

{rokbox title=|Bayesian phylogeny (a) and network analysis (b) of Batoidea species from the western Mediterranean :: Image: Authors| thumb=|images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-ieo-history-mediterranean-batoidea-ramirez-et-al-2018-thumb.jpg|images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-ieo-history-mediterranean-batoidea-ramirez-et-al-2018.jpg{/rokbox}

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[The evolutionary history of Mediterranean Batoidea \(Chondrichthyes: Neoselachii\).](https://doi.org/10.1111/zsc.12315) Zool Scr. 2018;47:686–698. <https://doi.org/10.1111/zsc.12315>.

Abstract: Batoidea (rays, skates and their relatives) is the largest group included in the subclass Elasmobranchii. Mediterranean Batoidea fauna is relatively diverse, characterised by a history of isolation and connectivity resulting from tectonic movements and changes in ocean circulation. The evolutionary histories of Batoidea species in the Mediterranean were estimated from two mitochondrial markers (COI and NADH2) through dating and Bayesian analyses. Additionally, two species delimitation analyses (Poisson Tree Process and General Mixed Yule Coalescent) were conducted to elucidate species boundaries. The relationship between *Raja*

species—their ecological traits and species level phylogeny—was also studied to understand speciation in this genus. Results concerning the phylogenetic relationship between Batoidea species were largely consistent with recent molecular studies. Divergence times show a parallel evolutionary history of Batoidea fauna and Mediterranean history, which began from the Triassic. Three important speciation events were detected (a) throughout the Jurassic, when the major lineages were split (b) at the Eocene–Oligocene, when almost all genera of Batoidea were branched, and (c) during the Miocene, when almost all current species of Batoidea derived. These diversification events correspond to crucial paleoclimatic and paleogeographical events that took place at the global and local scale. Phylogenetic and species delimitation analyses revealed the presence of 18 species.

Raja

species showed different ecological preferences related to depth and habitat, which indicated a genus speciation process driven by different habitat characteristics.

Keywords: