

{rokbox title=|Map of the sampling stations and location sites for *Scorpaena notata* in the Balearic Islands :: Image: Authors|
thumb=|images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-ieo-csic-genetic-diversity-connectivity-guijarro-2025-thumb-et-al.jpg|images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-ieo-csic-genetic-diversity-connectivity-guijarro-2025-et-al.jpg{/rokbox}

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[Genetic Diversity, Connectivity and Demographic History of the Small Red Scorpionfish *Scorpaena notata* at a Small Scale in the Balearic Islands \(Western Mediterranean\)](#)

.Diversity 2025, 17(6), 405. <https://doi.org/10.3390/d17060405>

Abstract: This study analyses for the first time the genetic diversity, connectivity, and evolutionary dynamics of the small red scorpionfish (*Scorpaena notata*) in the Balearic Islands, using two mitochondrial DNA markers: Cytochrome c oxidase subunit I (COI) and the Control Region (CR). Nucleotide diversity of the COI gene was found to be low compared to other commercial fish species, suggesting that fishing may be impacting the population despite being a by-catch species. In contrast, the CR showed higher genetic variability. Demographic history analyses suggest that *S. notata* underwent a population expansion during the Pleistocene, possibly driven by sea-level changes. Genetic structure analyses (Fst and AMOVA) indicated genetic homogeneity and high connectivity among the Balearic Islands' population, likely facilitated by its passive dispersion via pelagic eggs and larvae and the oceanographic conditions of the region. Our results suggest that the entire Balearic Islands could be considered as a unique Management Unit, although its potential relation to other nearby areas, such as the Iberian Peninsula, along with the analysis of additional genetic markers, should be addressed in future studies.

Keywords: Scorpaenidae; by-catch species; mtDNA; Cytochrome C oxidase I; Control Region; nucleotide diversity; genetic differentiation; population expansion.