

Relationships Between Bacterioplankton, Zooplankton and Environmental Factors in Fertilized and Non-fertilized Carp Fishponds

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Abstract: The shifts in bacterioplankton number, biomass and size structure were investigated in two ponds with carp polyculture, manured with organic fertilizer, and two non-fertilized ones. Relationships between bacterioplankton, zooplankton and environmental factors, explained in “microbial food web” and the “trophic cascade” conceptions, were studied. Bacterioplankton abundance distribution in four size groups of free-living and one group of attached on detritus particles bacterial cells was established with clear prevalence of the smallest size group, 0.25-0.4 μm . The applied statistical analyses showed relationships between abundances of bacterial size groups, on one hand, and cladocerans biomass, the number of *Moina* sp. and two environmental factors, pH and temperature, on the other.

Key words: bacterioplankton size structure, microbial food web, trophic cascade, organic fertilizer.