

POSSIBLE ROLE OF HABITAT COMPLEXITY IN STRUCTURING OF MOTILE BENTHIC FAUNA BY PATCHES OF BARNACLES AND ASCIDIANS

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Physical structure of a habitat strongly affects species composition and diversity in benthic assemblages. In the White Sea shallow subtidal, barnacles *Balanus crenatus* Bruguiere and solitary ascidians *Styela* spp., *Bolthenia echinata* (L.), and *Molgula* spp. are often found in small patches based on bivalve shell debris or small stones surrounded with muddy sediment. The space between barnacle shells and ascidians is filled with mud inhabited by specific motile fauna. We hypothesized that epibenthic patches affect motile fauna (1) by their physical properties as complex cavity-loaded structures and (2) by feeding and biodeposition activities of barnacles and ascidians. To assess the relative strength of the first effect we compared the assemblages of motile fauna in natural epibenthic patches [N], patches of bare sediment [S], and artificial structures made of PVC tubes [T], exposed for 1 year (half-buried in sediment; 2 sets X 2 replications). Assemblages in [N] and [T] were much more similar to each other than in any of them to that in [S] (ANOSIM, nMDS). Maldanid and spionid worms were most abundant in [S]. *Pholoe minuta* Fabricius (Polychaeta: Sigalionidae), amphipods and *Musculus* spp. (Lamellibranchia) dominated both in [N] and [T]. Polychaetes *Polycirrus medusa* Grube (Terebellidae) and *Gattyana cirrosa* (Pallas) (Polynoidae) co-dominated in [T] being there significantly more abundant than in [N]. All those taxa were seemingly attracted to [N] and [T] by increased habitat complexity. However, polychaetes *Pygospio elegans* Claparede (Spionidae) and *Cirratulus cirratus* Muller (Cirratulidae) and isopods dominated only in [N], indicating the sensitivity to some other attributes of the epibenthic patches studied.