

# OLDUVAI GORGE

1951-61

VOLUME I

A PRELIMINARY REPORT ON THE  
GEOLOGY AND FAUNA

BY

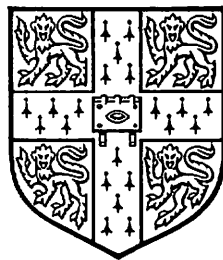
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CAMBRIDGE

AT THE UNIVERSITY PRESS

1965

xw, 118

## DISCUSSION

On the basis of the available evidence there are four distinct forms of elephant in the Olduvai fauna, three of which belong to the genus *Elephas* and the fourth to *Deinotherium*. These elephants help us to assess the age of the Olduvai deposits, for the one which resembles *africanavus*, which is elsewhere characteristic of the Lower Villafranchian, occurs in Bed I. *Elephas* cf. *exoptatus* occurs in lower Bed II and is elsewhere characteristic of the Upper Villafranchian. Typical *E. recki* appears for the first time in Bed II and continues to the top of Bed IV. Dr Hopwood originally listed a mastodon as occurring in Bed II. He referred it to the genus and species *Anancus kenyensis*. This identification was based upon parts of two flat-sectioned tusks which resembled tusks of some of the mastodons of South America in their internal structure. Our better knowledge of the fauna of Olduvai shows that these large flat tusks belong to a gigantic extinct pig, *Afrochoerus nicoli*. We must, therefore, remove *Anancus* from the Olduvai faunal list.

## Order: PERISSODACTYLA

## Family: RHINOCEROTIDAE

## Subfamily: DICERORHININAE

In the earlier reports dealing with the fossils from Olduvai, there were records of specimens representing the 'white rhinoceros'. These differed from the living species only in minor characters. They were only regarded as having subspecific value and the material was therefore allocated to *Ceratotherium simum germano-africanum*. Dr Dietrich subsequently reported on more complete fossil material, found at Vogelflöss (Laetoli) some twenty miles south of Olduvai. As a result, he described (1942*b*) a new genus of rhinoceros allied to *Ceratotherium*, but to which he gave the new generic name of *Serengeticeros*. The deposits in which this new genus and species was found have been considered by some authors as equivalent to Bed I, Olduvai.

Fossil material representing the rhinoceros group is represented by a considerable number of specimens in the British Museum of Natural History. This material includes four partial man-

dibles. Additional rhinoceros material, discovered since 1935, is in America where it was submitted to Dr Horace Elmer Wood, Jun. Recent additions to the material are in the Coryndon Museum Centre for Prehistory and Palaeontology, Nairobi.

Genus: *Ceratotherium*Species: *efficax* Dietrich

Some of the specimens in the British Museum of Natural History from Bed I and also from lower Bed II seem to be the same species as *Serengeticeros efficax*. I consider that there is insufficient evidence, at present, either in respect of the material in Dr Kohl-Larsen's collection, or in the material from Olduvai, to warrant generic rank. The material is, therefore, referred to the longstanding genus *Ceratotherium*, while retaining Dr Dietrich's specific name, *efficax*.

Species: *simum germano-africanum*

In 1925 Dr Hilzheimer of Berlin described an incomplete skull and jaw, which had been obtained from Olduvai during Reck's 1913 expedition, as *Rhinoceros simus germano-africanus* (Hilzheimer, 1925). The specimen which he described certainly appears to be very similar to the living species and not to those referred to above as *efficax*. From the illustrations, however, it seems that it was barely fossilised and may have come from deposits much younger than Bed IV, such as Bed V or later.

A number of specimens which have been found in upper Bed II and in Bed IV are here referred to *Ceratotherium simum*. It is possible that they may have to be treated as a new species when they have been studied in more detail.

Genus: *Diceros*Species: *bicornis*

There are a few specimens in the collections at the British Museum of Natural History from Olduvai which appear to be referable to the living species of black rhinoceros. They certainly belong to this genus but a study of more complete material may necessitate a revision in respect of species.

## DISCUSSION

It would seem that the rhinoceros group is represented at Olduvai by not less than three distinct

types. One of these, which occurs in Bed I and lower Bed II, is markedly different from the living white rhinoceros and is provisionally regarded as belonging to Dr Dietrich's species *efficax*. The second, which is at present only known with certainty from higher levels, seems to be similar to the living white rhinoceros. The third is the black rhinoceros, or some species closely related to it.

Family: **CHALICOTHERIIDAE**  
Subfamily: **CHALICOTHERIINAE**

Tribe: **Schizotheriini**

Genus: *Ancylotherium* Gaudry

Species: cf. *hennigi* Dietrich

Amongst the fossils from Bed I at Olduvai are a few foot bones which indicate the presence of a large chalicothere. This material was provisionally placed with *Metaschizotherium hennigi*, which was described by Dr Dietrich (1942*b*) on the basis of material from Vogelflüß (Laetolil). Until more complete material from Olduvai becomes available it is not possible to be certain of the specific determination of the Olduvai representative of the group, but there is a reasonable probability that it does belong to Dr Dietrich's species.

Professor P. M. Butler has sent the following notes:

**CHALICOTHERIIDAE.** A number of foot bones from THCI may be tentatively referred to *Ancylotherium* (= *Metaschizotherium*) *hennigi* Dietrich (1942). The material consists of incomplete specimens of metacarpals II and III, a scaphoid, a lunate, a cuneiform, a basal phalanx and two middle phalanges, seemingly all from one individual. The carpal bones show a relationship to *Ancylotherium pentelicum* Gaudry & Lartet from Pikermi, but differ from this in certain respects. The basal phalanx is very similar to a specimen from Kaiso, Uganda, described by Andrews (1924), but it belongs to a different digit. It is not possible to compare this material with *Metaschizotherium transvaalensis* George (1950), which was based on a molar tooth from Makapansgat, but the distinction of the latter species from *Ancylotherium hennigi* is open to question.

Family: **EQUIDAE**

Subfamily: **EQUINAE**

Members of the subfamily Equinae are very commonly represented in the Olduvai fauna (pl. 19) and a great deal of material is now in the hands of Professor Stirton of Berkeley, University of Cali-

fornia. Whereas specimens which clearly represented *Equus* and the hipparionids were sent to California, other material, which was clearly the same as Van Hoepen's *Eurygnathohippus* of South Africa, was retained in Nairobi (pl. 20).

The recent discovery of a skull of *Stylohipparion* in which the anterior dentition is preserved has clarified the problem of *Eurygnathohippus*. The specimens upon which the genus was based proved to have been the incisors and canines of *Stylohipparion*.

Order: **ARTIODACTYLA**

Family: **SUIDAE**

Subfamily: **SUINAE**

INTRODUCTORY NOTE

As I have indicated in some of my other publications on fossil Suidae, the teeth of members of this family, if considered by themselves out of the context of the mandibular morphology and skull structure, can be very misleading. I have, for example, published a note (1958*a*) illustrating a molar tooth taken from the skull of a modern *Sus cristatus*, which would certainly be classified as a tooth of the extinct genus *Pronotochoerus* if found alone. Similarly, Dr Broom published a note (1948) on a fossil pig which he called *Phacochoerus antiquus*, in which the second and third molars certainly suggested this living African genus. When a skull of this species was found, it became clear that in spite of dental similarity to *Phacochoerus* this extinct pig was much more closely allied to *Potamochoerus*.

Dr Dietrich published some Suidae teeth from Olduvai as representing the genus *Phacochoerus*, but we now know that these belong to the extinct genus *Afrochoerus*. If we had only the cheek teeth this would not be apparent.

There have been occasions in the past when I, too, have ascribed certain individual teeth to genera and species represented by more complete specimens in other levels. Thus, I recorded certain Suidae which are common in Bed II as also occurring in Bed I, basing this view on fragmentary material. We now know that this was incorrect.