

RESEARCH METHODS OF SEASONAL AND DAILY ZOOBENTHOS
MIGRATIONS IN CYSTOSEIRA BELT

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For long-time and profound comparative researches of benthic communities in algae belt some methodic schemes are suggested, in form of suggestions to Project of International Programme.

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Flora, fauna, distribution and quantity of organisms are known well enough in general for many Mediterranean regions. For detailed study of structure and functioning of littoral ecosystems single survey will not be enough, as there are considerable daily, seasonal and perennial changes in species composition, distribution and quantity of organisms, especially during the growing anthropogenic influences.

Here are examples presenting some results of researches conducted by the Institute of Biology of South Seas (Sevastopol, USSR) concerning migrations of organisms in Cystoseira belt. Important seasonal macrobenthos migrations are discovered at the depth limits of 1-5m (Makkaveeva, 1976), mass migrations of diatom algae fastening to macrophytes into plankton (Roshchin et al, 1973). Considerable vertical migrations of vagil meio- and macrobenthos on Cystoseira thallus having half-daily cycle and rhythm are also detected (Zaika V.E., Tretyakova L.V., 1977)

Sizable seasonal changes of structure and biomass of settled juveniles of bivalve molluscs take place, partly influenced by migrations (passive or active).

These phenomena were revealed at the course of researches, having definite methodical peculiarities. Because of great perspectives of this direction of researches, the short list of suggestions to the International Programme of comparative benthos researches on Cystoseira belt is given.

Suggestions to the Project of International Programme :

For long-time and profound comparative researches of benthic associations in algal belt small and typical test areas of the Mediterranean are to be chosen and following methodical suggestions are offered.

1. It is necessary to realize periodical (every 5-10 years) general surveys of phyto- and zoobenthos at these areas, accompanied by measuring of abiotic factors of pollution degree and character of other anthropogenic influences.

2. It is necessary to conduct at the same time seasonal observations for exposure of seasonal benthos diversions (exposing animals migrations in particular). Therefore it is necessary to realize sampling in several points, forming the set of the stations along the most important environmental gradients to cover migrations of order of dozens of metres.

3. It is necessary to organize daily stations during seasonal researches on transect sections, collecting samples in 2 or 3 hours interval at definite points. It will give the possibility to established periodical changes during 24 hours (particularly in connection with migrations).

4. It is necessary to accomplish sampling at daily stations to get the data of distribution of abundance of organisms of plants on the bottom and in the water column simultaneously.

5. At the same time it is necessary to use the methods, allowing to take into account distribution of organisms not only on the whole plant, but also on its separate parts - it gives the possibility to reveal animals transferences, at the expense of transference on thallus.

6. It is necessary to organize collection and treatment of samples of groups from microfouling to fish eggs and larvae (better - at international basis), having coordinated methods of collection and level of sampling treatment. Existence of such test areas will be favourable to study coastal ecosystems, for example in connection with the problems of mariculture, community productivity, influence of pollution etc.