

## RECONSTRUCTING CHANGES IN RICE WATER MANAGEMENT THROUGH ARCHAEOLOGICAL WEEDS IN NEOLITHIC CHINA

Alison WEISSKOPF<sup>1</sup>, Ling QIN<sup>1</sup>, Dorian Q. FULLER<sup>1</sup>

*Key words: Rice cultivation regime, Weed flora, Crop processing*

How can ancient rice arable systems be seen using archaeobotanical data? One method is by building modern analogues using the crop weeds found within each type of cultivation regime. Phytoliths and weed seeds can be used to show rice crop processing residues, for example changing significance of input from threshing/winnowing as opposed to predominantly dehusking waste. While these factors may affect weed assemblages, ecological signals are still evident. Cultivation conditions can be determined by the associated weed flora, diatoms and sponge spicules. Our current research program based on analogue field studies and a database of rice weeds aims to refine methods for identifying the signature of different rice cultivation regimes through weed seed, phytolith and diatom assemblages. The results of a pilot study analysing weed seeds and phytoliths, diatoms and sponge spicules from Baligang, Henan, central China indicate wet rice cultivation but show distinct variation between periods (Yangshao, Qijialing to Longshan). This chronological change points to contrasting water management regimes, with a more intensive control of water in the middle period.

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<sup>1</sup> Institute of Archaeology, University College London, 31-34 Gordon Square, London WC1H 0PY, UK,  
e-mail: d.fuller@ucl.ac.uk