

SPATIAL DISTRIBUTION OF PELAGIC COPEPODS IN THE ADRIATIC SEA

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Summary. Seasonal differences in the areal distribution of several species of the pelagic copepod community of the Adriatic Sea are reported.

Résumé. On décrit les variations saisonnières de la distribution spatiale dans la mer Adriatique de plusieurs espèces de copépodes de la communauté pélagique.

This report is an attempt to describe the depth distribution range and the seasonal variation in areal distribution of the pelagic copepod species of the South Adriatic Sea. The results are based on a series of 4 seasonal cruises covering the entire Adriatic by the research vessel A. Mohorovicic and on previous, partly published data on the distribution of Adriatic copepods.

The copepod community of the South Adriatic is comprised of species associated with 3 depth distribution levels. The upper level includes sub-surface species as *Clausocalanus paululus*, *C. pergens*, *Lucicutia flavicornis*, *Oithona setigera* and *Pleuromamma gracilis*. These species are present from the surface down to the 800 m depth but have a zone of maximum abundance from 100-200 m. The mid-level has the highest number of species, all of which are quite rare. Exceptions include *Euchaeta acuta*, *Pleuromamma abdominalis* and *Haloptilus longicornis*. Mid-level species are present throughout the water column but are most abundant in the 300-400 m range. The lower, deep-sea species (*Spinocalanus longicornis*; *S. oligospinosus*, *Monacilla typica*, *Temoropia mayumbensis*, *Mormonilla minor*, *Oncaea ornata*) are absent in surface waters but have a zone of maximum abundance below the 400 m depth. Whereas all upper and mid-level species perform rather pronounced seasonal migrations and are found in more surface waters in winter, deep-sea species do not seem to show any apparent seasonal variation in depth distribution.

A common feature of the southern pelagic community is the winter widening of the distribution range from the South Adriatic to the North and from the open waters to the coast. These seasonal differences in areal distribution are particularly evident for the upper-level species. These species are autochthonous of the South Adriatic and of the central waters of the Mid-Adriatic. In winter their range of distribution widens

to include even the northernmost waters of the Adriatic Sea (Fig. 1).

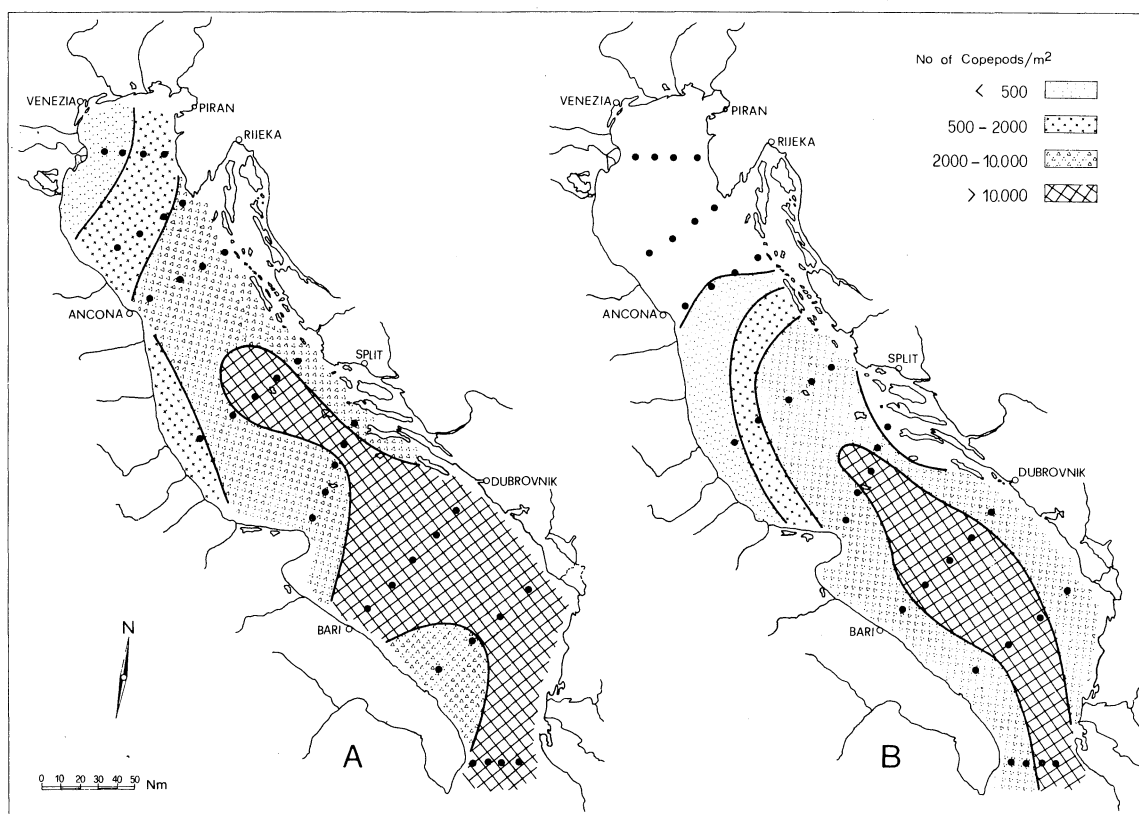


Fig. 1. Spatial distribution of upper level species of the pelagic copepod community (A) winter, (B) summer.

Mid-level species, autochthonous of the deeper waters of the South Adriatic, show a feeble winter northward spread, never reaching the waters of the North Adriatic. The lower level includes deep-sea species that are found only in the South Adriatic Trench. However, some specimens of *S. longicornis* and *M. minor* were found in Jabuka Pit during the winter cruise.

Seasonal differences in horizontal distribution seem to be associated with the winter ingress of waters of Mediterranean origin across the Channel of Otranto. The extent to which the copepod pelagic community will spread northwards appears to be related to the vertical distribution pattern of the single species and the amplitude of their seasonal migration.