

FOSSIL HUMAN SKULL BASE OF LATE PALEOLITHIC STAGE FROM CHILINSHAN, LEIPIN DISTRICT, KWANGSI, CHINA

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A fossil human skull base together with 3 pieces of stone artefacts was found in a limestone cave of the hill Chilinsan (Pl. I), Leipin District, Kwangsi, by the members of the 1956 expedition of the Institute of Vertebrate Paleontology, Academia Sinica. Associated with the skull are tooth fragments of *Cervus* and *Sus* and a large number of molluscan shells. The cave is about 7 meters above the present ground level and the deposit in it can be divided into two layers (Fig. 1). The upper layer consists of yellowish gray breccia subdivided by stalagmitic crusts into three layers, in the first of which the fossil human skull was found. The lower layer consists of red loam.

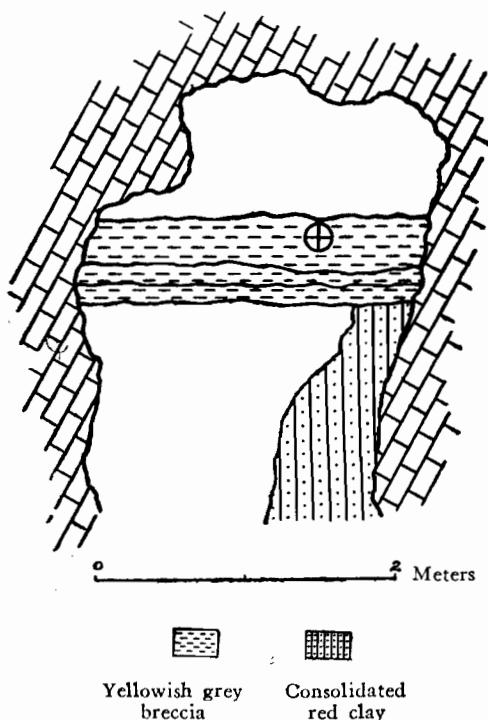


Fig. 1 Transverse section of "Kait'o-tung" in West-East direction.

The cultural remains of this site are very few. Only thin layer of ashes with burnt bone and charcoal and one piece of chipping implement made of quartzite pebble (Fig. 2) and two flakes were found in the upper layer of the deposit. These stone artifacts are not characteristic for their cultural periods.

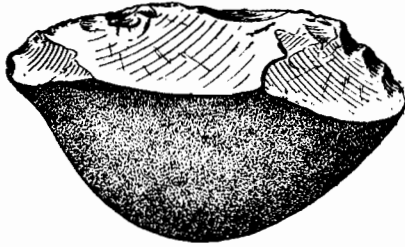


Fig. 2 The stone artifact from Kait'o-tung Cave of Chilinsan $\times 2/3$.

The human skull base (Pl. II) preserved includes a large part of the maxillae and palate bones, the right zygomatic bone and the occipital bone. The three pieces are disconnected. They are moderately mineralized and of grayish white color. The teeth are strongly worn and the surface of the skull is rough. These indicate that the skull probably represents an old male individual.

The horizontal parts of the maxillae and palate bones form a complete bony hard palate. Since the palate is high, the floor of the sinus maxillaris is at a lower level than the floor of the nose. This feature is in accordance with the average occurrence in modern man. The nasal floor is even and is separated from the clivus naso-alveolaris by a somewhat distinct ridge at the entrance to the nasal floor. The lower part of the nasal aperture is relatively wide. The canine fossa is shallow. The canine eminence is very prominent, but it does not extend upward to the nasal floor. The alveolar prognathism is moderate. The palate is U-shaped and its surface is rugged as in modern man. All teeth are strongly worn. The chewing surfaces of molars are rectangular instead of square in shape.

The main part of the right zygomatic bone and a part of its orbital process are preserved. The remaining piece of the orbital process is nearly horizontal and forms almost a right angle with the anterior surface of the bone. In modern man, the orbital process usually curves downward. The anterior surface is smooth and slightly convex and there is a marked bending near its maxillary border. This seems to indicate that the skull has no marked anterior projecting malars as the modern Mongoloids.

The squamous part, the left condylar and the left basilar part of the occipital bone are mostly preserved. The lambda-opisthion arc length is about 121 mm, chord, 101 mm with an index of 83.5. In modern man the average occipital curvature index of all races is 82.8. Thus the occipital curvature index of the Chilinsan skull is very close to the average figure of modern man.

Length of the mid-sagittal arc of the upper scale of the occipital is 70 mm, while that of the lower scale is 51 mm. In almost all cases in modern man, the upper scale is longer than the lower one. The external occipital protuberance is medium in size and the external occipital crest is slight. The superior nuchal line is a distinctly marked ridge, while the inferior one is less distinct.

The internal surface is deeply concave and is divided by a cruciate eminence into four fossae. The superior fossae are smaller and deeper while the inferior ones are much wider. The right arm of the cruciate eminence is higher than the left one as is usually in modern man. The internal occipital protuberance is situated in the same level as the external one.

From the foregoing description, it is apparent that the fossil human skull belongs to the type of *Homo sapiens*. Mammalian and molluscan fossils associated with the human skull are mostly of modern species. It is concluded from the fossils and the geological evidence that the human skull is of Late Paleolithic age.

The importance of the discovery lies in the fact that it is the first fossil human skull found in South China cave deposits. It provides evidence that more fossil human materials can be found in the numerous caves of South China. Another interesting point is that the lower part of the nasal aperture of the Chilinsan human fossil is relatively wide as usually in modern Mongoloids in the one hand and it possesses flatter malar bone and a somewhat distinct ridge at the entrance to the nasal floor on the other hand. In modern Mongoloids, the malar bones are strongly projecting forward and there is usually gutter at the entrance to the nasal floor. In other words, it does not possess features so marked as in modern Mongolian groups. More materials of similar human fossils in South China caves will surely provide good evidences to the origin and distribution of the Mongoloid race.

References

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EXPLANATION OF PLATES

PLATE I

Kait'o-tung Cave of Chilinshan where human fossils were found, entrance of the cave marked with cross sign.

PLATE II

Chilinshan human skull.

1. Inferior view, embedded in breccia matrix.
2. Inferior view of bony hard palate with right zygomatic, $\times 1/1$.
3. Anterior view of maxillae with right zygomatic, $\times 1/1$.
4. Superior view of bony hard palate with right zygomatic, $\times 1/1$.
5. External view of left condyle, $\times 1/1$.

*Chia and Woo: Fossil Human Skull Base of Late Paleolithic Stage
from Chilinsan, Leipin District, Kwangsi, China*

Plate I

