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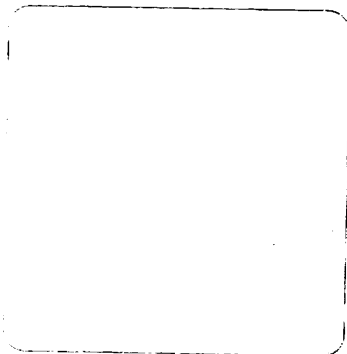
BATE

Fossil Mammals of Africa

No. 2

THE PLEISTOCENE FAUNA OF
TWO BLUE NILE SITES

A. A. J. Arheil



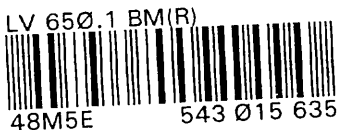
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THE MAMMALS FROM SINGA AND ABU HUGAR

By DOROTHEA M. A. BATE

Introduction

Knowledge of the earlier mammalian faunas of the Anglo-Egyptian Sudan has been meagre until now, and the few published records may be briefly noticed here. In 1876 Vacek described a skull of a fossil buffalo which was found associated with remains of a large hippopotamus, and was said to have come from a fluvial deposit at no great distance from Khartoum. The author considered that it represented an animal belonging to the *antiquus* group, with horns very different from those of *Syncerus caffer*, and growing directly outwards and backwards. He suggested that it belonged to a distinct species, but refrained from supplying a name; there can be little doubt that this was a skull of the extinct buffalo to be described below.

Little more than ten years later Lydekker (1887) described some mammal remains from Wadi Halfa which he suggested were of early Pleistocene or uppermost Pliocene (Villafranchian) age. The most important specimen is an upper cheek tooth of an *Equus* belonging to an earlier type than those of the present day. This tooth has sometimes been quoted as showing the presence of *E. sivalensis* in Africa, but Lydekker himself acknowledged that this single example was insufficient for specific determination. The study of the fossil Equidae of Africa is at present in rather a bewildering condition, but it is hoped that Professor Arambourg may soon give us a comprehensive view of the whole subject. Some remains of *Cervus* were mentioned in connection with Lydekker's Wadi Halfa collection, but I can find no further details or description. Remains of *Cervus* have also been recorded in a Villafranchian fauna from Gau by Parona (1918, p. 828). With other Asiatic genera such as *Sivachoerus*, *Cervus* seems to have reached Africa at this time, but so far as is known at present failed to establish itself. The Recent North African deer are probably a later introduction.

Many years after this Andrews (1912) described an imperfect tooth of an elephant which had been found at a depth of 60-68 feet below the low level of the Nile not far from Khartoum. It is not certain to what extinct species it should be referred, and the geological age of the deposit is equally uncertain. The associated fauna included remains of hippopotamus, a small giraffe, an antelope (? *Tragelaphus*), and a siluroid fish.

In 1927 a small collection of mammal remains was secured by Mr. A. J. Arkell during the digging of a well in his garden at Kosti on the White Nile, about 180 miles south of Khartoum. Among these were the canine of a carnivore, and the third lower molar of a large extinct pig which Dr. A. T. Hopwood (1929) described under the name of *Hylochoerus grabhami*, but which Professor Arambourg has since suggested (1944 and 1947) should be included in the extinct genus *Omochoerus*.

More recently, as a result of Mr. A. J. Arkell's excavation of an early occupation site (Mesolithic) in Khartoum itself (1949) a large collection of animal remains was available for study. The specimens were much broken, but showed the presence of a fauna very different from that occurring in this area at the present day. The only animal that could be determined specifically proved to be an extinct species, *Thryonomys arkelli*, with affiliations with a group of Reed Rats, members of which have been found fossil in the central and western Sahara (Bate, 1947 and 1949).

The collection now to be described marks an important advance in our knowledge of the early zoological history of the country, and is indeed of more than local importance, since the study of one of the specimens has revealed facts of considerable significance for African mammalian palaeontology. The remains were sent to the British Museum (Natural History) for study in 1947 by Mr. A. J. Arkell, then Commissioner for Archaeology and Anthropology in the Sudan. They were obtained from the bed, or from the base of the bank, of the Blue Nile at two localities, Singa and Abu Hugar, south of Khartoum. Being well acquainted with the two sites Mr. Arkell considers that they are undoubtedly of the same geological age, and this is supported by the specimens themselves. An extinct species is known from each site, and remains of the extinct buffalo occur at both localities. This makes it possible to treat the remains from the two sites as comprising a single fauna.

Singa, 200 miles south of Khartoum, has long been known as the site from which Mr. W. R. G. Bond, in 1924, obtained the human skull which was later described and figured by Smith Woodward (1938). More recently Dr. L. H. Wells of the University of Witwatersrand has re-examined the skull with a view to comparing it with later finds from South Africa, and his results are given in one of the sections of this report. In a note following Smith Woodward's paper Mr. G. W. Grabham published a figure of a section of the site which certainly suggests a considerable age for the contained remains. Behind the foreshore, then the low river level of the Blue Nile, rose an almost vertical bank about 30 feet high and having a sequence of five distinct levels. Mr. Grabham suggested that the animal remains came from the older river deposits, level 4 in his table, with the reservation that they might be of even greater age.

The site of Abu Hugar is about 25 miles further up the river; here bones may still be found weathering out of the river bank, and it was under these conditions that the crocodile skull was obtained. An important factor at this site is the occurrence, associated with the animal remains, of implements of a crude human industry containing Levalloisian elements. These have been studied by Mr. A. D. Lacaille, and are described in another section of this report. Dr. J. D. Tothill (1946) has published an interesting study of the Gezira Clay Plain which lies south of Khartoum between the Blue and the White Nile. He deals chiefly with the fossil molluscan fauna and gives a provisional table of contemporary events based on this study. In this he correlates the Singa deposit with the Lower Levalloiso-Mousterian Levels C. & D. of Tabun Cave, Palestine. Further information about the formation and derivation of the Gezira Clay which is later than the mammal deposit is awaited from Mr. G. Andrew, Government Geologist, who is making a petrological study of its component elements.

All the specimens in the collection are more or less completely covered with a concretion of kankar. Most of the bones are broken, and too imperfect to admit of

At the present day, zebras are found in the south-eastern corner of the Sudan in the Upper Nile and Equatoria Provinces. Wild asses occur in the opposite end of the country in the north-east, being recorded from the Red Sea Province, and from the vicinity of the Atbara River in the Provinces of Berber and Kassala (Brocklehurst, 1931).

The fossil record is meagre; the finding of equine remains at Wadi Halfa has already been referred to, and a single upper cheek tooth specifically unidentified was found in a Mesolithic site at Khartoum (Bate, 1949, p. 24).

Rhinoceros sp.

A rhinoceros is represented by an imperfect upper cheek tooth from Abu Hugar and the proximal portion of a right femur from Singa, neither of which show characters that are sufficient for definite specific identification. The femur, however, is of large size, with a maximum width of 23 cm. across the head and great trochanter, thus equalling the corresponding measurement of this bone in a Recent specimen of *R. simus* with which it has been compared. This suggests that it may be that of *R. simus*, the white rhinoceros, but the presence of a number of extinct species in the collection makes it unwise to affirm the occurrence of Recent species without ample material on which to base the identification.

Remains of rhinoceros were obtained from the Mesolithic Khartoum site (Bate, 1949) but are thought to have belonged to a smaller species than the above.

Hippopotamus cf. *amphibius* Linnaeus

Teeth and portions of limb bones of hippopotamus are more plentiful than those of any other species, and both adult and quite young individuals are represented. The specimens, which were found at both the Singa and Abu Hugar sites, are too fragmentary for a definite specific identification to be made.

?Sivatherine (fig. 2)

There are two imperfect limb bones from Abu Hugar which, although too fragmentary for definite identification, are of great interest since they suggest the presence of an extinct genus. These two bones are the distal portion of a right radius shown in fig. 2 and the distal end of a left humerus, which are certainly giraffoid in character. Compared with the corresponding bones in Recent and Pleistocene giraffes they show evident differences, the most important of which is the great width of the shaft as compared with the width of the distal articular end of the bone. The humerus of a large Recent giraffe and the specimen from Abu Hugar each have a maximum condylar width of 13 cm., while the width of the shaft a short distance above the condyles is 13.7 cm. in the Recent and 15.2 in the fossil specimen. The fossil radius at its distal articular end has a width of approximately 14 cm., while the width of the shaft is 10.5 cm. The corresponding measurements in that of a large Recent giraffe are 13.5 cm. and 8.7 cm.

While much more material is required before a definite identification can be made, the character of these two bones suggests that they belong to an extinct genus allied

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