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分水江水库浮游动物群落结构的初步研究及水质评价

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Preliminary study on the metazoan zooplankton community structure of Fenshuijiang Reservoir and water quality assessment

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摘要 2008年10-12月期间,对浙江分水江水库浮游动物的种类组成、生物量及其主要影响因子进行了初步的调查和分析.共鉴定浮游动物23种，其中轮虫11 种（占48%），枝角类6种（占26%），桡足类6种（占26%），优势种为螺形龟甲轮虫 (*Keratella cochlearis*)、前节晶囊轮虫(*Asplanchna priodonta*)、长额象鼻溞 (*Bosmina longirostris*) 和特异中剑水蚤 (*Mesocyclops dissimilis*) .浮游动物平均密度变化范围为78.0～297.3 ind./L，平均生物量变化范围为2.044～ 8.924 mg/L.

依据同步测定的理化指标，运用化学评价指数（Pb/n）及环境质量综合指数（PI）对水质进行评价，并结合Shannon Wiener多样性指数、 Simpson多样性指数和Margalef多样性指数，对分水江水库的水质状况进行了综合评价.结果表明分水江水库的水质属中度污染型，建议有关部门继续加强必要的巩固治理和生态修复.

关键词： 浮游动物 群落结构 多样性指数 水质评价 浮游动物 群落结构 多样性指数 水质评价

Abstract: To provide basic information for further reservoir management and restoring, the community structure of zooplankton including species composition, biomass, density, diversity index and chemical and physical parameters were studied monthly in Fenshuijiang Reservoir of Zhejiang province from October 2008 to December 2008. A total of 23 zooplankton species were identified, including 11 Rotifera (48% of the total), 6 Cladocera (26% of the total) and 6 Copepoda (26% of the total). The dominant species mainly were *Keratella cochlearis*, *Asplanchna priodonta*, *Bosmina longirostris* and *Mesocyclops dissimilis* during this period. The average density of zooplankton ranged 78.0~297.3 ind./L, and the average biomass ranged 2.044~ 8.924 mg/L in Fenshuijiang Reservoir. The results in this study indicate that the water quality of the Fenshuijiang Reservoir is between α and β type of medium pollution, based on the biological parameters including the qualitative and quantitative analyses of zooplankton community, bio diversity indexes and chemical parameters with integrated pollution index and chemical evaluation index. It was suggested that the further work should be carried out to strengthen the current reservoir ecosystem.

Key words: community structure bio diversity index water quality assessment zooplankton community structure bio diversity index water quality assessment

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