{rokbox title=|Comparison of chromosome architecture between cephalopod species pairs :: Image: Authors| thumb=|images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-ieo-csic-rapid-mid-cretaceous-bernal-2026-thumb-et-al.jpg|}images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-ieo-csic-rapid-mid-cretaceous-bernal-2026-et-al.jpg{/rokbox}

Gustavo Sanchez, Fernando Ángel Fernández-Álvarez, **Ainhoa Bernal**, Elizabeth Heath-Heckman,Raphael Lami, Margaret McFall-Ngai, Michele Nishiguchi, Spencer Nyholm,Oleg Simakov, A. Louise Allcock and Daniel S. Rokhsar, 2026.
Rapid mid-Cretaceous diversification of squid and cuttlefish preceded radiation into coastal niches
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Abstract: The evolutionary relationships among decapodiform lineages (cuttlefish and diverse types of squid) remain uncertain, with implications for the origin of internalized structures (for example, gladius, cuttlebone and coiled shell) derived from the ancestral chambered shell as well as the ecological shifts between the deep ocean and shallow coastal habitats. To address these questions, we adopted a phylogenomic approach that integrated three new high-quality genome sequences with available genomic and transcriptomic datasets. Our analyses support a novel topology that separates a clade of open-ocean lineages (Oegopsida and Spirulida, together Acorneata) from a clade comprising the remaining coastal and shallow-water orders (Sepiida, Myopsida, Idiosepiida and Sepiolida, together Corneata). Molecular clock estimates suggest a rapid cladogenesis of modern decapodiform orders in the deep open ocean during the mid-Cretaceous, consistent with fossil data. This early diversification set a ‘long fuse’ that led to the explosive radiation of squid and cuttlefish into coastal and shallow-water environments as they recovered from the Cretaceous–Palaeogene extinction event.

Keywords:Biodiversity,Evolutionary ecology, Phylogenetics.