INTERSTITIAL HARPACTICOIDS FROM THE SHALLOW WATERS OF THE ROMANIAN BLACK SEA COAST

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Abstract

The study refers to a period of five years and the results regard a synecologic analyze of harpacticoids populations sampled from 11 sites with mobile substratum at 0 – 1 m depth, on a distance of more than 200 km along the Romanian shore, from Grindul Chituc to Vama Veche. Data about their abundance, density, frequency and ecological significance indices (WD %) are given, in order to emphasize the distribution of the characteristic species and their adaptive mechanisms.

Keywords: Black Sea, Copepoda, Infralittoral, Medilittoral, Sediments

Introduction

For marine waters of Romania, the data obtained between 1960 -1970, totalize 114 benthic harpacticoids species, associated with different characteristic bioecosystems. A first comprehensive list was done in 1959 [1] and after those three ample papers regarding pontic [2, 3] and Levantine [4] harpacticoids were published in 1960, 1962 and 1964. After more than 25 years, some ecological data of main harpacticoids species living on different kind of substrata were published again [5, 6].

Materials and methods

Quantitative sedimentary samples were taken using a corer with 7, 5 cm intern diameter. 11 sites (with three perpendicular transects at 0, 0, 5 and 1 m depth) were intensively sampled, during a period of five years. The samples have been preserved (4% formaldehyde solution or in ethanol 80%: glicerin in equal parts), washed and sieved by 160, 100 and 63 μm mesh diameter. A Nikon SMZ-2T stereomicroscope and a Nikon E200 microscope were used for identification. The results were reported at m².

Results and discussions

The most encountered harpacticoids have the greatest abundances in 20 - 50 cm core horizon of the samples. Below this horizon we met extremely rare in corers, isolated examples of Arenonopia subterranea and Parastenocaris chappuisi. In two stations of the north sector Grindul Chituc (Lat. 44° N 47, 310; Long. 28° E 81,432) and Yadu (Lat. 44° N 35, 240; Long. 28° E 62,212) where sediments are consisting of fine and quartz sands eudominant species are Microarthridion littorale and Canuella perplexa, with great similarities regarding their abundances (A = 67 ind.m⁻²), frequency of 40 % and W = 11 %. Harpacticus flexus (A = 51 ind.m⁻², F = 40 %, W = 8, 98) and Haelectinosoma abrau (A = 43 ind.m⁻², F = 40 %, W = 7, 57) have dominant character in these sediments (the highest share at 0.5 m depth). At Navodari (Lat. 44° N 18, 707; Long. 28° E 37,913) and on Mamaia – Cazino (Lat. 44° N 14,297; Long.28° E 37,548) zones, 10 respectively 15 harpacticoids species were recorded with total abundances of 1306 and 580 ind.m⁻². For both zones M. littorale is on the first rank with high values of W = 19, 90% and 30% , frequency of 100%, and abundances of 260 and 174 ind.m⁻² respectively. Some species which are accidentally in the northern sector areas become dominant in many stations of south region (for example Ectinosoma melaniceps, which reaches densities between 15 – 37 ind.m⁻²).

Typical endosymbiotic harpacticoids Arenonopia subterranea, Parastenocaris chappuisiOnychocamptus mohammed are adapted to mesoporal spaces, having filiform bodies and under 0, 5 mm lenght. But they are recorded as isolated, accidental species in Romanian Black sea shallow waters. and

Conclusions

- Five taxa: Canuella perplexa, Haelectinosoma herdmani, Microarthridion littorale, Harpacticus flexus and Harpacticus littoralis consisitently present in the north sites, are found in southern areas too, although their density in these biotopes varies from 5 – 35 ind.m⁻².
- Some species which are accidentally in the northern sector areas become dominant in many stations of south region (for example Ectinosoma melaniceps, which reaches densities between 15 – 37 ind.m⁻²).

References