

COPEPOD DENSITY IN THE OPEN WATERS OF THE ADRIATIC SEA

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Summary. Data pertaining to copepod density in the open waters of the Adriatic Sea are reported, based on the material collected via vertical sampling during 4 seasonal cruises.

Résumé. Les données concernant la densité des Copépodes récoltés pendant 4 campagnes dans la mer Adriatique ont été analysées.

During the course of 4 seasonal cruises from 1974-76, the research vessel A. Mohorovičić sampled planktonic material at 35 fixed stations covering the entire area of the Adriatic. Vertical hauls from the bottom to the surface were carried out using a Nansen net (113 cm diameter, 350 cm length, mesh size 250 microns).

Figure 1 shows the copepod density distribution (No/m³) in the Adriatic, based on the mean number of specimens collected during the 4 cruises. Four density areas are evident, the mean values of which show the following proportions 11.8: 5.0: 3.1: 1.0. Furthermore, the species which characterize these areas from the faunistic point of view have been classified as being either a) typically neritic b) coastal or c) pelagic (sub-surface, intermediate, deep water). Often, however, it has been difficult to assign them to such broad categories since many of these species show a more or less uniform distribution throughout the Adriatic. This latter group includes 2 particularly abundant species, *Ctenocalanus vanus* and *Oithona plumifera*.

The area of maximum density (zone "A") includes the shallow waters of the North Adriatic and almost all of the stations located along the Italian coast to the sill of Palagruža.

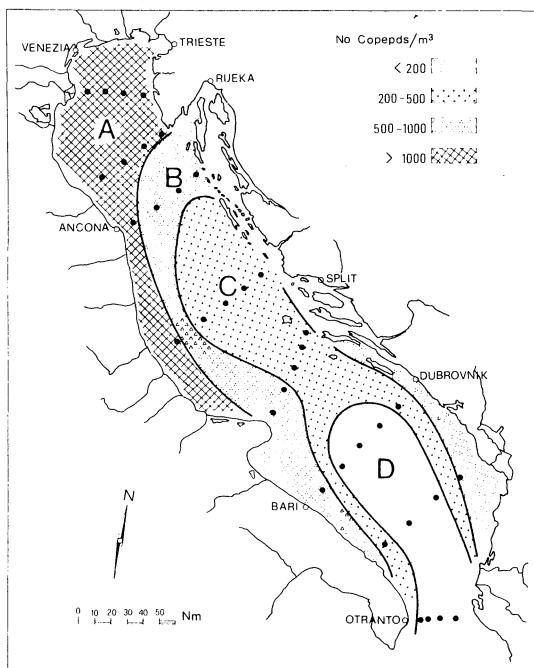


Fig.1. Areal distribution of Copepod density.

Strictly neritic species (*Pseudocalanus elongatus*, *Temora longicornis*) characterize this zone and, together with coastal species (*Paracalanus parvus*, *Centropages typicus*, *Temora stylifera*, *Acartia clausi*) and *C. vanus* comprise a mean of 77.9% of the total number of copepods (Table 1).

Zone	A		B		C		D	
	Mean No/m ³	%	Mean No/m ³	%	Mean No/m ³	%	Mean No/m ³	%
Strictly neritic	212	14.8	29	4.8	5	1.4	+	+
Coastal	734	51.2	202	33.3	67	18.1	7	5.8
Pelagic								
a) sub-surface	1	0.1	37	6.1	35	9.5	32	26.4
b) intermediate	0	0	+	+	2	0.5	5	4.1
c) deep sea	0	0	0	0	0	0	11	9.1
<i>Ctenocalanus vanus</i>	171	11.9	132	21.7	102	27.6	14	11.6
<i>Oithona plumifera</i>	30	2.1	65	10.7	50	13.5	19	15.7
Other species	285	19.9	142	23.4	109	29.4	33	27.3
T O T A L	1433	100.0	607	100.0	370	100.0	121	100.0

Table 1. Mean total number of copepods (No/m³) and relative percentages (average of 4 cruises).

Zone "B" includes the southern part of the North Adriatic and all coastal waters of the Adriatic basin. Characteristic of this area is the dominance of coastal species which, together with *C. vanus* and *O. plumifera*, comprise a mean of 65.7% of the total. Zone "C" includes the central waters of the Mid-Adriatic. Coastal and pelagic sub-surface species are dominant and, together with *C. vanus* and *O. plumifera*, comprise a mean of 68.7% of the total. This area at the boundary between the shallow waters of the North and the deep waters of the South Adriatic is characterized by the presence, in large numbers, of pelagic sub-surface species.

The area of lowest density (zone-D) includes the waters of the South Adriatic Trench and those of the Strait of Otranto. Pelagic sub-surface and deep-sea species (*Spinocalanus longicornis*, *S. oligospinosus*, *Mona-cilla typica*, *Temoropia mayumbensis*, *Mormonilla minor*, *Oncaea ornata*), together with *C. vanus* and *O. plumifera* reach mean values of 62.8 % of the total. Characteristic of this area is the presence of deep-sea species and the absence of typically neritic species.