TROPHICAL STRUCTURE OF SOME BENTHIC COMMUNITIES OF ADRIATIC SEA

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R é s u m é. Les associations Turritella - Varicorbula, Hyalinoecia - Callianassa et Ophiothrix ont la structure trophique différente. Les indices de monotonie de la strucrure trophique dans ces associations sont conformément égals 0.65, 0.17 et 0.04.

S u m m a r y. Communities Turritella - Varicorbula, Hyalinoecia - Callianassa and Ophiothrix differ from each other by trophical structure. The most simple trophical structure was observed in community Turritella - Varicorbula, in which one trophical group predominate, the most complex trophical structure was in community Ophiothrix. Indices of monotony of trophical structure in these communities are equal 0.65, 0.17 and 0.04 correspondingly.

Three kinds of communities were studied in the Adriatic Sea: Turritella - Varicorbula, Hyalinoecia - Callianassa and Ophiothrix.

Turritella communis and Varicorbula gibba have the similar feeding spectrum. Analysis of bowels content showed that under the filtration they are catching the silty particles, Coccolitophorida, Diatomeae, spicules of Spongia, pieces of chitin, some of Foraminifera. According to the feeding type these molluscs stay in an intermidiate position between suspension-feeders and deposit-feeders.

Bowels' filling of molluscs studied is usually 100%. At such filling the weight of bowels' content of T.communis is equal 0.45 mg, V. gibba - 0.16 mg.

There are three feeding groups in community: suspension-feeders with biomass equal 87%; deposit-feeders (biomass equal 12%) and carnivorous (biomass equal 1%). We include in the 1st group T.communis and V.gibba, together with typical suspension-feeders (Nucula nucleus, Pitar rudis, Lima inflata).

Deposit-feeders were introduced by holothurian Cucumaria elongata, Labidoplax digitata and different polychaeta; carnivorous group - by polychaeta of Aphroditidae and

Nephthydidae families. Index of monotony of trophical structure of community is equal 0.65.

In community Hyalinoecia - Callianassa prevail the deposit-feeders, their biomass is 60%. Suspension-feeders (Spongia and Bivalvia) have the biomass equal 27%, carnivorous' biomass is 13%.The most mass species in this trophical group were Nemertini and Polychaeta. Index of monotony of trophical structure in this community is equal 0.17.

In O. quinquemaculata bowels there always exist half-digested holothurians Cucumaria, Polychaeta, Nematoda, a lot of chitinic skins of Crustacea, Foraminifera. Some specimen have also many bottom particles.

Constant presence of animals in the feeding spectrum O.quinquemaculata make us treat this species as carnivorous.The bottom particles is, probably, got into the bowels of Ophiothrix at the process of catching of the animals or their remainders.It is interesting to notice, that another species of this genus, O.fragilis, is related to suspension-feeders (Warener,Woodley,1975). Ophiuroidea, probably, are plastic organisms concerning the way of food catching and its composition.

Analysis of trophical structure of community Ophiothrix proved the predominance of carnivorous animals, which biomass reaches 46%. We marked a considerable number of deposit-feeders, which biomass reaches 32%. Biomass of suspension-feeders, presented by Bivalvia, is equal 22%. Index of monotony of trophical structure of community Ophiothrix is equal 0.04.

Thus, communities studied differ from each other by trophical structure. The most simple trophical structure was observed in community Turritella - Varicorbula, in which one trophical group predominante, the most complex trophical structure was in community Ophiothrix.

Reference

Warener G.F., Woodley J.D. Suspension-feeding in the brittle-star Ophiothrix fragilis.-J.Mar.Biol.Assoc.U.K.,1975, 55, N1,199-210.