

{rokbox title=|Locations of shark samples collected during the MEDITS bottom trawl survey carried out in 2013 throughout the western Mediterranean :: Image: Authors| thumb=|images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-evolution-connectivity-demersal-sharks-mediterranean-ramirez-et-al-2017-thumb.jpg|}images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-evolution-connectivity-demersal-sharks-mediterranean-ramirez-et-al-2017.jpg{/rokbox}

Sergio Ramírez-Amaro, Antonia Picornell, Miguel Arenas, Jose A. Castro, **Enric Massutí**, M. M. Ramon. Bàrbara Terrasa, 2017.

[Contrasting evolutionary patterns in populations of demersal sharks throughout the western Mediterranean.](#)

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Abstract: The spotted catshark (*Scyliorhinus canicula*) and the blackmouth catshark (*Galeus melastomus*) are demersal sharks showing a distinct bathymetric distribution in the western Mediterranean. Together, both species represent more than 85% of the total abundance of demersal chondrichthyans in this Mediterranean basin. Our study provides a complete analysis of the genetic population structure, connectivity and demographic history of both species. Sampling was performed across four geographical subareas (GSAs) established by the General Fisheries Commission for the Mediterranean in the western Mediterranean: the northern Alboran Sea (GSA01), Alboran Island (GSA02), Balearic Islands (GSA05) and northern Spain (GSA06). Three mitochondrial fragments were analyzed for both species, and 12 microsatellite loci for *S. canicula*. We found contrasting patterns of population structure and connectivity in both species. *Scyliorhinus canicula* displayed significant genetic differences and low connectivity between some GSAs corresponding to different sub-basins (Alboran vs. Balearic). In contrast, *G. melastomus* showed absence of a population structure and high connectivity between GSAs. These findings are in accordance with the fact that both species exhibit different dispersal behaviors, which leads to distinct bathymetric distributions. Contrasting demographic histories were also identified: *Scyliorhinus canicula* revealed a recent stable population, with evidence of bottlenecks in the past, which may be related to Pleistocene glacial periods; whereas *G. melastomus* showed a recent population expansion. Altogether, our findings indicate a mismatch between fishery subareas and population structure for both sharks, which must be considered for fisheries management purposes.

Keywords: Western Mediterranean, chondrichthyans, demersal sharks, connectivity, genetic population structure, fisheries management