Megacnemus – a forgotten reptile, presumably from the Triassic of Poland

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Protorosaurs were important components of many Permian and Triassic ecosystems. Some of the known protorosaurian taxa have been established on the basis of fragmentary material. One of these is Megacnemus grandis von Huene, 1954, of which only a single complete, yet distorted propodial – originally interpreted as a femur – is known. Although exact locality data are missing, von Huene (1954) pointed out that the specimen had most probably been found in the Middle Triassic deposits near Gogolin (southwest Poland). Since its initial description the genus Megacnemus has received very little attention. Our attempt is to redescribe the type specimen and assess the phylogenetic position of the taxon. The protorosaurian affinities of Megacnemus proposed by von Huene (1954) have been accepted in later publications; however, the bone differs from femora of most ‘traditional’ protorosaurs, such as Protorosaurus, Macrocnemus and tanystropheids, by its robustness and the lack of a sigmoidally curved shaft (however, the latter might have been affected by the distortion of the bone). Yet, Megacnemus does share some traits with the humeri and femora of Dinocephalosaurus from the Middle Triassic of China, and the humeri of Macrocnemus from the Middle Triassic of Italy, Switzerland and China. These are large expansions of the proximal and distal ends, as well as a strongly concave postaxial margin and a near-straight preaxial margin of the shaft. Despite these similarities, the bone of Megacnemus is much longer and has less rounded margins of the proximal and distal ends. However, should the similarities between Megacnemus, Macrocnemus and Dinocephalosaurus indeed be indicators of true affinity between those taxa, then this would be another case for a link between closely related Triassic protorosaurs from localities in Europe and China.
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