

**O09.7****Ecological study on the soft-bottom macrobenthos in the transitional waters of Rječina, Jadro and Neretva rivers (Adriatic Sea, Croatian coast)**

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**Abstract**

Present study is a part of comprehensive research within National WFD monitoring of Transitional Waters (TW) in Croatia. It refers to the soft-bottom macrobenthos from the selected TWs situated along the eastern coast of the Adriatic Sea (AS), i.e. Rječina (northern AS), Jadro (central AS) and Neretva (southern AS) TW. All sampling sites were situated in areas of diverse anthropogenic pressures, including moderate urban and industrial pollution, maritime transport and port activities. Sampling was performed during 2016-2019 campaign, using Van Veen grab (0.1 m<sup>2</sup>). Preliminary separation of macrofauna was performed on board, by rinsing of the sediment on the 1 mm mesh sieves. Additional samples were taken for sediment analyses: ORP, organic matter and granulometric composition of sediment. The material retained on sieves was fixed with 4% seawater solution of formaldehyde and then processed after standard laboratory procedure: complete separation, sorting, counting and taxonomic identification of macroinvertebrates. The results of qualitative and quantitative, structural and functional analyses (taxonomic composition, abundance, species richness, diversity, functional composition) are provided. Statistical analysis of communities' structure and analysis of the Ecological Quality Status were performed using Primer V software and AZTI application and database. At all sites, macrobenthic communities were characterized by predominance of Annelida and Mollusca, that together comprised 77-94 % of total macrofauna. The abundance and number of species were close at all sampling sites, but they differ in species composition. In the research area, Ecological Quality Ratio (EQR<sub>AMBI</sub>) based on the Biological Quality Element (BQE) benthic invertebrates indicated moderate to high Ecological Quality Status. However, TWs are naturally stressed environments, inhabited by species adapted to stress conditions. Until now, there is no adequate methodology for distinction of natural and anthropogenic impact on the macroinvertebrates in TWs. In this regard, further research is needed.

**Keywords**

macrobenthos, transitional waters, community structure, Adriatic Sea