

Earliest Laurasian sauropod eggshells

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Megaloolithid eggshells, known from many Cretaceous deposits since 19th century, are now recognized as remnants of sauropod dinosaurs. Our paper reports the discovery of megaloolithid egg remains from the Middle Jurassic (Bajocian) of the Quercy area (southwestern France). The new Jurassic ootaxon differs from related Cretaceous oospecies in having unusually thin shells. Even *Megaloolithus aureliensis*, the thinnest Cretaceous megaloolithid from France is three times thicker than the Jurassic eggshells. The cladistic analysis of ootaxa reveals a peculiar point in contradiction with the phylogenetic results based on skeletal remains: the Megaloolithidae belonged to sauropod dinosaurs, which appear to be the sister group of the hadrosaur eggs (Spheroolithidae oofamily). This result could indicate a significant amount of homoplasy in the evolution of eggshell structures, depending strongly on the incubation environment (particularly for some characters as ornamentation, pore openings and pore canals), the reproductive physiology and the oviduct function. The Bajocian eggshells might represent the earliest offshoot of the Megaloolithidae oofamily and represent the earliest sauropod eggshell record known from the deposits of Laurasia supercontinent.

Key words: Sauropoda, fossil eggs, megaloolithid eggshells, Bajocian, Quercy.

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