

duals will continue to appear on migration in spring and autumn. M. W.

THE WHITE RHINOCEROS.

AN EXHAUSTIVE MEMOIR on the Lado race of the white rhinoceros, based on the large series of specimens collected by the Roosevelt expedition, is contributed by Mr Edmund Heller to the *Smithsonian Miscellaneous Collections* (vol. lxi, No. 1), published at Washington. In addition to a fully illustrated account of the Lado race, for which the name *Rhinoceros simus cottoni* was proposed in the *Field* of Feb. 22, 1906, the author records several observations of great interest. In the first place, he states that the colour of the skin of the white rhinoceros is distinctly lighter than that of its black cousin, the blackness of the specimen in the Natural History Museum being due to pigment applied by the taxidermist. The true colour is stated to be smoky grey, in marked contrast to the dark clove brown of the other species; this difference being, it is considered, quite sufficient to justify the names "white" and "black" applied respectively to the two species by the early Dutch settlers in South Africa.

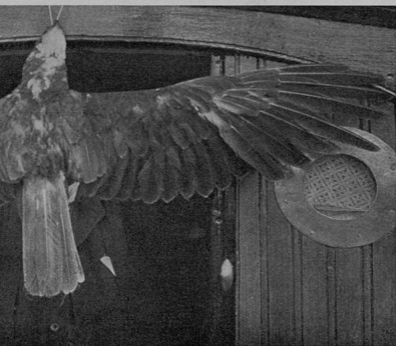
Considerable exaggeration in regard to the stature of the white rhinoceros, it is stated, has been introduced into literature in consequence of inexact measurements taken by hunters in South Africa; and the result of Mr Heller's observation is to show that the species is but little, if at all, higher at the withers than the great one-horned Indian rhinoceros. From 6ft. 6in. to 6ft. 8in. was the height of the males given by Sir Cornwall's Harris, while Mr C. T. Coryndon recorded 6ft. 9in. as the height of the biggest one shot by himself; but since the latter specimen, as mounted in the Tring Museum, stands only 6ft. 1½in., and as mounting ought to exaggerate rather than diminish the real height, while skeletons indicate considerably inferior dimensions, it seems doubtful whether the white rhinoceros has ever exceeded a height of 6ft. at the shoulder.

The range of the Lado race of this animal includes a considerable portion of the Lado enclave and the Bahr-el-Ghazal, extending into the Dar Fertit district at the head of the drainage basin of the latter country, several hundred miles west of the Nile. Very noteworthy is the circumstance that in this part of Africa no black rhinoceroses are found in the area inhabited by the white species. The ancient accounts of rhinoceroses refer, in the opinion of Mr Heller, to the black species, which is occasionally one-horned, and not, as supposed by Dr Trouessart, to the white rhinoceros, which in the Lado district, appears to be always two-horned. If this be so, the identification of the latter with the unicorn is incorrect.

The most distinctive feature of the white rhinoceros, in Mr Heller's opinion, is the great elongation of the skull, and the consequent overhanging of the occipital region, covered with the comparatively slight concavity of the profile of the upper surface which is very much less than in the black species. The obliteration of the profile curve of the skull is carried out to the greatest degree in the Lado race; and this appears to be the most distinctive feature of that race, as the relative great breadth of the nasal region of the skull, on which *R. simus cottoni* was originally based, turns out to be mainly a peculiarity of the type specimen.

The marked difference in the length and contour of the skulls of the white and the black rhinoceros is a bar, in the opinion of Mr Heller, to the inclusion of the two species in the same genus, and he therefore uses the name *Ceratotherium simum* for the former, and *Diceros bicornis* for the latter. The advisability of thus multiplying generic names is a matter on which there may legitimately be differences of opinion; but it surely seems carrying subdivision a little too far to refer the five living species of rhinoceros to four separate genera, three of which will be monotypic.

It has generally been considered that rhinoceroses are slow



ER TRAPPED IN FRIESLAND.

breeders, but the observations made during the Roosevelt expedition indicate that this is not the case with the white species. For nearly all the adult females met with were either in calf, or had a calf by their side, while in one case a female not fully adult was accompanied by a calf, and in a second a female with a calf apparently less than three years old was found to contain a nearly fully developed foetus. In this last case, at any rate, but little time would have intervened between the weaning of one calf and the birth of a second. There is no definite breeding season, the young being born at all times of the year.

Mr Heller gives no information with regard to the approximate number of white rhinoceroses in the Lado district at the present time.

SIR,—In his recently published book on Cecil Rhodes, Mr Gordon Le Sueur makes incidental reference to the prowess of Mr R. T. Coryndon (Non-Resident Commissioner of Swaziland),

complete skins and skeletons of white rhinos: one is in the Natural History Museum. The skin of the second is in the Hon. Walter Roussett's museum at Iking, the skeleton belonging to it being at Cambridge. He had shot them himself in the north-western part of Southern Rhodesia. There were not very many even then, he remarked, as the natives had been shooting them indiscriminately for a long time. "They are big beasts and full of fat which is useful on the veldt," he said. Black rhinos are much alert and formidable, and the natives are not nearly so much afraid of the white as of the black one. The white one is much more clumsy and slow-moving, and therefore more easily killed. He added: "In those days we shot with a 10-bore Paradox; now they use mostly small bores or medium bores—as a rule 400 or 450 cordite. There is a new cut of shooting big game with a small rifle, but I don't believe in it. The small bore is all right for medium-sized game, but you want a medium cordite rifle for the biggest game."

Asked whether the white rhino was still to be met with in Southern Africa, Mr Coryndon replied that there might be one or two left in Mashonaland and he fancied there were a few in Northern Zululand, in the Fly country there. He added that the last white rhino was shot by Major Gibbons on the upper Nile; until this happened it was never known for certain that the white rhinoceros really existed in that locality, though the Mahabs country in the Bechuanaland protectorate: "if they exist anywhere south of Rhodesia," he said, "it will be there. There are no signs of any in Barotseland."

For further information about this animal which he said had now become exceedingly valuable from the collector's point of view, Mr Coryndon referred me to the files of the *Field*, and also to an article on "Gun and Camera," published about the beginning of 1904 in the *Pull Mill Gazette*. Speaking of big game shooting generally he said there was plenty of this to be obtained in Barotseland where the game laws "are easy, and equitable, and it is a cheap country to shoot in. Indeed, he added, "it compares very favourably with Uganda from the sportsman's point of view." J. H. K.

THE DEER OF COREA.

In a joint paper with Dr J. A. Allen, published in vol. xxxi. of the *Bulletin of the American Museum of Natural History* (pp. 426-436), Mr R. C. Anderson and I, while collecting in Corea he saw and hunted two kinds of deer, but was unable to obtain a specimen of either. One was a roebuck, which may have either the large *Capreolus pygargus* of Siberia or the smaller *C. bedfordi* of Manchuria. The other was a large wapiti-like stag, which may have the Manchurian *Cervus xanthopygus*. Mr Anderson states that, so far as he could ascertain, no European other than himself ever saw a deer alive in Corea. It lives in the dense larch forests and comes down to the edge of the marshes to feed in the morning and late in the afternoon. It is exceedingly shy, and although I hunted it persistently near Nonsatong and other places, I saw it only twice, both times being near Nonsatong. Three of them had been feeding on the side of a hill before the sun was up and a few minutes after sunrise. One of the hill across a marsh giving me a short but excellent view of them. They appear slightly smaller than the American wapiti, but carry large antlers. In the afternoon another single specimen was seen, but on neither occasion was I able to get a shot. I heard them bark once, the noise being similar to that of the roe deer except that it was very much louder, deeper, and hoarser. The Koreans sometimes take them by digging pits in their trails, but catch very few. Judging from the tracks and other signs which I saw, the animals are very much more numerous, but are so exceedingly shy that it is very difficult indeed to kill one. The natives said that at Nonsatong the *sasami* remained near the edge of the forest until the vegetation was well started, and then retired deeper into the wilderness towards the Paik-tsan. The lower jaw and a hunter's bag made from the skin of the legs of the *sasami* were presented to me by the natives.

Any sportsman who may have an opportunity of obtaining specimens of one or both of these deer, would, by so doing, render good service to natural history.

ANTELOPES OF NORTHERN RHODESIA.

SIR,—In the *Field* of Nov. 8 (page 972) is an illustration and a short account by Mr F. E. Blauvelt of two animals said to be gemsbok from Northern Rhodesia. Neither the gemsbok nor the oryx inhabits Northern Rhodesia, and I think there is little doubt that the animals described are oryx. In Capt. C. H. Stigand's good interesting volume *The Game of British East Africa* is a full illustration of an oryx shot by Capt. H. W. B. Thorp, and the markings of this animal seem to me to be exactly similar to those depicted in the *Field*, and named gemsbok. I expect these animals came from German East Africa, or perhaps British East Africa, and I doubt that they came from Northern Rhodesia, for after a residence of over ten years spent in that territory, and the adjoining Protectorate of Nyassaland, I never heard of either the oryx or gemsbok existing there. DENIS D. LYLEL.

THE LATE DR W. J. ANSORGE.

ALTHOUGH Dr Ansoorge, who died at the end of last month in the Portuguese Congo, will be remembered as a successful collector in many departments of African zoology, it is especially with the fresh-water fishes that his name will be ever connected. When still a medical officer in Southern Nigeria, from 1900 to 1902, he made valuable collections in the Niger Delta, discovering, among many other novelties, the first known African representative of the family Nandidae, *Psectrogobius*, of the genus *Phacelotocnus ansorgii*. Through the enterprise of German dealers, these and several other of Dr Ansoorge's fishes have since been imported alive to Europe, and have attracted much attention in the continental aquariums. He was also fortunate in adding to our then very scanty knowledge of the young stages of the remarkable *Crossopterygus* genus, as well as this induced the late Mr Budgett to repair to the same district in order to elucidate the breeding habits and development of these fishes, his previous having been failures. There Mr Budgett met with success, only, alas! to be carried away soon after his return by black-water fever, contracted on the expedition. But the priceless material brought home has since been worked out, and, thanks to this martyr of science, we are now acquainted with the development of *Polypterus*.

After his retirement from Government service Dr Ansoorge devoted himself almost entirely to collecting, and fishes received the greatest share of his attention. He made three expeditions to Angola, one to the Ogowe, two to Portuguese Guinea, and brought home to Angola the large collection which he, in 1910, proved of great interest, especially owing to the discovery of a number of large barbels of the malacocephalus type, and several species of *Varietorhynchus*, which until then were almost unknown from the Atlantic watershed of Africa. This collection also comprised representatives of a new species of the fish curious genus *Xenopomus*, established in 1905 for a fish from Mozambique, the affinities of which had remained obscure, and of a new genus of fishes, *Nemalopobius* (*P. ansorgii*). In Portuguese Guinea a new *Polypterus* (*P. ansorgii*) was discovered, as well as the first known African representative of the genus *Synbranchus*.

The last and most extensive collection of fishes was made at Cabinda, and in the Chiloango system (Portuguese Congo). It included representatives of sixty-nine species, sixteen of which were described as new, among them the type of a new genus of Siluridae, *Ansoorgia whitata*. As in the collection made in Angola, the malacocephalus barbels hold a prominent place, a remarkable fact considering that the Congo proper has not yet yielded a single representative of that group, so richly represented in Inland East Africa. An illustrated memoir on this important collection was published last year in the *Annales du Musée du Congo Belge*.

Altogether, Dr Ansoorge was the discoverer of forty-seven species of fishes. The first set of his collections is preserved in

the British Museum (Natural History); other sets have been acquired by the Congo Museum in Tervuren, and the museums of Vienna, Paris, Berlin, and Philadelphia. G. A. BOULENGER.

THE ZOOLOGICAL SOCIETY. The Peba Armadillo.

ACCORDING TO THE "LIST OF VERTEBRATES" a considerable number of representative species of armadillos have been exhibited in the Gardens from time to time; but for many years past the only species on show has been the so-called hairy armadillo (*Dasypus villosus*), the common form from Argentina. This armadillo is quite easy to keep, partly because it is not the least particular as to diet, and will eat anything that is offered. It has a short, conical head, with the almost curv widely separated, and quite short plantigrade feet, upon which it runs about, with the belly of its broad, convex body close to the ground, looking as much like a great woodlouse as anything. The plates of its bony carapace are, moreover, of comparatively large size, and those of the pelvic and scapular shields are solidly welded together,

Mr D. Seth-Smith writes as follows:

The Massai Ostrich.

"A very valuable addition to the Society's collection of birds is a pair of adult ostriches from Massai land, belonging to a form discovered by Herr Neumann in 1888. Of the four recognised distinct forms of *Struthio*, *S. massaiensis* is the rarest, there being only a very few specimens in museums, although the Zoological Society has previously owned four examples. "As I explained in the *Field* of Jan. 25, 1913, the four species or races of ostriches known may be divided into two groups, the blue-necked and the red-necked forms. The first contains the Somaliland and the South African forms, *S. molybdophanes* and *S. australis*, and the second the North African (*S. camelus*) and the Massai ostrich (*S. massaiensis*). "The new additions are very fine large birds, and have been obtained for the Society and safely brought home by Mr R. B. Woosnam, the game warden of British East Africa.

The American Darter.

"Of the collection of Brazilian birds recently presented to the Zoological Society by the trustees of the Goeldi Museum at Para, the most interesting and perhaps the most valuable are a couple of American darters or snake birds (*Platys alinghi*), a species which ranges over the whole of the warmer parts of the American continent. The darters, of which there are four species, inhabiting Africa, India, Australia, and America, are allied to the cormorants, but are readily distinguished by their extremely long necks and sharp-pointed bills. In the wild state darters are said to frequent the wooded shores of inland lakes and rivers, rarely, if ever, visiting the open country. Their food consists of fish, which they pursue under water, their swimming powers being equal to, if not exceeding, those of any other birds. Like cormorants, they use their feet only for swimming, the wings being tightly pressed to the sides. Having captured a fish, the darter rises to the surface to devour it, but its body generally remains submerged, only the head and long snake-like neck showing above the surface. Besides possessing the same powers equal to those of a penguin, the darter also possesses fine powers of flight. The wings are long and broad, and it is said to fly extremely rapidly, and frequently to soar to a great height and circle round in the open company with such birds as the black vulture and wood ibis. The nest of the darter is built in some tall tree overhanging water, and is composed of sticks and water plants. Three or four eggs of a pale green colour with a chalky incrustation on the surface go to form the clutch.

The Maguari Stork.

"In the same collection is a pair of the handsome South American stork (*Euxenera maguari*), a bird superficially resembling the common white stork of Europe, except that it has a horn-coloured instead of a red bill, and a patch of naked red skin surrounding the eye, a part which is feathered in the common species. But the Maguari stork differs in several other ways from the bird of nursery fame. It builds its nest on the ground, amongst rushes by the water, instead of on a house-top, possibly because such situations are scarce in the neighbourhood of the Pampas of South America. It feeds to a great extent upon mice, rats, and snakes. The plumage for nesting is said to be mostly black, whereas that of the young common stork is white.

"During the past spring and summer a pair of Maguari storks have lived in the great aviary, where on several occasions they seemed inclined to build a nest on the ground, but were disturbed by the breeding of a pair of screamers. If all is well next year, another place will be found for the latter birds, and it is to be hoped that the maguari will nest as successfully as the white storks have done this year in the seagulls' aviary." R. I. POOCOCK.

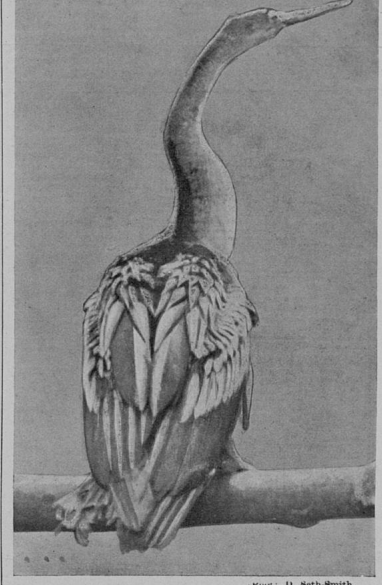


FIGURE 1. D. SETH-SMITH. THE AMERICAN DARTER (PLATYS ALINGHI).

so that movement of the back is restricted to the seven movable bands covering the dorsal and lumbar regions.

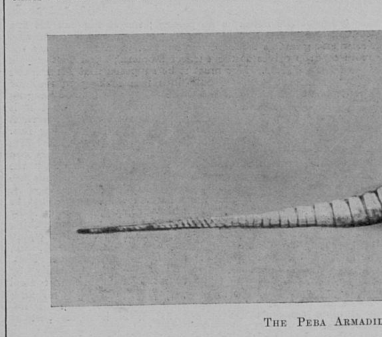
A very different-looking animal is the Peba armadillo, whose arrival was announced in the *Field* last week. The snout is comparatively long and slender, the ears are long and stalked and set close together on the back of the head; the tail is very long and tapering, and the body, which is cylindrical, is carried high off the ground on the digitigrade feet. The carapace, moreover, is much more flexible, consisting of quite small ossicles embedded in the skin, and has none of the strength and rigidity observable in the hairy armadillo. So noticeable is this difference that Mr Frost, who told me of the arrival of this animal in London, described it as a soft-shelled armadillo. From the presence of nine movable belts between the scapular and pelvic portions of the carapace, this species is known sometimes as the "nine-banded" armadillo (*Tatusia novemcincta*),

and Repatriation Society," and will be operated as a branch of the Eastern Townships Associated Boards of Trade. Present plans include the establishment of an office at Sherbrooke, the issue of a further edition of the Eastern Townships pamphlets, the appointment of several lecturers in Great Britain, and the setting aside of an appropriation for assisted passages.

"THE SPORTSMAN'S HANDBOOK to Practical Collecting, Preserving, and Artistic Setting Up of Trophies and Specimens, with a Synoptical Guide to the Hunting Grounds of the World," by Rowland Ward, F.Z.S., Price 3s. 6d. net. (London: Rowland Ward Limited, "The Jungle," 167, Piccadilly.)—[ADVT.]

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THE PEBA ARMADILLO (TATUSIA NOVEMCINCTA).

the generic term being the Latinised form of its native name "Tatu."

The nine-banded Tatu in question came from Mexico, but the species ranges much further south, and is replaced in the Argentine by the so-called milk armadillo (*Tatusia hybrida*), whose somewhat singular appellation is derived from the fancied resemblance to that assine hybrid for which its ears are responsible. In the size and juxtaposition of the ears the Peba armadillo are distinguishable from all the Edentates, which to an order are remarkable for the smallness of their ears. To this it will perhaps be objected at once that the Cape anteater (*Orycteropus*) has long assine ears relatively surpassing even those of the Peba in size; but as I recently explained when describing the South American anteater (*Myrmecophaga*) in a recent issue of the *Field*, the African species belongs to a distinct order of mammals, an order indeed of which it has the distinction of being the sole representative.

Fish as a Food for Anteaters.

When discussing the other day with Dr Plimmer, the Society's pathologist, the food of such mammals as anteaters, which live mainly or solely upon ants or white ants, or other insects provided with a horny exoskeleton, he reminded me that fish skin consists largely of ceratin, the chief constituent of an insect's dilate with whitening, and found that he ate it greedily. For the rest his food consists of meat, cooked or raw, and milk and