

A new Early Triassic crinoid from Nevada questions the origin and palaeobiogeographical history of dadocrinids

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Knowledge of the early evolution of post-Palaeozoic crinoids mainly relies on the well-preserved and abundant material sampled in Triassic Konservat-Lagerstätten such as those from the Anisian Muschelkalk (Middle Triassic) of the Germanic Basin. These crinoid-bearing Lagerstätten have been central to understanding the rapid evolution and diversification of crinoids after the dramatic Permian/Triassic Boundary biological crisis that led the class to near-extinction. The Encrinida are the emblematic crinoids of the Triassic. They are mainly known from rich fossil deposits where their abundant ossicles are at the origin of the extensive crinoidal limestone beds of the German Upper Muschelkalk. So far, they were first represented in the Middle Triassic by the family Dadocrinidae and genus *Dadocrinus*. In the present work, a new species *Dadocrinus montellonis* sp. nov., is described based on a well-preserved, almost complete articulated specimen from the Spathian (Lower Triassic) of Nevada (USA). The new species differs from other species of *Dadocrinus* by its palaeobiogeographic position but also by its earlier stratigraphic occurrence and ancestral morphology. It represents the first reported occurrence of *Dadocrinus* outside the Germanic Basin prior to the Middle Triassic and also the oldest firm evidence of its presence in the Early Triassic (middle–late Spathian). This discovery sheds new light on the origin of post-Palaeozoic crinoids. It suggests a much wider distribution than commonly assumed for the genus *Dadocrinus* and implies that the first dadocrinids originated either in the Panthalassa or Tethys oceans, and then dispersed over long distances in a relative short period of time.

Key words: Crinoidea, Articulata, *Dadocrinus*, Early Triassic, Spathian, Nevada, USA.

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