WINTER DISTRIBUTION OF COPEPODS IN THE SOUTH ADRIATIC SEA

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Data about the epipelagic copepods of the Southern Adriatic Sea, collected in the coastal and offshore waters, are reported in this paper. The zooplankton has been collected in 20 stations situated along 5 transects on the bathymetrics of the 50, 100, 200 and 500 meters in the Apulian Adriatic waters during a research aiming at evaluating the Clupeiforms ichthyoplankton (fig.1). Samples were obtained by double oblique hauls using a "Bongo 60" net with 235 µm mesh size. The data have been elaborated through multivariate analysis using Bray-Curtis index of similarity. In the whole area 74 species of copepods have been determined, however 17 are the ones which represent 95% of population (tab.1).

Clausocalanus pergens	20,7	*Clausocalanus jobei*	2,6
Acartia clausi	19,3	*Calanus helgolandicus*	2,5
Ctenocalanus vanus	9,7	*Calanus tenuicornis*	2
Paracalanus parvus	9,2	*Oithona plumifera*	1,3
Oithona atlantica	6	*Calocalanus styliremis*	1,3
Centropages typicus	5,5	*Pseudocalanus elongatus*	1,1
Temora longicornis	3,5	*Clausocalanus arcuicornis*	1,1
Clausocalanus paululus	3,4	*Clausocalanus furcatus*	1
Oithona similis	2,8		

tab.1 : Percentage (%) of the most important species.

From the cluster analysis (fig.2) two groups of stations (G1 and G2) are distinguished at 30% level of similarity. The first group (G1), which includes the stations of the first transect (st.1-4) and the stations nearest to the coast situated on the bathymetrics of 50 and 100 m (st.5, 9, 13, 17, 6, 10), is characterized by the presence of typical coastal species as *Acartia clausi* (28,3%), *Paracalanus parvus* (14,5%) and *Centropages typicus* (13,1%). The separation of the stations 1 ,2, 3 and 4 at 35% level of similarity is due to the major presence in these waters of *Ctenocalanus vanus* (28%), *Oithona atlantica* (22,3%) and *A. clausi* (19%). The second group (G2) is composed of the two most southern stations of the 100 m bathymetrics (st.14, 18) and all the other stations situated on the 200 m and 500 m bathymetrics (st. 7, 8, 11, 12, 15, 16, 19, 20). The stations belonging to this group are distinguished by the dominance of open waters species like *Clausocalanus pergens* (48,6%), *Clausocalanus paululus* (6%), *Oithona atlantica* (3,7%), *Clausocalanus arcuicornis (3,7%)* and the presence of other neritic species as *P. parvus* (7,9%), *C. vanus* (5,3%), *Oithona similis* (4,9%). The separation of stations 16, 18 and 19 at 40% level of similarity is due to the higher frequency of *C. paululus* (16,6%; 130 ind./m^3) while the station 20 is distinguished for the maximum presence of *C. pergens* (57,7%; 403 ind./m^3). It can be highlighted that *C. pergens* and *C. paululus*, considered by HURE *et al.*, 1980 as two typical species of the superficial waters of the Adriatic "oceanic community", within the most southern area of the basin extend their areal of distribution even in the neritic-coastal waters, favoured by the low winterly temperatures of the same. They continue to characterize the epipelagic open waters copepods population in the Southern Adriatic Sea. *O. atlantica* FARRAN 1908, an open waters species (NISHIDA, 1985) already found in the Otranto Channel as well (HAJDERI *et al.*, 1993), which has been never signaled before by other authors for the Adriatic Sea (HURE *et al.*, 1969, 1980; REGNER, 1985), is reported for the first time in the Southern Adriatic Sea with density values between 0,8-183,3 ind/m^3. Furthermore other four new species for the Adriatic Sea have been found : *Calocalanus tenuis* FARRAN 1926, *Centropages bradyi* WHEELER 1899, *Scolecithrix auropecten* GIESBRECHT,1892 and *Candacia giesbrechti* GRICE & LAWSON 1977. They are rare species, mostly found in the Western Mediterranean (particularly the first three ones), which probably enter the Adriatic Sea through the current of the atlantic superficial waters that in winter moves from the Central Mediterranean towards the Adriatic (ZORE-ARMANDA, 1969).

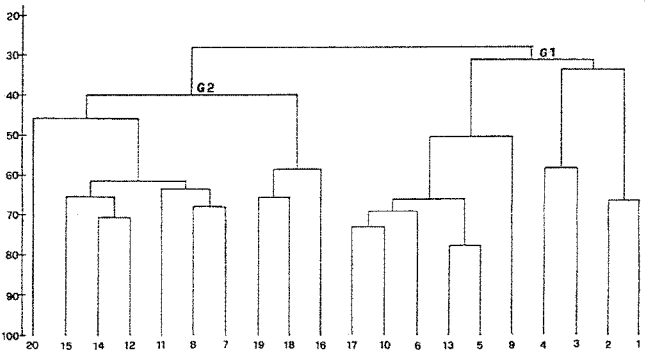

Fig.2 : Stations affinity

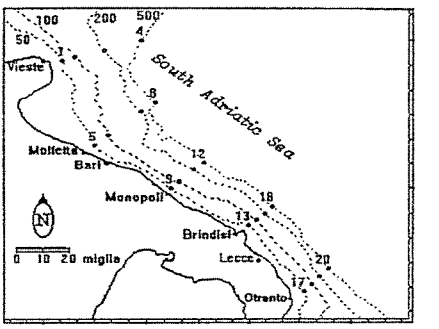

Fig.1 : Map of sampling stations

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