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Trunk ornament on the palaeoscolecid worms *Cricocosmia* and *Tabelliscolex* from the Early Cambrian Chengjiang deposits of China

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Cricocosmia jinningensis, one of the most abundant palaeoscolecid worms from the Lower Cambrian Chengjiang deposits of south China, was originally described as bearing double longitudinal rows of lateral conical sclerites on the trunk. New observation reveals that the ventral trunk bears an additional set of ventral sclerites while the lateral sclerites display a tubercle-bearing (inner surface) and net-like (outer surface) microstructure similar to that of *Tabelliscolex hexagonus*. These findings mean that: (1) *Cricocosmia* shows a dorso-ventral and antero-posterior differentiation in trunk ornament; (2) as seen from the microstructure, *Cricocosmia* is close to *Tabelliscolex hexagonus*, supporting the idea that lobopodians and arthropods, both of which show an upper capping layer in the outer sclerites, are more closely related than the palaeoscolecidans; and (3) the similarities among the scalids, pharyngeal teeth and the trunk spines of palaeoscolecidans are superficial. Tabelliscolex maanshanensis sp. nov., characterized by an inner concentric circlet of laminae in each tubercle of the lateral trunk plate, is proposed herein. Element mapping reveal that four known pathways of preservation can be found co-occurring in a single specimen of *Cricocosmia* or *Tabelliscolex*, which sheds new light on the preservation of the Chengjiang fossils.

Key words: Priapulida, Palaeoscolecida, *Cricocosmia*, *Tabelliscolex*, Chengjiang, Cambrian, China.

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