DISTRIBUTION OF DOLIOLIDS IN THE ADRIATIC SEA IN AUTUMN 1974 AND SPRING 1975 (THALIACEA-CYCLOMYARIA)

by

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A b s t r a c t

Distribution and quantity of doliolids under 1 m^2 sea surface based on material collected across the Adriatic in Autumn 1974 and Spring 1975 has been used.

R é s u m é

Au cours des recherches effectuées tout le long de l'Adriatique, en automne 1974 et au printemps 1975, on a constaté 4 espèces des doliolides, parmi lesquelles seulement D. nationalis et D. mülleri font 99.0% de tous les exemplaires. En automne la quantité de doliolides est environ 27 fois plus grande qu'au printemps. D. nationalis fait 83.0 % au printemps et en automne domine D. mülleri avec 86.4 %.

Only one paper has been entirely dedicated to the doliolids of the Adriatic (SIGL, 1912). For this preliminary report the material collected on research ship "ANDRIJA MOHOROVIČIĆ" of the Hydrographic Institute has been used. The 1st cruise has been made in autumn 1974 and the 2nd one in spring 1975. The samples were taken on 35 permanent stations across the Adriatic Sea. Vertical hauls from the bottom to the surface have been made with "Indian Ocean Standard Net" (diam. 113cm, mesh size 250 microns, and the quantity is expressed in number of specimens under one square meter of the sea surface.

The following species have been found: Doliolum nationalis, Doliolum denticulatum, Doliolina mülleri with subspecies krohni and Dolioletta gegenbauri. In both seasons the obtained doliolid species were the same, but only two species dominated: D. natiomalis and D. mülleri which together made up to 99.0 % of the whole doliolid population, but their quantity is inverse in each of this seasons. In the autumn the most numerous species is D. nationalis with 83.0 % and an average of 8.600 ind/m^2. D. nationalis was found in all samples and asexual forms dominated over the

sexual forms in term of 98.4 %. The D. mülleri was also present in all catches with an average of 1.700 ind/m^2 which makes only 16.5 % of doliolid population. The area of maximum quantity of doliolids lies inside the isohaline of 38.00 ‰ and mainly coresponds to the isobate of 100 metres. It is possible that such a salinity, due to the influence of Italian rivers, creates favourable conditions for the development of the D. nationalis. On the contrary, the evident area of smaller number of doliolids is located in the open sea of the Middle and Southern Adriatic with higher salinity (about 38.50‰). In this area D. mülleri var. krohni was also found and together with D. gegenbauri i D. denticulatum makes only 0.5 % of the whole doliolid population.

In the spring the total amount of doliolids is 27 times smaller than in the autumn, and the average of 350 ind/m^2. D. mülleri makes up to 86.4 % of the doliolid population, while at the same time D. nationalis is represented with only 5.0 % of the total population. In this period the fauna of doliolids of the Middle Adriatic is enriched with D. gegenbauri and D. denticulatum, which are in the autumn present only along the east coast, following the inflow of the Mediterranean waters of higher salinity.

The average quantity of all doliolids along the west coast is always higher than along east coast of the Adriatic: in autumn 16.920 ind/m^2 compared to 11.370 ind/m^2, and in the spring 970 ind/m^2 compared to about 300 ind/m^2.

Sesonal alternations of these species will be better understood when the development stages of the phorozoids, gonozoids and especially gonophorozoids, as described by BRACONNOT (1974) for the western Mediterranean, will be taken into the consideration.

Références

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