

## 280-million-year old fossil starch reveals early plant-animal mutualism

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DATA REPOSITORY

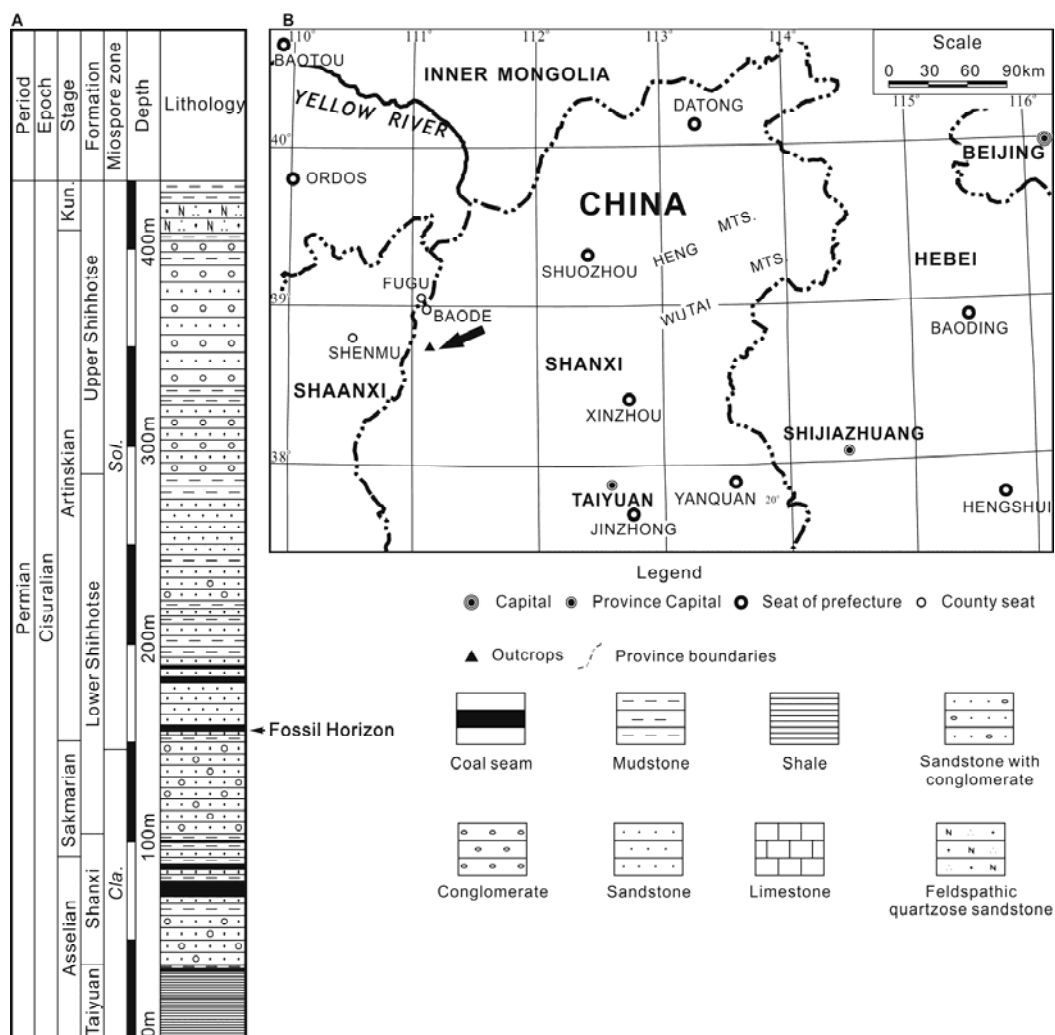


Figure DR1. (A) Lithostratigraphy of the Cisuralian deposits of the Baode section, North China. Palynological biozones follow Liu, Zhu and Ouyang (2015). Arrow points to the fossil horizon. Kun = Kungurian.

(B) Sketch map showing the location of the studied Baode section, Baode County, Shanxi Province (modified from Liu, Zhu and Ouyang (2015)). Arrow points to the Baode section in the Baode County.

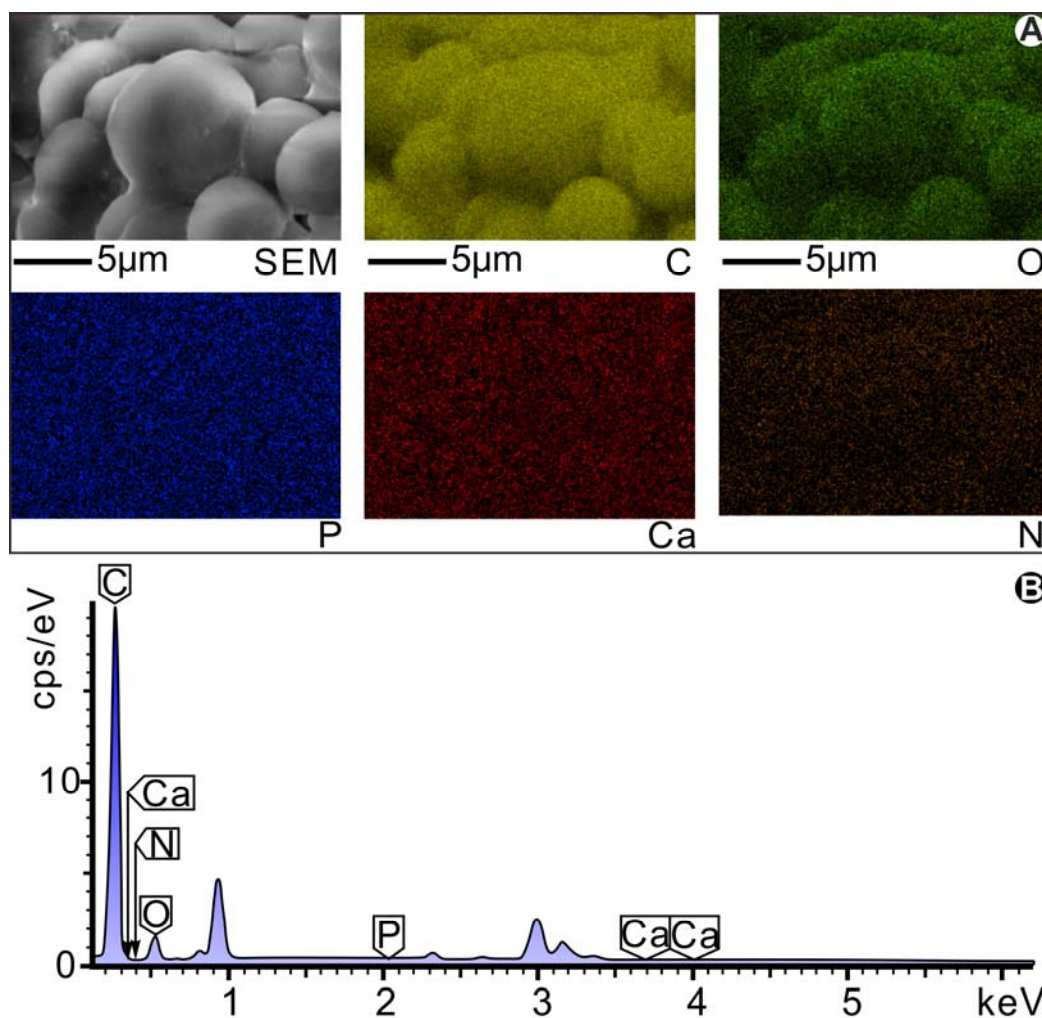


Figure DR2. Energy-dispersive X-ray spectroscopy analysis (A) showing the distribution of Carbon (C), Oxygen (O), Phosphorus (P), Calcium (Ca) and Nitrogen (N), on the surface of granular material (scanning electron microscopic, SEM). Spectra showing the main components present in granular material are Carbon and Oxygen (B), further demonstrating that these granular materials are starch grains.

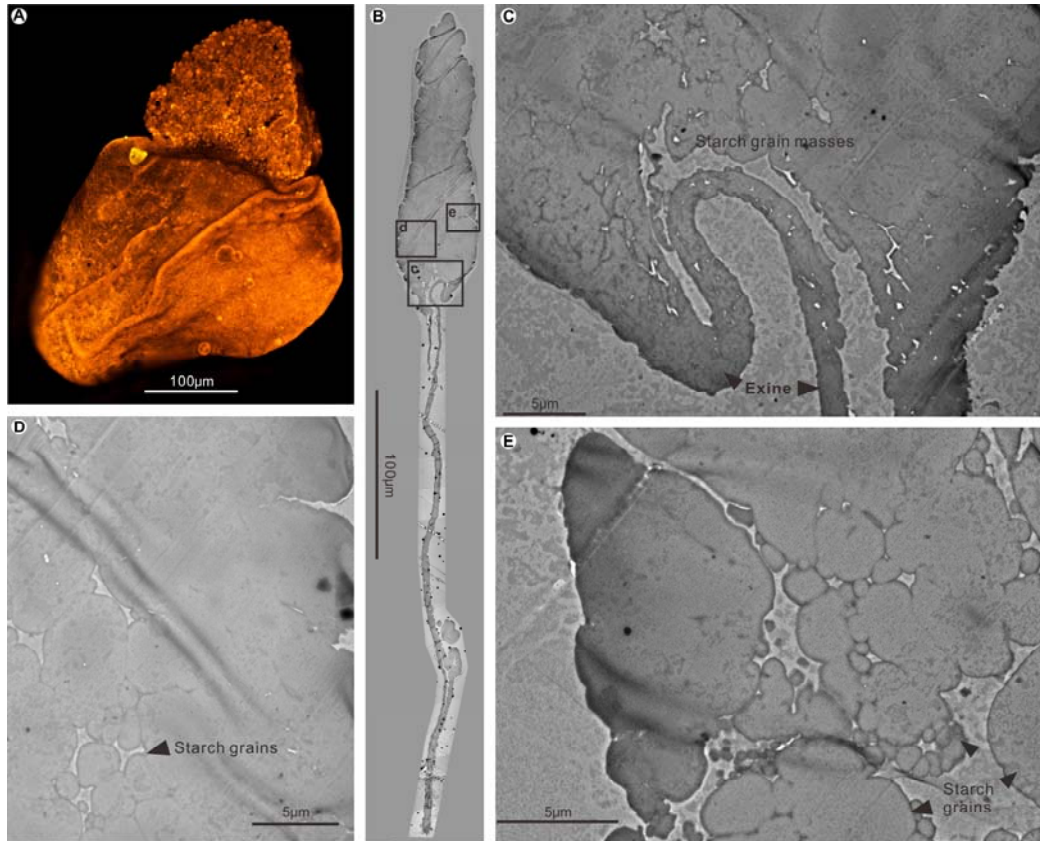


Figure DR3. Fluorescence microscopic and transmission electron microscopic (TEM) images of *Lagenicula*-type megaspore with starch grains on its gula. (Images in black rectangular are enlarged in pictures with the same number). (A) Fluorescence-microscopic image of megaspore used for TEM analysis; (B) Composite image of section encompassing the entire megaspore; (C) Details of the opened proximal surface of megaspore. (D and E). Details of the starch grains with different shapes and sizes on the gula.