

The giant pliosaurid that wasn't—revising the marine reptiles from the Kimmeridgian, Upper Jurassic, of Krzyżanowice, Poland

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Marine reptiles from the Upper Jurassic of Central Europe are rare and often fragmentary, which hinders their precise taxonomic identification and their placement in a palaeobiogeographic context. Recent fieldwork in the Kimmeridgian of Krzyżanowice, Poland, a locality known from turtle remains originally discovered in the 1960s, has reportedly provided additional fossils thought to indicate the presence of a more diverse marine reptile assemblage, including giant pliosaurids, plesiosauroids, and thalattosuchians. Based on its taxonomic composition, the marine tetrapod fauna from Krzyżanowice was argued to represent part of the “Matyja-Wierzbowski Line”—a newly proposed palaeobiogeographic belt comprising faunal components transitional between those of the Boreal and Mediterranean marine provinces. Here, we provide a detailed re-description of the marine reptile material from Krzyżanowice and reassess its taxonomy. The turtle remains are proposed to represent a “plesiochelyid” thalassochelydian (*Craspedochelys?* sp.) and the plesiosauroid vertebral centrum likely belongs to a cryptoclidid. However, qualitative assessment and quantitative analysis of the jaws originally referred to the colossal pliosaurid *Pliosaurus* clearly demonstrate a metriorhynchid thalattosuchian affinity. Furthermore, these metriorhynchid jaws were likely found at a different, currently indeterminate, locality. A tooth crown previously identified as belonging to the thalattosuchian *Machimosaurus* is here considered to represent an indeterminate vertebrate. The revised taxonomy of the marine reptiles from Krzyżanowice, as well as the uncertain provenance of the metriorhynchid specimen reported from the locality, cast doubt on the palaeobiogeographic significance of the assemblage.

Key words: Pliosauridae, Metriorhynchidae, Crocodylomorpha, Thalassochelydia, Kimmeridgian, Jurassic, Poland.


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