

{rokbox title=|Mesozooplankton stations sampled in the Mediterranean Sea during the SESAME cruises in 2008, in spring (triangles) or autumn (stars), or in both seasons (circles). :: Foto: Autores| thumb=|images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-mesozooplankton-mediterraneo-sesame-mazzocchi-et-al-2013-thumb.jpg|}images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-mesozooplankton-mediterraneo-sesame-mazzocchi-et-al-2013.jpg{/rokbox}

M.G. Mazzocchi, I. Siokou, V. Tirelli, V. Bandelj, M.L. Fernandez de Puellas, Y. Ak Örek, A. de Olazabal, A. Gubanova, N. Kress, M. Protopapa, C. Solidoro, S. Tagliatela, T. Terbiyik Kurt, (2013). [Regional and seasonal characteristics of epipelagic mesozooplankton in the Mediterranean Sea based on an artificial neural network analysis](#) . Journal of Marine Systems. DOI: <http://dx.doi.org/10.1016/j.jmarsys.2013.04.009>.

Abstract: The cruises conducted in the spring and autumn of 2008 in the frame of the European project [SESAME](#) represented the first coordinated surveys that allowed acquiring a quasi-synoptic picture of epipelagic mesozooplankton in most regions of the Mediterranean Sea. Seasonal differences were recorded in biomass, total abundance, and community composition and structure. In both seasons, it did not appear a clear west-east decreasing gradient in total standing stock, but rather regional discontinuities. However, west or east preferences were observed in the distribution of some zooplanktonic groups and copepod species. An artificial neural network analysis (SOM) identified, in both seasons, a clear mesozooplankton regionalization, which resembled the autotrophic regimes based on color remote sensing data. The correspondence between the distribution of zooplankton communities and the trophic regimes appeared more precise in spring, when the increased concentration of chlorophyll a makes the Mediterranean Sea a more heterogeneous environment, but it was still visible in the more uniform oligotrophic autumn conditions. Three distinct types of mesozooplankton communities seem to flourish in the investigated regions: the first type is the most widespread and thrives in the “non-blooming” areas, the second type occurs in the “intermittently-blooming” areas, and the third type is a characteristic of areas with recurrent and intense phytoplankton blooms. Overall, the well defined regionalization of mesozooplankton that appears from our results corroborates the view of the Mediterranean Sea as a mosaic environment, as previously emerged from the analyses of different biological compartments.

Keywords: Mesozooplankton, copepod species, regionalization, seasonality, artificial neural network, Mediterranean Sea