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# Bulliform phytolith research in wild and domesticated rice paddy soil in South China

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## Résumé

Bulliform phytoliths play an important role in researching rice origins as they can be used to distinguish between wild and domesticated rice. Rice bulliform phytoliths are characterized by numerous small shallow fish-scale decorations on the lateral side. Previous studies have shown that domesticated rice has a larger number of these decorations than wild rice and that the number of decorations  $\geq 9$  is a useful feature for identifying domesticated rice. However, this standard was established based on limited samples of modern rice plants. In this study, we analyzed soil samples from both wild and domesticated rice paddies. Results showed that, in wild rice soil samples, the proportion of bulliform phytoliths with  $\geq 9$  decorations was  $17.46\% \pm 8.29\%$ , while in domesticated rice soil samples, the corresponding proportion was  $63.70\% \pm 9.22\%$ . This suggests that the proportion of phytoliths with  $\geq 9$  decorations can be adopted as a criterion for discriminating between wild and domesticated rice in prehistoric soil. This indicator will be of significance in improving the application of fish-scale decorations to research into rice origins and the rice domestication process.

**Mots-Clés:** rice, bulliform phytolith, fishscale decoration, rice domestication

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