

How did prehistoric humans occupy the Tibetan Plateau?

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Four stages of human migration to the Tibetan Plateau. Credit: ©Science China Press

The Tibetan Plateau, as the Earth's third pole, has long been of interest to science, especially in relation to its human history. Over the last few decades, our understanding of the history of human occupation of the Tibetan Plateau has significantly improved as a result of progress made



in archaeological, genetic and earth science studies. However, arguments remain about major discrepancies that exist between the findings of studies based on different materials and using different approaches. A recent study did a comprehensive review of previous studies of the human history of the Tibetan Plateau and the nature of human adaptation to the high elevation environment.

The study is published in the latest issue of *Science China: Earth Sciences*, and is titled "History and possible mechanisms of prehistoric <u>human</u> migration to the Tibetan Plateau". The research is led by Lanzhou University, the Gansu Provincial Institute of Cultural Relics and Archaeological Research, the Qinghai Provincial Institute of Cultural Relic Relics and Archaeological Research and the Tibetan Cultural Relic Conservation Institute.

Prehistoric human history on the Tibetan Plateau is a hotly debated topic. Recent studies have not only yielded a large amount of archaeological material and genetic information about the Tibetan people, but they have also proposed divergent hypotheses. A comprehensive analysis of this diverse material, and of the resulting conclusions, is urgently required.

By reviewing all of the previous prehistoric archaeological work on the Tibetan Plateau and reanalyzing the available data, this study reconstructs the history of human migration to the Tibetan Plateau and discusses the possible mechanisms involved. We propose that humans first arrived in the relatively low-elevation Northeastern Tibetan Plateau from the adjacent Western Loess Plateau via the He-Huang Valley, and then moved further south to the central <u>plateau</u>. This process consisted of four stages. (i) During the climatic amelioration of the Last Deglacial period (15-11.6 ka BP), Upper Paleolithic hunter-gatherers with a well-developed microlithic technology first spread into the Northeastern Tibetan Plateau. (ii) In the early-mid Holocene (11.6-6 ka BP),



Epipaleolithic microlithic hunter-gatherers were widely distributed on the northeastern plateau and spread southwards to the interior plateau, possibly with millet agriculture developed in the neighboring lowelevation regions. (iii) In the mid-late Holocene (6-4 ka BP), Neolithic millet farmers spread into low-elevation river valleys in the northeastern and southeastern plateau areas. (iv) In the late Holocene (4-2.3 ka BP), Bronze Age barley and wheat farmers further settled on the highelevation regions of the Tibetan Plateau, especially after 3.6 ka BP. However, all the reported Paleolithic sites earlier than the LGM on the Tibetan Plateau need further examination.

The study presents a comprehensive reanalysis of the available archaeological evidence and data pertaining to the history of human occupation of the Tibetan Plateau, discusses how humans spread onto the plateau and confirms the close relationship between humans on the Loess Plateau and the Tibetan Plateau. In addition, it also highlights current problems involved in the study of the history of human occupation of the Tibetan Plateau and proposes possible solutions. As well as stimulating further research on the topic, the conclusions are of significance for studies of the adaptation of humans to other high elevation environments.

More information: DongJu Zhang et al, History and possible mechanisms of prehistoric human migration to the Tibetan Plateau, *Science China Earth Sciences* (2016). DOI: 10.1007/s11430-015-5482-x

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