

PALEO-ENVIRONMENTAL RECONSTRUCTION DURING THE PERIOD OF NANJING *HOMO ERECTUS*

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ABSTRACT: Using five-group dating of the fossil by Uranium series age method shows that the age of Nanjing *Homo Erectus* is between 280 – 430 ka B. P. Combining with the analysis of fossil mammalian form *Stegodon*, *Sus. Lydekkeri* Zdansly, *M. pachyosteus* Young, *P. grayi* Zdansky and *E. Sanmeniensis* Teilhard et Pive teau, which are located in the same stratum, the authors think that the Nanjing *Homo Erectus* may have lived in the late Mid-Pleistocene (about 350 ka B. P.). Based upon the spores and pollen in the cave sediments of the area, we can find that most of spores and pollen are subtropical and warm temperature types. For instance, broad leaf trees which are fond of warm climate, including *Cunning hamia*, *Jsuga* and *Pinus*, as well as *Morus*, *Carpinus* and *Ptendium*. Among the above spores and pollen, only *Tsuga*, *Liquidambar*, *Betula*, *Ulmus* and *Salix* are the remainders of Humid-hot environment from the Tertiary period. Above evidences illustrate that the living environment of the Nanjing *Homo Erectus* not only was not colder but also was not drier than the Peking Man's. It could be said that dry climate and the ice age of the Mid-Pleistocene didn't undergo this area. As for the manner of the *Homo Erectus*'s making stone artifact and using fire, because now we have not found the evidence of the stone artifact and the ash, the further excavation to the talus of the Huludong cave should be needed.

KEY WORDS: Nanjing Tangshan *Homo Erectus*; Mid-Pleistocene Epoch; paleo-environmental reconstruction; paleo-fauna and paleo-flora

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Following a quite intact skull fossil of adult female *Homo Erectus* was found at Huludong cave, Leigong Mountain, Tangshan town, Jiangning County, Nanjing City on March 13, 1993. Yet another skull fossil of *Homo Erectus* (adult male) was found on April 17, 1993 also at this area. MU Xi-nan *et al.* and XU Qin-qi *et al.* had reported the finding of the fossil man and fossil mammalian, but at that time they hadn't dated the fossil man yet (MU, 1993; XU, 1993). Later an archaeology team jointly organized by Nanjing Museum and the Archaeology Department of Peking University found over 1000 fossil mammalian and 15 fossil

species in the first phase. Five-group dating of the fossil by Uranium series age method by the Archaeology Department of Peking University show that it varied from 2.8×10^5 a to 4.3×10^5 a (MU, 1983). Since the two skulls of Tangshan *Homo Erectus* were similar to Peking *Homo Erectus*', animal species in this area had many similarities to those in Zhoukoudian, Beijing. So the archaeology team initially thought that Nanjing *Homo Erectus* might live in the later Mid-Pleistocene (about 350 ka B. P.). The authors were invited to take part in the combined archaeology team in December 1994. Through many investigations

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moving).

3) The east and west branch of the sinkhole in front of talus materials were widened continuously. The fossil skull of *Homo Erectus* and animal fossils rolled from the slope and accumulated in the ape cave due to water and gravity.

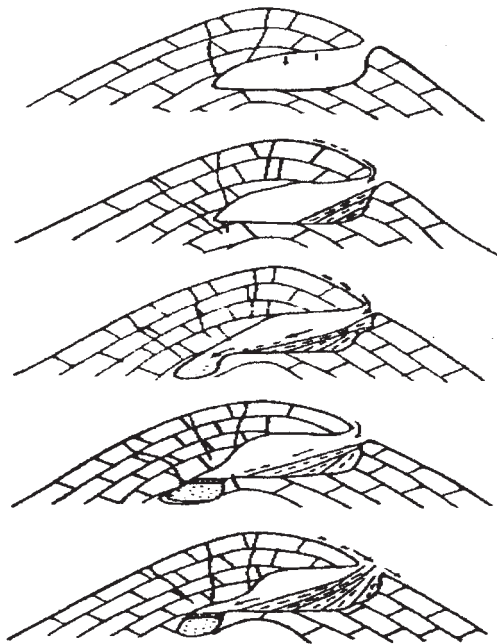


Fig. 3 A sketch map of the formation and evolution of the Huludong Cave

4) In the later stage ground water sank on the sediment of ape cave and formed a calcium board in the stable environment.

5) Accumulation process of talus materials continued and eventually formed the present landscape that the natural cave mouth was crammed by talus material.

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