1995年5月～1996年3月の伊勢湾における細菌，*Synechococcus*，ANF，HNF，植物プランクトン，ネット動物プランクトンの変動と相互の関係

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Abstract

Seasonal variation of carbon of Bacteria, *Synechococcus*, ANF, HNF, Phyioplankton, and Zooplankton were investigated in Ise Bay, in 1995. In addition, estimated production rates of Bacteria, *Synechococcus*, phyioplankton, and grazing rates of HNF, zooplankton. Using these results, we approximate production rates of each food chain. In this place, we categorized 10μm or less phytoplankton Bacteria *Synechococcus* and ANF as a producer of Microbial food chain, and categorized other producers as a producer of grazing food chain. Then, we compared and examined that interrelationship between each microorganism and environment factor.

As a result of this research, water temperature and grazing pressure by HNF were important as change factor of Bacteria, and grazing pressure of HNF and *Oikopleura* were important as *Synechococcus*. The microbial food chain/grazing food chain production ratio was 0.66 on the whole, grazing food chain was more important, but microbial food chain was more important in September and December. On the other hand, dominant species of the zooplankton were *Penilia avirostris* (CLADOCERA), and Bivalve larva and *Oithona davisae* (COPEPODA) when production of Bacteria, *Synechococcus*, etc. was the highest in summer. *P. avirostris* and Bivalve larva are herbivorous pico- nano, nanoplankton feeder, and *O. davisae* is omnivorous nano-microplankton feeder. The grazing rates of these dominant species occupied 86% (in August, and the whole 67%) to the grazing rates of the whole zooplankton, and the seasonal variation was similar to change of production rates of Microbial food chain. These results suggest production of a Microbial food chain links to production of zooplankton. On the other hand, zooplankton population and that species composition were seasonal changing so that food can be used effectively.