance to the amount of development, the quality, and the colour of the hairy vesture; but the chances nevertheless are that differences of the kind betoken others which as yet are unsuspected. When only one species of the particular type was recognised, any one appertaining to it would be assigned (as has happened) to that particular one; while, now that a plurality of species is undeniable, exhibiting the same general form and character, it is necessary that one should scrutinise with the utmost attention every differential detail that may be presented to our notice. I still think it probable that the long and extraordinarily curved horn upon which R. Crossii was founded by Dr. Gray will prove to have been borne by an individual of lasiotis. To me it appears of normal shape and curvature, and therefore not a monstrosity; and, if I am right in this opinion, I think it likely that the posterior horn of such an animal would be very short, and thus analogous to the short posterior horn of Ceratotherium simum, as contrasted with the exceedingly long anterior horn of that huge African representative of quite another type of the formerly still more extensively diversified rhinoceros family.

Upon looking over a portfolio of drawings at the India House, belonging formerly to the Earl of Mornington (subsequently Marquis of Wellesley, Governor-General of India), representing animals taken from the life in India, I found two of single-horned rhinoceros. One of these is a fair representation of a very young individual of R. sondaicus; the other—which, however faulty in general outline (being much too deep in the body), is finished elaborately as regards details, appears to me to represent a peculiar and undescribed species. The folds of the cuirass are the same as in both indicus and sondaicus, except the one which crosses the nape in the latter, and is deflected backward over the middle of the shoulder-blade in the former; this one is intermediate in its direction, for it is deflected backward much higher upon the shoulder than is regularly the case with indicus. The most remarkable peculiarity, however, consists in the cuirass being throughout conspicuously studded with uniformly small tubercles (as in sondaicus), while the head and limbs are represented as wrinkled, but the skin quite smooth and devoid of tubercles, and in this respect contrasting remarkably with the adjacent parts of the cuirass. I cannot think that anyone who looks at the elaborate finish of this drawing from a living animal can readily suppose the peculiarities described to be freaks of the native artist; and in the other figure (of indubitable sondaicus) the head and limbs are represented as being uniformly tuberculated with the cuirass. Moreover, in the figure of very juvenile sondaicus, a slight hairiness is represented upon the back between the shoulder-fold and that which crosses the loins, and I doubt not that this is correctly copied from the living specimen. No habitat is assigned to either, nor aught to guide respecting the dimensions; but, without desiring to attach overmuch importance to any drawing made by an unscientific artist, I still cannot help thinking that the one in question indicates, in all probability, a species hitherto unsuspected—as much so as were, until quite recently, the additional species of Asiatic two-horned rhinoceros which must now be generally recognised. In the India House Museum, I may add, there are four sculptured rhinoceroses in black marble, brought from Gya (in Behar), all of which are evidently representations of R. sondaicus as distinguished from R. indicus.

To the ordinary reader it must doubtless appear strange that all about such big creatures as rhinoceroses has not long ago been settled; but a rhinoceros to the generality of sportsmen is, simply, a rhinoceros; he may casually remark that one that fell to his gun was single-horned or two-horned, but he usually has no idea that there are different kinds of such animals, and, for the most part, he is about as likely to note the distinctions of diverse species, even though very strongly pronounced, as the pre-historic savage of yore—indeed, actually less so; and the circumstances under which an animal of the sort is slain, in most instances, are such as to preclude an observer not specially qualified from turning his opportunity to any account. It is seldom indeed, I may add, that such very much coveted opportunities fall to the lot of any competently instructed naturalist.

Z.

* Never previously exhibited.

* Since writing the above, I have found that the stuffed skin of a young male in the British Museum accords fairly with Bell's description, which lasiotis decidedly does not. Unfortunately, the tail of that specimen is mutilated.

NOTES AND QUESTIONS ON NATURAL HISTORY.

VANESSA ANTIOPA.—In the latter part of August I saw a splendid specimen of the Camberwell Beauty (Vanessa antiopa) on Eston Hills, about five miles from this town, but did not succeed in capturing it; two, however, have been captured in this district, one in a garden close to this town, and one in the neighbourhoood of Hartlepool.—R. LOFTHOUSE (Middlesbrough).

THE MARSUPIAL SUB-CLASS.—A contributor to a late *Field* (p. 289) remarks that "it is not strictly correct to say that the marsupialia are found only in Australia and America; the order is represented in New Guinea and the Malay peninsula, and probably in many of the islands of that archipelago." Species of marsupialia inhabit the Austro-Malayan region of Wallace, but not anything like so well as they do in the Indo-Malayan region of Wallace, which comprehends the Malayan peninsula, the mammalian fauna of which is particularly well known from the researches of the late Dr. Cantor and others. Opossums of the genus Cuscus inhabit Celebes and the Moluccas, and other genera are represented in New Guinea and certain adjacent islands; but there is not the slightest reason to suppose that any animal of the sub-class inhabits the Malayan peninsula.—Z.

ANOTHER HAIRLESS RAT.—Mr Osmond, of Thorp-le-Soken, near this town, has sent me another hairless rat, which was shot in the village street, by Mr Sparling, a solicitor there. Thorp is a mile and a half from Mr Fairbarn's barn, where the other two mentioned by me in a former communication were killed. Probably a new race is in the way of being formed, and we may have an interesting permanent variety added to our fauna, which of course, in these days, would soon become a species. As, however, I am a firm believer in the Horatian maxim "Naturam expellas furci, tamen usque recurret," I shall look closely after these naked rats. Will the farmer who sent the Tendring hundred kindly let me know if hairless rats are ever found in their homesteads? I have sent the specimen to the College of Surgeons to be placed next its probable parent. It was a buck about three-parts grown, quite hairless except the whiskers.—C. R. BREE, M.D. (Colchester, Sept. 30).

THE CALCUTTA ADJUTANT.—It will surprise me much if you are not inundated with letters from "Calcutta Observers" in defence of the accuracy of "Old Log," who states that the adjutant is one of the first objects to attract a stranger's eye on his arrival during the cold season in Calcutta. Your correspondent Z. (vide *Field*, July 6, 1872) pronounces this to be an inaccuracy, "the fact being that the adjutant only inhabits Calcutta during the rainy season." I am glad to be able to confirm the statement of "Old Log," from whose writings I have derived so much amusement and instruction. I arrived in Calcutta on the 5th of November, 1857, and left it again on the 1st of February, 1858; this was my only visit to the City of Palaces. One of the first objects to attract my attention was the gigantic adjutant stalking about in front of the Government House, and from the roof of the house in which I lived scores of adjutants could be seen upon the house tops. Whether they remained there during the whole of my stay I cannot remember, but am perfectly certain that they were there in large numbers in the month of November.—C. A. ANDREWS, Surgeon 8th Regt. M.N.I. (Mercara, Aug. 11).

—— As a reader of your paper, and observing a controversy upon the adjutants in Calcutta, I wrote on the subject to my brother-in-law, who has been in Calcutta for many years, and, as a sporting man, is a good authority. His reply is as follows: "Z. is correct in contradicting 'Old Log's' assertion that the adjutant is one of the first objects to attract attention in the cold weather here, for it is only by searching in secluded spots on the banks of the 'nullah' or canal which skirts Calcutta to the south that one or two of these gigantic storks are to be found at that season; and these isolated stragglers are supposed to be old fellows more devoted to good living than to the pleasures of the breeding swamps, which lie in the direction of Burmah; or perhaps they may be invalids. The adjutants make their appearance in Calcutta soon after the commencement of the rains, say early in July; and after September, or at latest Oct. 15, not one is to be seen within Calcutta proper. A number linger on the banks of the stream mentioned for a few days, apparently reluctant to leave, but by Nov. 1 they all depart, and none are visible to the casual observer. The adjutants, as seen here, appear to be a perfectly voiceless species until in motion in the air, when a croaking sound only is sometimes emitted in their short flights from one perch to another; their bills are long, broad, and straight, without any depression at the tip, and from the lower jaw the immense air bag is suspended. In the marshes, distant about seven miles to the south-east of the town, numbers of the younger birds are to be seen all the year round."—T. W.

ZOOLOGICAL SOCIETY OF LONDON.

ADDITIONS TO THE MENAGERIE, REGENT'S-PARK, FROM SEPT. 22 TO SEPT. 28.

	Sept.	Name.	Country.	How obtained.	Where placed in Gardens.
	—				
	23	1 Vulpine Phalanger (Phalangista vulpina) ♀	Australia	Presented by Mr R. Cranston, Jun.	Small Mammal House
	"	1 Bonnet Monkey (Macacus radiatus) ♀	Continental India	Presented by the Hon. Chas. Lowther	Monkey House
	"	1 Bonnet Monkey (Macacus radiatus) ♀	Ditto	Presented by Mr T. Crook	Ditto
	"	3 New Zealand Parrakeets (Cyanorhamphus Novæ Zelandiæ)	New Zealand ...	Purchased	Parrot House
	"	3 Golden-headed Parrakeets (Cyanorhamphus auriceps)	Ditto	Ditto	Ditto
	"	2 Alpine Parrakeets (Platycercus alpinus)	Ditto	Ditto	Ditto
	24	1 Grey Snake (Coronella cana)	Robben Island S. Africa	Presented by Mr G. H. B. Fisk	Reptile House*
	25	2 Common Guillemots (Uria troile)	British Isles ...	Presented by Mr W. H. Scratten, F.Z.S.	Eastern Aviary
	"	3 Wild Cats (Felis catus) 1 ♂ and 2 ♀	Scotland	Presented by the Earl of Seafield	Small Mammal House
	"	1 Bennett's Wallaby (Halmaturus Bennettii) ♀	Tasmania	Presented by Mrs M'Cleland	Kangaroo Sheds
	"	1 Platyrhine Wombat (Phascolomys platyrhinus) ♀	Victoria, Australia	Presented by Dr. F. Von Mueller, C.M.Z.S.	Wombats' House
	26	1 White-fronted Lemur (Lemur albifrons) ♀	Madagascar ..	Purchased	Monkey House
	"	1 Garnett's Galago (Galago Garnettii) ♀	East Africa	Ditto	Ditto
	27	A Collection of Anemones	British Coast ...	Presented by Mr W. Thompson	Fish House
	"	1 Common Chameleon (Chamaeleon vulgaris)	North Africa ...	Presented by Mr G. Hollis	Reptile House

* Never previously exhibited. ♂ Male. ♀ Female.

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