NET-ZOOPLANKTON BIOMASS OF THE ADRIATIC SEA

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Abstract

Due to the relatively scarce data on the zooplankton biomass of the Adriatic Sea, as well as to the increased interest for better understanding of various processes in pelagic communities, we elaborated 1100 samples of net--zooplankton biomass originating from different regions of the Adriatic, using the same methods of elaboration considering parameters signifying standing crops in a same way for all the parts of the Adriatic Sea, as to try to define similarities and/or differences of the net-zooplankton biomass between the Adriatic Sea subregions, and other parts of the Mediterranean Sea.

We took into account dry weight (DW), ash-free dry weight (AFDW) and caloric content as parameters defining the net-zooplankton biomass using the standard methods for collection and elaboration of plankton samples.

The zones with generally high standing crops were the Northern Adriatic with the Gulf of Triest, while other regions can be considered as uniform ones, but different from the Northern Adriatic Sea. In general, the highest zooplankton stocks yielded the shallow regions close to the coast, where enrichment influences from the land (fresh-water inflows, land dreinage, "pollution" where exists), and sediment are combining.

We considered that the elevated zooplankton biomass encountered in the Northern Adriatic and in the shallow coastal zones in comparison to the other parts is probably due to proliferation of the tolerant non-selective feeding zooplankton organisms, knowing that detritus can form a major proportion of the copepod diet, although detritus is presumably inferior as a food source to the phytoplankton. Since the Northern Adriatic is rich with living and non-living suspended particles, the food sources are abundant throughout the year and can also maintain a high zooplankton biomass.

The same statements are most probably valid for the other similar regions of the Mediterranean Sea.

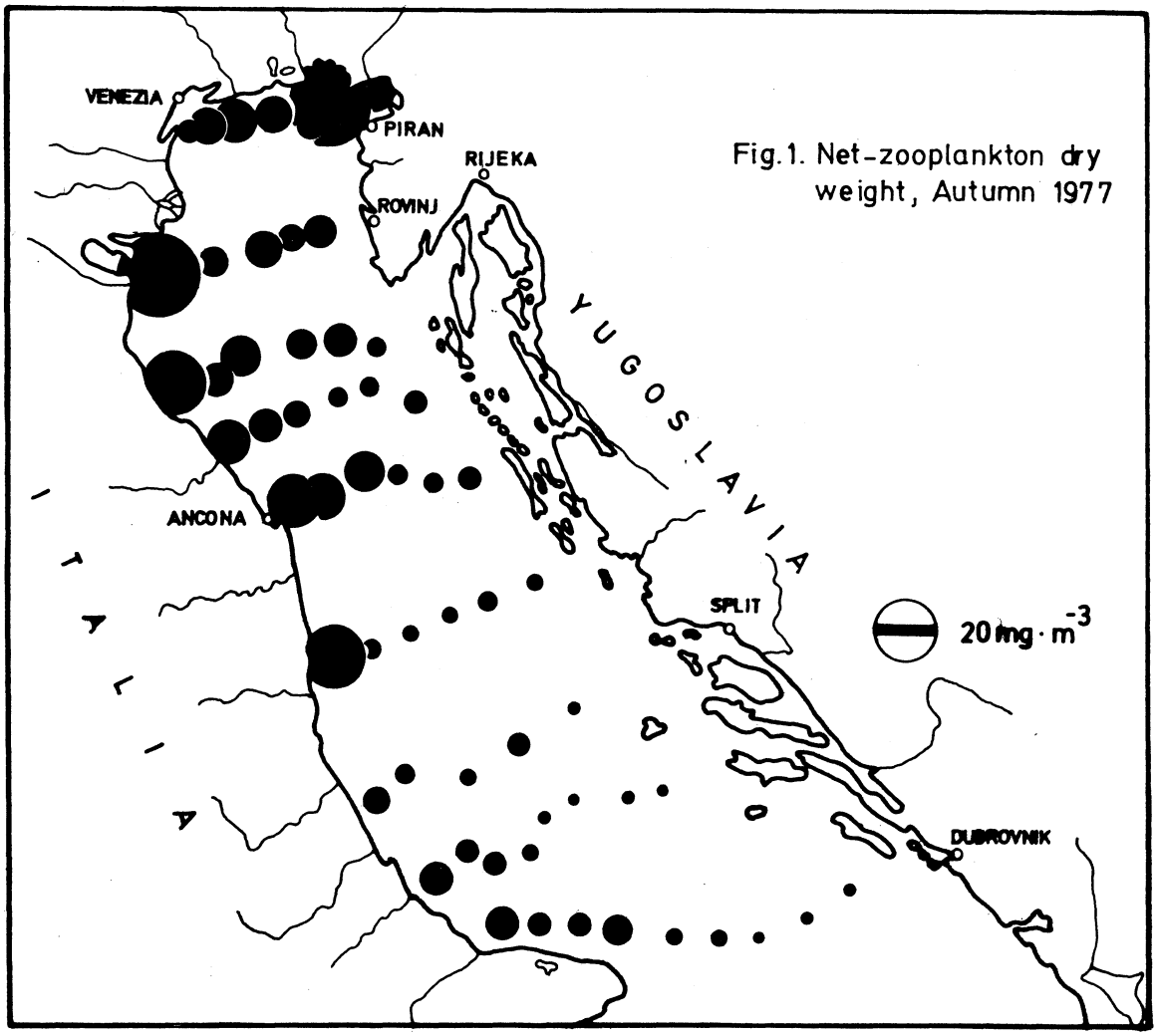

Fig. 1. Net-zooplankton dry weight, Autumn 1977

Although we considered only the surface layers of the Middle and Southern Adriatic, it has to be mentioned that in the deep layers exists a much higher biomass of net-zooplankton than it is ususlly reported. Concerning the whole Adriatic Sea the northernest part is highly productive and in dry weight the richest area. But, on the basis of total volumes of specific subregions of the Adriatic Sea, the open waters of the Middle and Southern Adriatic should be designated as a potentially high energy regions, although the "storages" of energy (zooplankton) are scattered in the area and mostly accumulated in the upper layers and in the deep scattering layers (DSL).