

## The oldest arthropod body fossils from the Cambrian Stage 1 (Fortunian) in South China

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The oldest arthropod body fossils hitherto known are trilobite (*Abadiella*) and bradoriid (*Kunmingella*) in the Chengjiang fauna from Lower Cambrian Stage 3 (ca. 517 Ma) in Yunnan, South China. In contrast, no arthropod fossil was reported in diversified small shelly fossils (SSFs) from the lowermost Cambrian (Fortunian and Stage 2). Our latest litho- and bio-stratigraphical study on the lowermost Cambrian at the Hongjiachong section in the Chengjiang area identified for the first time 2 different types of bivalved arthropod body fossils. These 2 types with 2 specimens for each, occur from the Fortunian phosphorite (Zhongyicun Mb.), around the boundary horizon between the *Anabarites trisulcatus-Protohertzina anabarica* SSF Assemblage Zone and *Paragrobolilus subglobosus-Purella squamulosa* Assemblage Zone. Type A: subtriangular, 0.4 mm long, anterior/posterior asymmetric, dorsal outline straight, outlines of ventral, posterior, and anterior margins slightly curved outward, carapace with reticulate ornamented, two segmented. Type B: 1.7 mm long, anterior/posterior asymmetric, oval shaped, carapace with smooth surface. The former type is similar to Cenozoic ostracods in general form and size, and in having reticulate ornamented two segments. The oldest ostracod was reported previously from the lowermost Ordovician (Tremadocian) in central England. On the other hand, the latter type is similar to bradoriid in general size and form, but without lobes. The oldest bradoriid was reported from the Cambrian Stage 3 in South China. The present new finding of the oldest (Fortunian) arthropod body fossils demonstrates that arthropod has appeared at least 18 Myr earlier than previously believed.

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