

Symposium on Decadal Variability
of the North Atlantic and its Marine
Ecosystems: 2010-2019



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Symposium on Decadal Variability of the North Atlantic and its Marine Ecosystems: 2010 – 2019

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DECADAL VARIABILITY 2010-2021 OF ZOOPLANKTON COMMUNITY AT THE GUADALQUIVIR ESTUARY (SOUTHERN SPAIN).

Vilas, C., Baldo, F., Gonzalez-Ortegon, E., van Berjeijk, S., Cabrera, S., Ramirez, A., Cardenas, P., Cañavate, P.

A Long Term Ecological Research Program has been monitoring the Guadalquivir estuary meso- and macro- zooplankton community monthly since January 2010. As an important nursery area for many marine species (fish and crustacean) from the Gulf of Cadiz, whose juveniles and recruits depend on zooplankton as main prey, understanding how abiotic and biotic factors determine zooplankton community structure it's necessary to unreveal recruitment variability. We sampled throughout the whole salinity gradient, 2 locations, the two diurnal ebb and flood tides during the new moon days using a 100 µm zooplankton net. Zooplankton community is mainly composed by copepods and mysids. While the exotic *Acartia tonsa* calanoid copepod is the most abundant specie by abundance, mysid *Mesopodopsis slabberi* contribute the most to total biomass, followed by mysids *Rhopalophthalmus tartessicus* and *Neomysis integer*. Other abundant groups were copepods *Acartia bifilosa* and *Acartia clausii*, *Calanipeda aquaedulcis*, *Paracalanus parvus* and *Acanthocyclops robustus*, cladocera *Pleopis polyphaemoides*, together with veliger larvae, Cirripeda and Ostracoda, and Decapoda larvae. About total biodiversity, we found up to 183 species, estimating a total mean Species Richness of 9.7 (minimum 2- maximum 33) per sample, mean Shannon Diversity Index 3.27, Pielou Evenness 0.50 and mean betadiversity 0.630. While copepods area abundant form fall to early spring and summer, mysid density peaks form spring to fall. Community is structured by Salinity, but Temperature, Turbidity, Nitrate, Nitrite and Dissolved Oxygen were also important variables leading spatio-temporal variability, mainly when estuary recives high freshwater discharges from Alcalá del Río dam.

Poster presentation