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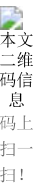
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流沙湾水产养殖区浮游动物群落特征

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摘要:

于2012年5月-2013年1月对流沙湾海区浮游动物进行了周年性的季度调查,共检出浮游动物41种、幼体17类,以桡足类居多(29种)。亚强次真哲水蚤(*Subeucalanus subcrassus*)、短尾类幼虫(*Brachyuran larva*)、长尾幼体(*Macruran larva*)在四季均有出现,并在3个季度中成为优势种。年均浮游动物丰度和生物量分别为48.12 ind./m³、13.43 mg/m³。扇贝主养区、鱼类网箱养殖区和珍珠贝养殖区的各季浮游动物丰度及生物量均低于对照区(非养殖区);大中型浮游动物主要出现在对照区,而在鱼、贝养殖区极少出现。冬季扇贝主养区多样性指数为各区最高,其浮游动物丰度、生物量迅速回升,高于鱼类网箱养殖区和珍珠贝养殖区,但仍低于对照区。研究结果显示,鱼、贝养殖区域流沙湾海区的浮游动物丰度及生物量比往年明显减小,浮游动物的小型化加剧。

关键词: [流沙湾](#) [浮游动物](#) [扇贝](#) [网箱](#) [主成分分析](#)

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Characteristics of Zooplankton Community in Aquaculture Areas of Liusha Bay

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Abstract:

Seasonal investigations on zooplankton community in Liusha Bay were carried out from May 2012 to January 2013. A total of 41 species and 17 groups of pelagic larvae were recorded, in which the copepod was the majority (29 species). *Subeucalanus subcrassus*, *Brachyuran larva* and *Macruran larva* were the dominant species seasonally in three quarters. The annual average density and biomass were 48.12 ind./m³ and 13.43 mg/m³, respectively. In general, the density, biomass and diversity index of zooplankton were lower in autumn than those in spring and summer, and these indices in inner bay were lower than those in outer bay. The zooplankton density was barely positively correlated to nitrite, while the zooplankton biomass had significant correlations with multiple environmental factors such as nitrite, ammonium and total nitrogen. Compared with the control (non-culture area), the density and biomass in the main scallop culture area, the fish culture area and the oyster culture area were lower. Rarely found in culture areas, large and medium-sized zooplankton mainly appeared in the non-culture area. In autumn, the density of *Acartia erythraea* was higher in the fish culture area than those in the other areas. During winter, the diversity index of zooplankton in the main scallop culture area was the highest (2.97). Large and medium sized species of zooplankton mainly appeared in the control area in all reasons. In spring, *Subeucalanus subcrassus* appeared with absolute predominance (66.04%) in the control area. In summer, the biomass of *S. subcrassus* and *Flaccisagitta enflata* were the highest in the control area (accounting for 0.3% and 0.8%, respectively) and the lowest in the main scallop culture area (accounting for 0 and 0.8%, respectively). In autumn, a spot of *A. erythraea* were merely found in the control area and the fish culture area. The density and biomass in the main scallop culture area were rapidly increased from autumn to winter, although they were lower than those in the non-culture area but higher than those in the fish culture area and the oyster culture area. The results indicate an obvious decline in the density and biomass of zooplankton and a severe miniaturization of zooplankton in size in Liusha Bay with the culture of fish and shellfish.

Key words: [Liusha Bay](#) [Zooplankton](#) [Scallops](#) [Fish cage](#) [Principal components analysis](#)

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