

研究论文

乐清湾大型底栖生物群落特征及其对水产养殖的响应

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收稿日期 2005-11-29 修回日期 2006-4-29 网络版发布日期: 2007-1-25

摘要

乐清湾大型底栖生物的四季采样研究, 发现124种大型底栖生物, 其中多毛类41种、软体动物37种、甲壳类22种、棘皮动物10种和其他类14种。乐清湾大型底栖生物年均生物量 $41.95 \text{ g}\cdot\text{m}^{-2}$, 年均密度85个 $\cdot\text{m}^{-2}$, 生物量棘皮动物居首(约占60%); 密度软体动物最大(约占35%)。生物量和密度分布春季为最高。对乐清湾大型底栖生物分布现状与以往资料及邻近海湾进行了比较, 并将大型底栖生物群落对乐清湾牡蛎养殖和网箱养殖的响应做了分析探讨。

关键词 [大型底栖生物](#); [生态](#); [水产养殖](#); [乐清湾](#)

分类号 [Q145+.2](#), [Q178](#)

Characteristics on macrofauna and the responses on aquaculture in Yueqing Bay

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Abstract Four season investigations on macrofauna were carried out from August 2002 to May 2003 in Yueqing Bay where 18 sampling stations including 14 stations in non-farming area, 2 stations in oyster-farming area and 2 stations in fish-farming were set. 124 species were identified, including 41 species of polychaeta, 37 species of mollusc, 22 species of crustacea, 10 species of echinoderm and 14 of others. There were 5 dominant species which were *Nassarius siquinjensis*, *Virgularia gustaviana*, *Sternaspis scutata*, *Capitella capitata*, and *Protankyra bidentata*. The average biomass was 41.95 g m^{-2} and the average density was 85 ind m^{-2} . Echinoderm occupied the highest proportion in total biomass (about 60%) and mollusc occupied the highest proportion in total density (about 35%). The spatial and temporal distribution of biomass and density was asymmetric in Yueqing Bay. Biomass and density in bay-head area and culture area were higher than other areas in the Bay, and in spring were higher than in other seasons. The characteristics of macrofauna community were different from diverse culture mode and different season. Data of species, quantity, diversity, K-dominant curve were analyzed and resulted in: (1) In fish-farming area, macrofauna community was influenced by organic pollution, especially it was seriously disturbed in summer and autumn. (2) In oyster-farming area, macrofauna was active and excited by lesser oyster metabolic products and it was restricted by more oyster metabolic products, but it was not yet destroyed in the area. In comparison of macrofauna status with history data of the bay and the adjacent bays, its biomass and density were obviously higher than that 20 years ago, which were resulted from the increase of its feed, the particulate organic matter, input from both domestic, industrial and agricultural waste waters and the sunk of aquaculture waste feed and metabolic products, particularly in recent years the water exchanges between inside and outside the bay have been becoming weak, due to the increase in aquaculture. Although macrofauna status in fish-f

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arming area in Yueqing Bay is batter than in Xiangshan Bay because of shorter aquiculture time and more reasonable aquiculture arrangement, problems of environment pollution and ecological disturbance deserve great attention.

Key words _ [macrofauna](#) _ [ecology](#) _ [aquiculture](#) _ [Yueqing Bay](#)

DOI

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