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The Earliest Herbaceous Seed Plant from the Middle Jurassic of China

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Unlike woody plants with secondary growth, truthful herbaceous plants without secondary growth are hitherto restricted to angiosperms in seed plants. As there are increasing number of reports of possible angiosperms in the Triassic and Jurassic, recent research seem to suggest that many pioneer angiosperms are herbaceous, all these make herbaceous angiosperms in the Jurassic rather expected. However, pre-Cretaceous herbs are never seen, leaving the origin and evolution of herbs and angiosperms mysterious. Recently my colleagues and I reported a whole plant herbaceous angiosperm, *Juraherba bodae*, from the Middle Jurassic (>164 Ma) of Inner Mongolia, China [1]. *Juraherba* has enclosed ovules/seeds, making its angiospermous affinity self-evident. Unlike fragmentary mesofossils, the specimen of *Juraherba* is a small plant that is preserved complete, including physically connected root, stem, leaves, and fructifications. Its Middle Jurassic age marks the earliest record of herbaceous seed plants and herbaceous angiosperms. This discovery topples the woody-primitive-angiosperm stereotype, provides a more rational interpretation for the unexpected greater molecular distance among the monocots, and demands a refresh look at the evolutionary theories other than the prevailing ones.

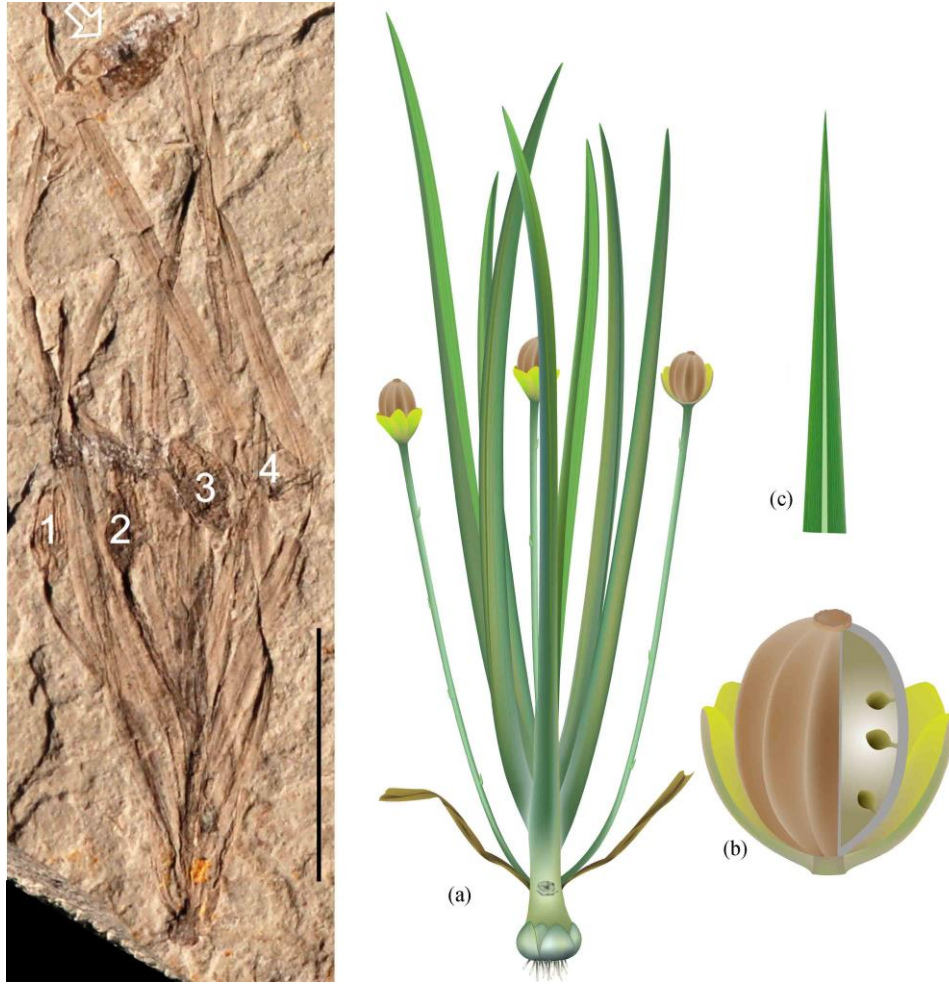


Figure 1: The specimen (left) and reconstruction (right) of Juraherba bodae.

References:

[1] Han G, Liu Z-J, Liu X, Mao L, Jacques FMB, Wang X, Acta Geol Sin (Engl Ed) 90(1):

