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ON THE FOSSIL ELEPHANT (*ELEPHAS* CF. *NAMADICUS* F. & C.) FROM CHIEN-HSIEN OF SHENSI PROVINCE

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Recently during a construction work in Chienhsien of Shensi Province some Mammalian fossils were discovered. An excavation was then arranged by the Historical Museum of that province and as a result of this excavation an almost complete skeleton of fossil elephant was dug out. Before the installation of the fossil elephant in the Museum, the director of the Museum sent the rubbings of two teeth to the Institute of Vertebrate Paleontology of Academia Sinica asking for a determination of this interesting fossil. Owing to the absence of Dr. Minchen M. Chow, the specialist of fossil mammalogy, Prof. C. C. Young, the director of the Institute, entrusts the author to make a determination. Without handling the actual specimen for making an identification, the author has encountered certain difficulties. However, the rubbings of the teeth are so good that all the details of tooth pattern can be studied and a preliminary report can be made.

Description

According to the rubbings (Fig. 1 and 2), one specimen is M^2 and the other $M_2 + M_3$, but on the second specimen, only the anterior part of M_3 had been erupted and the five anterior plates become worn in different degrees.

M^2——with 12 plates and all greatly worn down. Plates only slightly swollen in middle part, without noticeable loxodont sinus and with minor folds on the enamel. Max. length 21.5 cm.; and max. width 9.6 cm.

M_2——with 10 plates and all worn down. Plates with slightly marked loxodont sinus; max. length. 17.2 cm.; max. width 7.6 cm.

M_3——five anterior plates somewhat worn and the 6th unworn. 1st. plate divided into two equal parts. 2nd. plate divided into two unequal parts, lingual one much longer than the labial. 3rd. plate with one long and narrow hollow between the enamels. 4th. plate divided into three ovals. 5th. plate begun to wear, divided into four small part. 6th. plate with five equal sized mammallae, covering by cement.

Discussion

According to the field note of the excavation, M^2 and the lower molars are coming from the same individual and the degree of wearing of both upper and lower teeth also

agrees with this statement.

As described above, when the plates of the present form become greatly worn down (as on M^2), they are not rhombic in shape and those somewhat worn down (as on M_2) have only slightly marked loxodont sinus. These two characters point out that our present form is somewhat close to *Elephas namadicus* F. & C., and does not agree with *Palaeoloxodon tokunagai* Matsumoto. But on the other hand, that the slightly worn plate (as the 1st. plate on M_3) is divided into two equal parts is a character generally supposed to be *P. tokunagai*, not *E. namadicus*.

Similar forms, more or less having the transitional characters from *tokunagai* to *namadicus*, are widely known but under different names in North China, such as Tingtsun (Pei and other, 1958a), Heishanhu (Chow 1957) and Ch'aotsun (Pei and others, 1958b). It seems to the author, that during the period of Upper Pleistocene (probably the early phase of Upper Pleistocene), in North China, the elephant of *tokunagai* group survived but was mixed with the *namadicus* group. The Chienhsien elephant fossil reinforced this view. But before a thorough study has been made on the various material, we have to determine them as *Elephas* cf. *namadicus*[1] as for the Tingtsun and Ch'aotsun elephant, as well as *Palaeoloxodon naumanni*.

As to the stratigraphical positions of the fossil bearing bed, the author has the opinion, as mentioned above, that the transitional form of elephant from *tokunagai* to *namadicus* group was found in the Upper Pleistocene (probably the early phase of Upper Pleistocene), the Chienhsien fossiliferous deposits can be determined as Upper Pleistocene in geological age. And if we compare with the fauna of Choukoutien Upper Cave, the Chienhsien one is certainly older in age. Therefore, we regard the former to be later phase and the latter early phase of Upper Pleistocene.

References

[1] Chow, Minchen M.: 1957. On a Mandible of *Palaeoloxodon* from Peking, with Discussion on the Fossil Elephants of *namadicus* Group of China. *Acta Palaeont. Sinica*, **5**, 283—294.

[2] Pei, Wen-chung and others: 1958a. Report on the Excavation of Palaeolithic Sites at Tingtsun, Hsiangfenhsien, Shansi Province, China. *Inst. Vert. Pal., Acad. Sin. Mem.* No. 2.

[3] ————: 1958b. Discovery of Quaternary Mammalian Fauna at Ch'ao-tsun, Chien-an county, Hopei Province. *Vert. Palas.*, **2**, 213—229.

1) It seems to the author that *Elephas namadicus* is actually not loxodont in dental character but rather close to the living Indian elephant. It is therefore better to adopt the generic name *Elephas* instead of *Archidiseodont* or *Palaeoloxodont*, etc.

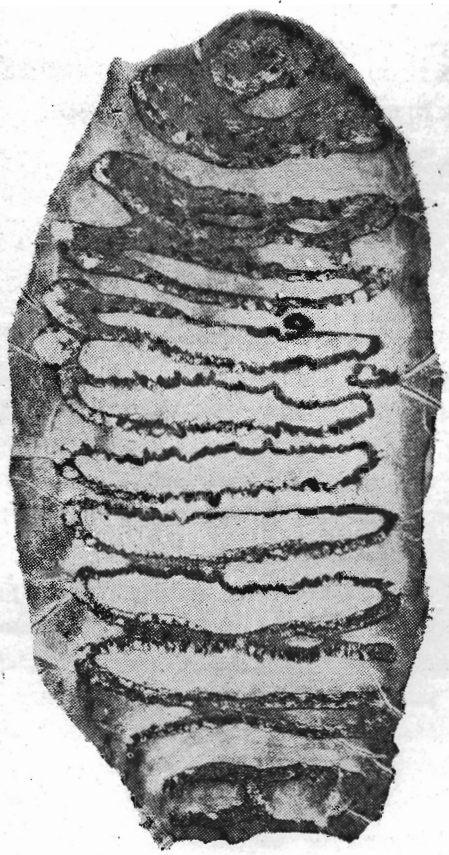

Fig. 1 *Elephas* cf. *namadadicus* F. & C.
M^2, crown view, × 1/2.

Fig. 2 *Elephas* cf. *namadicus* F. & C.
$M_2 + M_3$, crown view, × 1/2.