

## **\* 4. The society during the Late Pleistocene to the Early Holocene in East Asia**

### **16199 - Moving Upwards and the Ecological intelligence: Narcotic avoiding strategies of the earliest settlers on Tibetan Plateau**

Presentation type: Oral presentation

**Author(s):** Liu, Xinyi (Washington University in St. Louis, St. Louis, USA)

This paper considers the ecological challenge and ecological intelligence in relation to settling the highland Tibetan Plateau during the Holocene. Up until now, research into the prehistory of plant foods in Eurasia has been conducted with foci of cereal crops and Neolithic farming communities. In recent years, scholarly interests have extended to explore plant use strategies in some extreme environments. This paper shifts focus to the problems of human ecology itself, and explores the challenge of acquiring sufficient plant foods in the novel environments, namely narcotic avoiding strategy. Recent published archaeobotanical evidence from the highland Tibet echos the situation, in a different context, of the spread of Middle and Upper Paleolithic communities into northerly regions that presented considerable challenges in relation to the gathering of plant food. These challenges related to the drop in biological productivity, the increasing seasonality of biomes and the radical taxonomic shifts between ecosystems. The movement further upwards in the Holocene echos the movement further northwards in the Pleistocene, as the ecological knowledge would need to be transferable between ecosystems, bringing a facility for extensive ecological intelligence.

## **15950 - New archaeobotanic data for the transition from hunting/gathering to millet farming in North China**

Presentation type: Oral presentation

**Author(s):** zhao, zhijun (*institute of archaeology, cass, Beijing, China*)

China is one of the major centers for the origin of agriculture in the world. There are several independent sub-centers of origin within China, and an important one is North China along the Yellow River areas where the origin of millet farming is centered, with the foxtail millet and broomcorn millet the most representative crops. Recently, the study of the origin of millet farming has attracted academic attention due to the dramatic development of archaeobotanical research in China. For example, abundant charred millet grains have been recovered by flotation technique from the Yuhuazhai site, which is located at Shaanxi Province of North China, and dated to 8000~6000 BP, provide direct archaeological evidence for the study of the process of millet domestication and formation of millet farming. The changes of morphological characteristics of the foxtail millets from different layers reveal a slow process of millet domestication. The quantitative analysis of millet grains and other plant remains recovered from the site also suggests a slow transition to millet farming, such as the time around 8000 BP appears to have been critical for the origin of millet farming, but the hunting-gathering scenario completely replaced by millet farming sometime around 6500 BP.

## **15948 - The discoveries and study on the archaeological sites dating to the Late UpperPleistocene to the Early Holocene**

Presentation tpye: Oral presentation

**Author(s):** *Zhai, Shaodong (the Institute of Archaeology, Chinese Academy of Social Sciences, Beijing, China)*

Recent years, more and more sites dating to 35,000 to 9,000 years BP were discovered in China. This period happens to be the late Upper Pleistocene to the Early Holocene. In this time, the global environment and climate greatly changed so that people's production and life style greatly changed too. At present, there have been over 30 archaeological sites discovered dating to this period and these discoveries showed that people's material life was obviously different from those before and after. The microlith industry became declined from prosperous, and the ground stone tools, pottery and domesticated plants occurred. With the quantity of the discoveries increasing, scholars put more and more attention on these discoveries. They carried out the study from chronology, the origin and development of the microlith, subsistence pattern, the settlement pattern change, and the transition mode from Paleolithic Period to the Neolithic Period, and are outlining the society of this period. This presentation will summarize the discoveries dating to this period in China and introduce the related studies, and then propose some suggestions for further study.

## 15869 - The significant achievement of xiachuan site excavated in 2014

Presentation type: Oral presentation

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In 2014, The excavation have important progress in the following two aspects.

In terms of strata, we compared susceptibility data of 4 section from Fuyihegeliang and Niulu locality and clarify the stratigraphic distribution and preservation of the two locality, while there are 2-4 charcoal samples were collected in each section and measured 13 radiocarbon data, these data indicate that the earliest age of Xiachuan site can reach 40kbp and last to 22kbp. On this basis, we statistics each spit of stone artifacts. About 26 / 28 kbp, the knapping technology of the Xiachuan occupant has undergone a changes. Before the time, although there had long-distance transmission of high quality black chert, knapping technology is still simple core – flake technology, and the choppers tool is very unique. Since then there have been blade/microblade technology, mainly including blade, microblade, crest blade, conical microblade core, backed knife, end scraper, wedge. Also need to highlight is that the stone quern is mainly before 26 / 28 kbp. And have little to do with the blade /microblade technology.

Blade technology is an important late Paleolithic culture factor in Europe, West Asia and Siberia, but also an important symbol of modern behavior. In China, it is mainly distributed in Shuidonggou site of Ningxia, Jinsitai site in Inner Mongolia, Jilin and Heilongjiang regions. The new discovery of blade technology in Xiachuan site will provide important information for exploring the modern human origin, migration and communication in north China.

In the Loc. Fuyihegeliang, we also find 6 hearths, stone quern and hematite coexist and a large number of using fire remains. Among those hearth, one of them is conserved completely, the top of which complete sealed by gravel, opened the middle of the gravel, and found a large number of charcoal in the center, and under the Peripheral gravel, there are no charcoal, after cleared charcoal, there is a small shallow pit, soil of pit bottom has been red-hot. Around every hearth, there are several stone quern. And in the uncover process, we often found hematite, hematite powder. Although it is very tiny, but the color red is easily identified, the largest one is more than one centimeter. These findings make us realize that the stone quern in Xiachuan site is not only processing plants seed, may also be related to the processing of hematite, and the latter may have more possibility.

We also find boat shaped microlith core which have popular in north China after LGM in the upper strata which had disturbed by farming activity, although the age of the strata and the microlith core has not been determined, but it's indicate that the microlith have different developing stage in Xiahuan site, looking for the origin formation after 22 kbp is one of the main aim in the future.

## **15846 - The society of the Late Pleistocene hunters and gatherers in central China**

Presentation type: Oral presentation

**Author(s):** Wang, Youping (*Dept. of Archaeology, Peking University, Beijing, China*)

During the last two decades, many new Paleolithic sites were found in Zhengzhou region, central China. Ten thousands stone artifacts and other information related the settlement and society of Late Pleistocene hunter and gatherers have been collected from the excavations in Zhijidong cave, and many other open air site such as the Laonainaimiao, Zhaozhuang, Xishi and Lijiagou and so on. The research result on new discoveries indicates that the hunters and gatherers with pebble tool industry occupied the leading position in the early Late Pleistocene in this region. The owners of flake tool industry also were found, and apparently succeed the pebble tool tradition during the middle of Late Pleistocene, and then were people with blade and micro-blade industry dominated this area until the end of Pleistocene. A basic chronological frame of the Middle and Upper Paleolithic in Zhengzhou region has been also established by recent studies. This paper will discuss those new achievements for a better understanding on the society of the Late Pleistocene hunters and gatherers in central China.