

b. Back grey, sides and shoulders rich rufous or cinnamon; size intermediate between last two (skull 84 mm.). N. Somali.

3. *M. phillipsi*, Thos.

B. Last lower molar with a third lobe; upper line of premaxillæ S-shaped. Proboscis more developed.

c. Tip of nasals about level with front edge of anterior premolar, about 33 mm. from end of premaxillæ (gnathion).

c<sup>1</sup>. Back of orbit to gnathion about 86 mm. Damaraland.

4. *M. damarensis*, Günth.

d<sup>2</sup>. Back of orbit to gnathion about 76 mm. S. Somali to Kilima-njaro.

5. *M. kirki*, Günth.

d. Tip of nasals about level with back of middle premolar and about 42 mm. from gnathion.

e<sup>2</sup>. Plateau of Central Somaliland.

6. *M. guentheri*, Thos.

P.S. (April 13th, 1894).—Since this paper was read Dr. E. Donaldson Smith has presented the British Museum with further examples of the two Northern Somali species—*M. phillipsi* (from Milmil, 1894) and *M. swaynei* (also from Milmil).

### 3. On the Occurrence of the White or Burchell's Rhinoceros in Mashonaland. By R. T. CORYNDON.

[Received March 30, 1894.]

(Plate XVIII.<sup>1</sup>)

This subject cannot but have a melancholy interest, not only to zoologists, but to sportsmen and naturalists all the world over, for it is more than probable that before the close of this century the White Rhinoceros, the largest of all the mammals after the Elephant, will be extinct, and this, too, with but very few preserved specimens in existence to give the natural-history student of the future an idea of its enormous size and peculiar structure.

In the early hunting days in Matabililand, and in the high well-watered country which has since come to be known as Mashonaland, Rhinoceroses of both kinds were comparatively common: the White (*Rhinoceros simus*) was found usually in the open grass-country, the Black (*R. bicornis*) usually in the rugged hill-country. It is now generally recognized that there are in Africa only two varieties

<sup>1</sup> [The figure (Plate XVIII.) is taken from one of the male specimens shot by Mr. Coryndon, which has been excellently mounted for the Tring Museum by Mr. Rowland Ward, F.Z.S., of Piccadilly. It is described ('Land and Water,' April 14, 1894, p. 571) as follows:—

"The specimen stands 6 feet 1½ in. at the withers; length between uprights 12 feet 1 in.; length from lip, along bases of horns, up between ears, and following curves of back to root of tail, 13 feet; to tip of tail 15 feet 8½ in.; girth behind shoulders 10 feet 3½ in.; girth round fore-arm 3 feet 4½ in. The development of the muscle of the fore-arm attracts attention at once. The width of the lip between the greatest depth of the nostrils is just under 12 inches. The anterior horn measures 2 feet 3 in. round the base, and is 1 foot 10½ in. from base to 'tip.'"

Mr. Rothschild asks me to add the following remarks:—"In years gone by, when this species was common throughout the Cape Colony, those found in the south-west are said to have been much paler and whiter in colour than those in the north-east, and may have justified to a certain extent the name of White Rhinoceros."—P. L. S.]

of the Rhinoceros, the black and the white; the old Dutch elephant-hunters always believed in several, and advanced as their reasons the different lengths of the anterior horn, and made their decisions by this standard alone. Both Rhinoceroses are easy to shoot, and it is small wonder that when a long train of carriers has to be fed, or when natives are hunting for a supply of meat to carry back to their kraals, rhinoceroses were shot in preference to buck, wary and difficult to stalk as they are and as a rule more tenacious of life. Furthermore, it is natural that a White Rhinoceros should be shot in preference to a Black, for they generally carry a good deal more fat, are very much larger, and as a rule have larger and more valuable horns.

As time went on both white and native hunters carried on their work until, a few years ago, naturalists and sportsmen woke up to the fact that there were very few of the White Rhinoceros left in the country. This happened at an unfortunate time, for just then Mr. F. C. Selous, whom I consider the only scientific hunter between the Crocodile and the Zambesi Rivers, was engaged by the Chartered Company to guide the Pioneer Expedition up to Mashonaland, and was in consequence unable to afford the time necessary for a trip to the country where they were supposed still to exist. Needless to say, all this time the natives were shooting in the ordinary course and naturally did not understand the view taken in England; had they fully appreciated it, however, I do not suppose it would have made any material difference to them.

Thus it was that, thanks to their greater size and to the fact that they carried more fat and finer horns than the Black, the Square-mouthed Rhinoceros has gradually disappeared, and was, until we shot those obtained in 1892, considered by zoologists to be very nearly, if not quite, extinct.

How these names—the Black and White—originated, I do not know, and I have heard of no satisfactory theory.

No serious assertion has, I believe, ever been put forward that the Square-mouthed Rhinoceros occurs north of the Zambesi; certainly no horns in any way resembling the massive growths of *R. simus* have been brought from there. Count Teleki claims to have shot a White Rhinoceros in N.E. Africa, not far, I think, from Kenia. It is interesting to see that he bases his claim upon the fact that this rhinoceros was of a distinctly lighter colour than the ordinary varieties; but, as a matter of fact, there is no difference between the colours of the two African species. If anything, I fancy the so-called White Rhinoceros is the darker-coloured animal of the two.

I have lately heard of two events which are certainly interesting, but which, I think, bear no real significance. About 12 years ago Colonel Coke made a short shooting-expedition into Somaliland; he started, I believe, from Witu, and while hunting some distance inland he purchased from a caravan several rhinoceros horns. One of these horns, Dr. Günther tells me, it is more than probable is a White Rhinoceros horn. Should this surmise prove to be correct,

it is difficult to conjecture how this solitary horn got into Central Africa. The second instance is this: I hear that information from Lisbon has been received in London to the effect that the White Rhinoceros has been seen upon the borders of Angola, on the West Coast of Africa. Now it is possible, I suppose, that continued persecution may have driven this animal from the north-eastern part of Mashonaland to the upper grounds—still absolutely undisturbed—of the Zambesi; though it is extremely improbable that it would go so far as Angola. Besides, the White Rhinoceros is so entirely connected with the country south of the Zambesi that it is more than possible that the traveller who brought this information may have been mistaken.

The main points of difference between the two African Rhinoceroses are the shape of the mouth and the manner of feeding. *R. bicornis* has a prehensile upper lip and a much smaller head altogether than *R. simus*; he feeds entirely upon leaves and twigs and prefers a rough, bushy, inhospitable country; he is wary and shy, quick to anger and exceedingly obstinate, inquisitive, and suspicious. *R. simus* has a disproportionately large head with a great jaw which is cut off quite square in front, and the great rubber-like lips are suited for the grass upon which he feeds entirely, though in the autumn and winter, when vast stretches of country have been burnt away, it is a puzzle how he manages to get enough nutriment to sustain his great bulk. He carries his head very low, and has long ears slightly tipped with curly black hair; he is not so inquisitive or suspicious as his black brother, and is slightly more sluggish in his movements, though upon occasion he can cover the ground with unexpected speed. Another curious fact is that the calf of *R. simus* always runs in front of the cow, while the calf of *R. bicornis* invariably follows its mother: this habit never varies.

Rhinoceroses drink every day—or rather every night, and as a rule do not go down to the water till after midnight. When the sun gets very warm they generally enjoy a siesta, sometimes in the bush and sometimes out in the glaring, quivering heat; and though they will occasionally lie in thick bush they do not make a point of choosing the deepest shade. When fairly asleep they do not waken easily, and they may then be readily shot or photographed.

I am convinced, along with Mr. Selous, that the temper of the rhinoceros has been put down very generally as much worse than it really is. One strong proof of this is that a native hunter will seldom lose the opportunity of a shot at a rhinoceros, whereas he will very rarely take advantage of any chance he may get at a lion, elephant, or buffalo. When rudely awakened from a comfortable doze by such a sudden shock as a 10-bore bullet most probably produces, it is not surprising that a rhinoceros should feel annoyed or that he should express such annoyance by a charge; but I cannot believe that the majority of the "vicious attacks" sustained—by their own account—by hunters were intended as such by the somewhat slow-witted animal.

I will now describe a curious habit of *R. simus*; it is in the manner of dropping its dung. *R. bicornis*, after doing this, proceeds to stamp upon the dung and to tear and dig up the ground in the immediate vicinity, so that there is absolutely no chance of any one missing the place where a *R. bicornis* has spent the day. *R. simus*, however, leaves his dung alone and does not trample and scatter it about; moreover, he is conservative in these matters; he always drops his dung in one place until he has raised a huge heap, then he starts the same operation in another place, and so on.

For this reason it is impossible to confound the species when following spoor, in addition to which the footprints of *R. simus* are much larger than those of *R. bicornis*, and one observes also the marks that each leaves upon the twigs or the grass they feed upon.

I think the longest horn of *R. simus* known measures  $56\frac{1}{2}$  inches, and I believe specimens of the horns of *R. bicornis* are in existence which measure 40 inches. It goes, of course, without saying that all the long-horned examples of *R. simus* have been shot out of the country years ago. Should, in the future, another specimen be shot and preserved, I fancy the hunter will not cavil at the length—or rather the shortness—of the horn it may carry.

Until 1892, the last White Rhinoceros shot was, I believe, in 1886. John Engelbrecht and another Dutchman then killed ten of them, and five more were shot in the same season by native hunters from Matabililand.

It is a curious fact that under the skin of the two animals which I shot I found six native bullets, which the Rhinoceroses must have carried about with them for years; two of these bullets were of hammered iron and four were of lead. This remarkable fact is decidedly in favour of my argument that it is impossible to *preserve* the very few remaining specimens, as the natives of course do not look at the matter from the same point of view as savants at home; they want meat, and when they shoot or trap an animal, which is luckily seldom, they do not preserve the skin.

If the Rhinoceroses are not shot by white men they will most assuredly be shot by natives. In the former case the skeletons and hides will be set up for the public benefit in our museums; in the latter—well, a few jackals and vultures, and some small kraal hidden away in the bush in the almost unexplored flats in Africa, will alone benefit—and at a cost which I fancy Europeans do not as yet sufficiently appreciate. As time goes on zoologists will the more regret that the largest of land mammals after the Elephant has become extinct—and this, too, although almost unrepresented in all the splendid museums in Europe and America.

I will now give a short account of the specimens of the White Rhinoceros that I have lately shot.

About the middle of 1892 I was on the Zambesi, and after spending some time with the Portuguese, I proceeded to return to Salisbury in Mashonaland. On the way we found three White Rhinoceroses and shot the calf; the two old ones, though badly wounded, managed to escape. Next morning my companion,

Mr. Arthur Eyre, succeeded in shooting an old cow ; she had a small calf with her, and we captured it with the intention of bringing it to England. In spite of our greatest care, however, it died on the ninth day. I wrote an account of this to the 'Field,' and received subsequently a commission from a great English collector to shoot a specimen for him. In the first few days of June 1893 I started alone from Salisbury and, by the greatest of good luck, found some spoor in North-east Mashonaland before the end of July. I then formed a permanent camp, and began to work up and trace the spoor. For five days from sunrise till dark I patrolled and quartered every yard of country for a good number of miles, and on the sixth day I saw—though so far off that they appeared like dark specks—two of the huge brutes I was searching for. The first thing to do of course was to get below the wind, as when they were first sighted the wind blew directly from me to them. In an hour's time I was crawling towards them through the fringe of bush that lay about 150 to 170 yards below the open position they had chosen for their midday siesta. I thought they might give me some trouble, so I took my coloured boy with me—he could shoot rather well and carried a single 12-bore rifle. As I crawled on my stomach towards them with the greatest possible care, I saw one of them had become suspicious and had got on to his feet, evidently much disturbed. When this happened I flattened myself lower if possible into the sharp grass stubble and black ash—this latter was the result of a devastating grass fire which had occurred a few weeks before. It seemed hours before this very painful crawl brought me to the small tuft of dry grass I was making for. After waiting for some time I was relieved to see the other brute stand up ; I whispered a few words to the boy, and then kneeling right up quickly we lifted the rifles. The larger bull stood on the left and almost facing me, the other stood broadside on ; I did not wish to break any great bones, so I did not fire at the point of the shoulder—which would have been the usual shot under the circumstances—but put the bullet from the 10-bore "Paradox" between the first two ribs and into the lung : as the huge brute spun round, I put the second shot behind the ribs ; it travelled forwards and also, I found afterwards, reached the lungs. The boy fired his rifle almost simultaneously with my first shot, and as the animals went off in opposite directions we jumped up and followed them at our best pace. For over a mile the old bull went like a steam-engine ; he gradually, however, settled down, and I came up and gave him two more bullets from behind : this helped him on again, but not for more than half a mile, when he slackened again. I soon ran up to him and found him beginning to stagger, for all this time he had been throwing blood by the gallon from his nostrils. One more shot finished him, and as he sank down with a kind of sob the buffalo-birds (*Buphaga*) left him and with shrill notes of alarm they flew up and, circling for a few minutes over us, disappeared in the direction that the other rhinoceros had taken. I was completely exhausted by the severe run, and taking out my

pipe I sat down for a short rest upon the huge grey head. The second bull succumbed about half a mile from where I had first fired. It was now well on in the afternoon, and my "skerm" was about six miles away; so, leaving the animals where they were, I went to the camp, packed up my goods, and came back again. It was then close to sunset, and I had only time to take two quick shots with the camera and make a cut in the stomach and bush the carcass up for the night. I then went to the second bull, cut him open, bushed him up, and then in the pitch darkness proceeded to make a large skerm, for it was to be permanent for several days at any rate. Next morning the carcasses had swelled up considerably, but I managed to take a few measurements and make some sketches before skinning them. For eleven days I stayed at that skerm, cleaning the bones, drying the skins, and watching the boys, for they had an annoying habit of throwing the smaller bones away; it may be imagined that, with the quantity of small scraps of meat lying about in the hot sun, in a few days the place had grown—well, unpleasant!

I stayed about that country a few days longer, then brought the specimens into Salisbury—not without a very considerable amount of trouble. A few days after that I left Salisbury with the troops for Matabililand, served through the whole of the war, and then in January I came home. The Rhinoceroses preceded me by a few weeks. One of them will be set up in the Natural History Museum at South Kensington; of the other, the skeleton goes to the Cambridge University Museum, and the skin to the Hon. Walter Rothschild's Museum at Tring.

4. List of Butterflies collected by Captain J. W. Pringle, R.E., on the March from Teita to Uganda, in British East Africa. By EMILY MARY SHARPE<sup>1</sup>.

[Received March 20, 1894.]

(Plate XIX.)

The collection of Butterflies described in the present paper was made by Captain Pringle, R.E., during his survey for the projected railway to Uganda on behalf of the Government, under the auspices of the Imperial British East-African Company. The care with which the elevations have been recorded by him renders the collection of especial value to the student of the geographical distribution of Lepidoptera, and it is much to be regretted that such an accurate observer as Captain Pringle was not enabled to make a longer stay in East Africa.

In this communication I have referred especially to Mr. Kirby's 'Catalogue of Diurnal Lepidoptera,' to Dr. Roland Trimen's work on South-African Butterflies, and to a paper by Mr. Hampson

<sup>1</sup> Communicated by Dr. R. BOWDLER SHARPE, F.Z.S.



J. Smit del et lith.

RHINOCEROS SIMUS, ♂.

Mintern Bros. imp.