

PLANKTONIC OSTRACODS ABUNDANCE IN THE DEEP ADRIATIC SEA

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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 spirostris* 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 *r/v* Bios in March 1998 and October 2001. Samples were taken by Nansen type net, mesh 200 μm, mouth 1/4 m², 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 Halocypridae were found: *Porroecia spirostris*, *Porroecia porrecta*, *Porroecia porrecta adriatica*, *Conchoecia magna*, *Mikroconchoecia curta*, *Mikroconchoecia echinulata*, *Procerocia procera*, *Procerocia macroprocera*, *Procerocia microprocera*, *Discoconchoecia elegans*, *Paraconchoecia spinifera*, *Paramollicia 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.

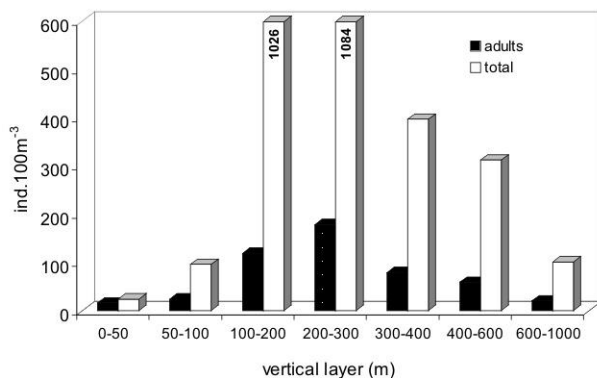


Fig. 1. Total ostracod abundance in March 1998.

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% lower, 544 ind.100 m⁻³ (180 adult ind.100 m⁻³), in 100-200 m layer. In the deepest layer the ostracods were less abundant in comparison to the surface abundance.

The dominant species were *Porroecia spirostris* and *Archiconchoecia striata*. *P. spirostris* in March 1998 had the highest abundance in the layer of 100-200 m. Above 100 m only females, and beneath 200 m only juveniles were found. In October 2001 the highest abundance was found

in 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.

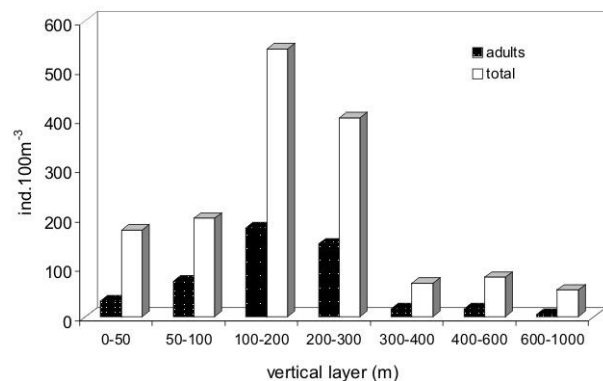


Fig. 2. Total ostracod abundance in October 2001.

A. striata was noted in both investigations at the depths of 50-300 m, and the highest abundance was recorded in the layer 100-200 m. The results of investigation of planktonic ostracods in the South Adriatic coincided with former investigations, which also confirmed the ostracods appearance from the surface to 1000 m depth [3, 4]. Angel notes that at temperate latitudes, ostracods are often missing from the surface to 100 m, but otherwise they are usually the second-most abundant group only to the copepods [1].

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