

VI.3d. Note on the feeding behaviour of zooplankton

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Some knowledge of selective feeding behaviour is essential if utilization of food and competitive interactions of zooplankton are to be understood. Although it is appealing and convenient to consider herbivorous zooplankton as passive filters, there is now considerable evidence indicating that the complexity of feeding behaviour of copepods may include multiple feeding modes that can be switched on and off, an ability to adjust feeding according to biomass peaks and chemosensory selection of food particles. Cladocerans also appear to be selective grazers. Unfortunately, there is inadequate information to permit general predictions of the selective behaviour of zooplankton grazers in the complexity of natural waters.

J. F. Haney and M. A. Trout, in a study headed "Size selective grazing by zooplankton in Lake Titicaca" (*Arch. Hydrobiol.*, 1985, 21:147–160) gave some precisions on the major trophic pathways for zooplankton grazers in Lake Titicaca, examined feeding activities on large ($>10\ \mu\text{m}$) and small ($<10\ \mu\text{m}$) fractions of seston. We report here the abstract published with their results.

"Feeding experiments were conducted in the laboratory and *in situ* using ^{14}C carbon labeled natural seston and ^{14}C carbon labeled *Chlorella*, *Boeckella titicacae*, *Daphnia pulex*, and *Ceriodaphnia quadrangula* graze selectively on small seston $<10\ \mu\text{m}$ in Lake Titicaca. *Bosmina coregoni* and *Boeckella occidentalis* females and large copepodids preferred large seston $>10\ \mu\text{m}$, whereas male *B. occidentalis* and small copepodids showed negative electivities for the large seston fraction. *Microcyclops* in Puno Bay ingest a greater portion of the $>10\ \mu\text{m}$ seston and in Lago Grande prefer particles $<10\ \mu\text{m}$. Its very low collection rates suggest it is more omnivorous than the other species. At natural seston concentrations, *Daphnia* and *Ceriodaphnia* ingest a greater portion of their body weight per day than *Boeckella*. Food addition experiments indicate both *Boeckella* species would benefit more than cladocerans by a dramatic increase in small particulate, with *B. occidentalis* gaining the most."

References of chapter VI.3

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