PLANKTONIC OSTRACODS ABUNDANCE IN THE DEEP ADRIATIC SEA

I. Brautović 1 *, N. Bojanić 2, O. Vidjak 2, D. Skaramuca 1, D. Bogner 2
1 UNIDU, IMP, D. Jude 12, 20000 Dubrovnik, Croatia - igor.brautovic@unidu.hr
2 IOF, I. Mestrovica 63, 21000 Split, Croatia

Abstract

Planktonic ostracod abundance was investigated in the South Adriatic Sea in the vertical layers at the station 1000 m deep in March 1998 and October 2001. Fifteen species were found, and the dominant ones were *Porroecia spinirostris* and *Archiconchoecia striata*. Maximal abundance of 1084 ind.100 m$^{-3}$ was found in 200-300 m layer in March 1998.

Keywords : Adriatic Sea, Biodiversity, Density, Pelagic, Zooplankton.

Planktonic ostracods are widely distributed in the world seas. Some of dominant species must be amongst the most abundant invertebrates in the world and they still remain almost totally unknown, even amongst oceanic biologists [1]. Nevertheless, little is known about their population structure, reproduction and life-cycle [2]. The investigations in the Adriatic Sea [3, 4] and wider in the Mediterranean [5] are rare. The present investigation shows the species composition and abundance of ostracods in the deep South Adriatic.

Planktonic samples were collected at the 1000 m deep station in the South Adriatic (42°21.2’N, 17°41.7’E) by t/s Bios in March 1998 and October 2001. Samples were taken by Nansen type net, mesh 200 µm, mouth 1/4 $m^2$, and 255 cm long, equipped with the closing mechanism. Samplings were performed in the layers of 0-50, 50-100, 100-200, 200-300, 300-400, 400-600 and 600-1000 m. Catch was fixed by 2.5% neutralized formalin and analyzed in laboratory under the stereoscope. The abundance of ostracods was reported as number of individuals per one hundred cubic meters (n ind.100 m$^{-3}$).

Fifteen species of planktonic ostracods from family Halocyprididae were found: *Porroecia spinirostris*, *Porroecia porrecta*, *Porroecia porrecta adriatica*, *Conchoecia magna*, *Mikroconchoecia curta*, *Mikroconchoecia echinulata*, *Proconchoecia proceria*, *Proconchoecia macronucria*, *Proconchoecia microprocera*, *Discoconchoecia elegans*, *Paraconchoecia spinifera*, *Paramollonica rhynchena*, *Loricoecia loricata*, *Metaconchoecia rotundata* and *Archiconchoecia striata*. In March 1998 (fig. 1) the abundance increased by the depth down to 200-300 m layer, where the maximum of 1084 ind.100 m$^{-3}$ (178 adult ind.100 m$^{-3}$) was recorded.

Going deeper the abundance decreased, and in the deepest layer it was slightly higher in comparison to the surface layer. The proportion between juveniles and adults in the surface layer was 2:1, and in the layer of 100-200 m the proportion was 7.6:1.

In October 2001 (fig. 2) the highest total abundance was 50 ind.100 m$^{-3}$ in the surface layer and in the layer 0-200 m. In layer 200-300 m only juveniles were found and deeper in layer 400-600 m only a few females were found.

Fig. 1. Total ostracod abundance in March 1998.

Acknowledgements

This study was supported by the Ministry of Science Education and Sports of the Republic of Croatia as a part of the research project No.: 275-0982705-3047, Interaction between biocenoses in open water and coastal systems of the Adriatic.

References