Diversification rates indicate an early role of adaptive radiations at the origin of modern echinoid fauna

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Abstract

Evolutionary radiations are fascinating phenomena corresponding to a dramatic diversification of taxa and a burst of cladogenesis over short periods of time. Most evolutionary radiations have long been regarded as adaptive but this has seldom been demonstrated with large-scale comparative datasets including fossil data. Originating in the Early Jurassic, irregular echinoids are emblematic of the spectacular diversification of mobile marine faunas during the Mesozoic Marine Revolution. They diversified as they colonized various habitats, and now constitute the main component of echinoid fauna in modern seas. The evolutionary radiation of irregular echinoids has long been considered as adaptive but this hypothesis has never been tested. In the present work we analyze the evolution of echinoid species richness and morphological disparity over 37 million years based on an extensive fossil dataset. Our results demonstrate that morphological and functional diversifications in certain clades of irregular echinoids were exceptionally high compared to other clades and that they were associated with the evolution of new modes of [...]
Correction: Diversification rates indicate an early role of adaptive radiations at the origin of modern echinoid fauna

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Fig 4 is incorrect. The authors have provided a corrected version here.


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Reference