Ann. Zool. Fennici 27:305
Helsinki 10 December 1990

ISSN 0003-455X

Biology and ecology of glacial relict Crustacea, Conference 20–23 April 1988, Tvärminne, Finland

Feeding depths and organic absorption by *Pontoporeia femorata* and *Pontoporeia affinis*

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Pontoporeia femorata and *P. affinis* are closely related and ecologically similar deposit feeders that are important members of the macrobenthos in the Baltic Sea. There is no apparent size difference in particles ingested, but *P. femorata* resides deeper in the sediment than its congener. It has not been previously determined whether they differ in their ability to utilize sedimentary organic matter, the major energy source for deposit feeders. We have conducted experiments to determine whether *P. femorata* and *P. affinis* feed at different depths in the sediment, and whether they differ in their ability to absorb detritus from surface and subsurface sediment.

Experiments using fluorescent particles added to natural cores demonstrated that both species feed primarily, almost exclusively, on the surface layer (0 to 0.5 cm) of sediment, even though they may spend much of their time deeper in the sediment. *P. femorata* appeared to defecate deeper in the sediment than its congener. There is some evidence that *P. femorata* maintained similar feeding rates over a 24 hour period, while *P. affinis* fed more during the daytime. *P. affinis* had a higher maximum feeding rate.

Absorption of sedimentary organic matter was estimated by the 14C formaldehyde technique. Both species absorbed 40% of the ingested sedimentary organic matter from surface (0 to 1 cm) sediment from a core collected in spring during peak deposition of fresh phytodetritus. Both species absorbed approximately 28% of the detritus from the 1 to 2 cm layer of the same core.

In summary, *P. femorata* and *P. affinis* are very similar in their food resources. Sympatric populations are expected to compete strongly for food at certain times of the year.

For full article, see Limnol. Oceanogr. 34:982–991 (1989).