{rokbox title=|Map showing (a) Study area, sampling stations and the general circulation scheme for the Western Mediterranean, (b) Distribution of water masses under Scenario i (WIW blocking Mallorca and Ibiza Channels) and (c) Scenario ii (the absence of WIWin the channels). :: Figure: Authors|
thumb=|images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-estructura-larvas-peces-diferentes-escenarios-mediterraneo-jpr-alvarez-et-al-2015-thumb.jpg|}images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-estructura-larvas-peces-diferentes-escenarios-mediterraneo-jpr-alvarez-et-al-2015.jpg{/rokbox}

Itziar Álvarez, José María Rodríguez, Ignacio A. Catalán, **Manuel Hidalgo**, Diego Álvarez-Berastegui,
Rosa Balbín
,
Alberto Aparicio-González
and
Francisco Alemany
, 2015.
Larval fish assemblage structure in the surface layer of the northwestern Mediterranean under contrasting oceanographic scenarios
. J. Plankton Res. (July/August 2015) 37 (4): 834-850. doi: 10.1093/plankt/fbv055.

Abstract: During the summer, the relative influence of resident Atlantic Waters (AW) and new AW largely drives the mesoscale dynamics around the Balearic Islands (NW Mediterranean). Two principal summer hydrographic scenarios were identified in the region, differentiated by the relative position of the density front between new and resident AW within the archipelago and its associated mesoscale activity. In this study, we investigated how those early summer mesoscale scenarios influence larval fish assemblages, by analyzing data from two cruises representative of these two scenarios (2004 and 2005). Redundancy analysis was used to assess the variance in the larval fish assemblage that could be significantly explained by the most parsimonious combination of available environmental variables in both years. While depth was the most important variable in explaining the larval fish assemblage structure variability observed under both scenarios, indicators of mesoscale activity (dynamic height, geostrophic velocity) contributed significantly to understanding the dynamics of the larval fish community. Mesoscale activity was higher in summer 2004, leading to higher larval fish abundances and zooplankton biomass and lower larval fish diversity than in the unusually warm summer 2005, which showed lower mesoscale activity. The larval assemblage dynamics are discussed in terms of extrinsic and species-specific factors.

Keywords: mesoscale circulation, dynamic height, fish larvae, spawning grounds, spatial distribution, NW Mediterranean