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TITLE: Ecology of Heterotrophic Microflagellates. IV Quantitative Occurrence and Importance as Bacterial Consumers

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ABSTRACT:

Heterotrophic nanoplankton flagellates and bacteria were quantified at regular intervals during a month in Limfjorden, Denmark.The number of flagellates averaged about 103 ml-l and ranged from < 2 X 102 to about 3 X 103 ml-l.The composition of this fauna was dominated by choanoflagellates, non-plgmented chrysomonads and bicoecids; other forms are rarer.A substantial part of this fauna is associated with suspended particulate matter.Bacteria occurred in concentrations ranging from 1.5 to 3 X 106 ml-l.Flagellate numbers followed bacterial numbers and the bacteriaflagellate system showed a cyclical behaviour with a frequency of about 16 d during the study period.Calculations based on laboratory data on the clearance of flagellates show that such organisms on the average filter 20 % of the Limfjord water d-l (range 12 to 67 % d-l).This is consistent with previously published estimates of bacterial division rates in seawater provided that microflagellates are the main consumers of pelagic bacteria.

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