
Revealing a 5000-year-old Beer Recipe in China

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Abstract

The pottery vessels from the Mijiaya site reveal the first direct evidence of *in-situ* beer making in China, based on the analyses of phytolith, starch and chemical residues. Our data reveal a surprising beer recipe in which broomcorn millet (*Panicum miliaceum*), barley (*Hordeum vulgare*), Job's tears (*Coix lacryma-jobi*), and tubers were fermented together. The results indicate that people in China established advanced beer brewing technology by utilizing specialized tools and creating favorable fermentation conditions around 5000 years ago. For the first time we are able to identify the presence of barley in archaeological materials from China by applying a new method based on phytolith morphometrics, predating macrobotanical remains of barley by 1000 years. Our findings imply that the early beer making may have motivated the initial translocation of barley from the Western Eurasia into the Central Plain of China before the crop became a part of agricultural subsistence in the region 3000 years later.

Keywords: alcohol, China, phytolith analysis, starch analysis

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