{rokbox title=|Pintarroja bocanegra (Galeus melastomus) :: Foto: COB-IEO| thumb=|images/stories/ieo/imagenespublicaciones/galeus_melastomus_640_thumb.jpg|}images/stories/ieo/imagenespublicaciones/galeus_melastomus_640.jpg{/rokbox}

Adam Gouraguine, Manuel Hidalgo, Joan Moranta, David M. Bailey, Francesc Ordines, Beatriz Guijarro, María Valls, Carmen Barberá and Aina De Mesa, (2011). **Elasmobranch spatial segregation in the western Mediterranean.**
Sci. Mar. 75(4): 653-664

Abstract: Basic information on the distribution and habitat preferences of ecologically important species is essential for their management and protection. This study focuses on the depth related trends and the geographic patterns that shape the community of the elasmobranch species in the Balearic Islands (Mediterranean Sea) using data collected from 2001 to 2009. Non-metric Multi-Dimensional Scaling (MDS) ordination was used to detect zonation patterns in the community. Generalized Additive Models (GAMs) were applied to analyse spatial and temporal variation in elasmobranch community descriptors (abundance, biomass, mean fish weight, number of species and diversity), as well as the abundance and mean length of the four individual species (S. canicula, G. melastomus, R. clavata, R. miraletus). Depth was the main factor determining the assemblage composition, and the MDS analysis identified four main groups with 60% of the similarity found to correspond to the continental shelf, shelf break, upper slope and middle slope of the surveyed area. GAM analysis identified spatial patterns that were independent of the bathymetric distribution preference. Although depth was a strong predictor for all the analyses performed, the geographic variation in the elasmobranch abundance was also important. The results also show a reduction in the mean length of the elasmobranch species in the areas with high fishing intensity. Our study evidences a clear spatial segregation of the main species throughout the ontogeny because the geographic and bathymetric effects were highly size dependent, with clear differences between the bathymetric distributions of juveniles and adults but no clear spatial overlapping. This study sheds new light on the spatial distribution of the elasmobranch species off the Balearic Islands, which is essential information for protecting marine organisms along with their habitats and promoting ecosystem based management.

Keywords: Elasmobranch, Balearic Islands, GAM, MDS, community descriptors, species distribution, bathymetric patterns, spatial segregation, fishing impact