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A probable oligochaete from an Early Triassic Lagerstätte of the southern Cis-Urals and its evolutionary implications

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Oligochaetes, despite their important role in terrestrial ecosystems and a tremendous biomass, are extremely rare fossils. The palaeontological record of these worms is restricted to some cocoons, presumable trace fossils and a few body fossils the most convincing of which are discovered in Mesozoic and Cenozoic strata. The Olenekian (Lower Triassic) siliciclastic lacustrine Petropavlovka Lagerstätte of the southern Cis-Urals yields a number of extraordinary freshwater fossils including an annelid. The segmented body with a secondary annulation of this fossil, a subtriangular prostomium, a relatively thick layered body wall and, possibly, the presence of a genital region point to its oligochaete affinities. Other fossil worms which have been ascribed to clitellates are reviewed and, with a tentative exception of two Pennsylvanian finds, affinities of any pre-Mesozoic forms to clitellate annelids are rejected. The new fossil worm allows tracing of a persuasive oligochaete record to the lowermost Mesozoic and confirms a plausibility of the origin of this annelid group in freshwater conditions.

Key words: Annelida, Clitellata, Oligochaeta, Mesozoic, Lagerstätte, Russia.

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