

THE OSCILLATIONS OF COPEPODS NUMBER IN THE KAŠTELA BAY  
(CENTRAL ADRIATIC) IN RELATION TO SOME ECOLOGICAL FACTORS

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Summary

This paper comprises the investigations of copepods number in relation to some abiotic factors (salinity), and biotic ones (chlorophyll a, the number of phytoplankton organisms, the number of fish eggs) in the Kaštela Bay.

Résumé

On a présenté les résultats des investigations sur les relations entre la quantité des copépodes et quelques facteurs abiotique (salinité) et biotiques (chlorophylle a, quantité des organismes de phytoplancton, quantité des oeufs de poisson).

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The seasonal and annual oscillations of copepods number were studied in the Kaštela Bay from 1970 to 1974.

The greatest number of specimens was found in the late summer and autumn (September, October) and the smallest in winter (December, January, February).

In five-years period (1970-1974), the copepods number slightly increased, with the exception for 1972.

We tried to relate this oscillations to the variations of some ecological factors in the area investigated. The closest relation ( $r = 0.31$ ;  $P < 0,05$ ) was found with the oscillations in salinity (B u l j a n, the unpublished data). The regression line shows that the increase in salinity caused the increase in copepods number. A positive influence of stronger dynamics of water masses and higher salinity (B u l j a n, 1969) had already been noted on the plankton productivity (P u c h e r - P e t k o v i ć and V u č e t i ć, 1969) and the number of copepods (R e g n e r, D., 1970) in the years 1963/64.

In 1974, the relationship between copepods number and some biotic factors was studied, too. So, the oscillations of copepods number and chlorophyll a (H o m e n, B., 1975) proved to be uniform throughout the year. The correlation between these two variables was positive ( $r = 0,27$ ) with non-significant correlation coefficient.

We also tried to compare the number of copepods to the number of phytoplankton organisms. The correlation was slightly negative ( $r = -0,17$ ) what could be accounted for mutual relationship between phytoplankton and copepods in the food chains. As we have not enough data collected (only one-year period), the correlation coefficient was not significant.

The oscillations of copepods number (as the main fish food) were compared with number of fish eggs. The positive correlation was found with non-significant ( $r = 0,25$ ) correlation coefficient.

More profound investigations of interdependance between copepods and phytoplankton (main food) and fish eggs (main predators) require much more data available.

#### Literature

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