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[Exploitation and Conservation Status of the Thornback Ray \(*Raja clavata*\) in the Balearic Islands \(Western Mediterranean\).](#)

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Abstract: Fisheries management requires the best scientific knowledge on the exploitation and conservation status of stocks. This is challenging for by-catch species, for which necessary data for their assessment is more limited than for target ones. That is the case for the thornback ray, *Raja clavata*

, in the Balearic Islands (western Mediterranean), whose exploitation and conservation status are addressed here for the first time, in an integrative approach, by using innovative assessment methods and genetic diversity analysis. The time series of fishing landings from 1964 and MEDITS trawl survey data from 2004 were used to apply CMSY++ and Bayesian state-space Schaefer production models. We also estimated the genetic diversity of the Cytochrome C Oxidase subunit I mitochondrial gene from 31 individuals collected during MEDITS surveys. The species showed overexploitation with a current fishing mortality (F) below that producing maximum sustainable yield (FMSY), but with a current stock biomass (B) lower than BMSY. Despite the fact that the exploitation status is stable or even has improved in the last decades, the overexploitation period since the late 1970s seems to have reduced levels of genetic diversity, below those of related species and other populations of *R. clavata*

. This low genetic diversity may entail the loss of adaptive potential, making the species more vulnerable to fishing and the current climate change.

Keywords: skate, assessment, production models, genetic diversity, Balearic Islands