



Benthic life in the pelagic: Aggregate encounter and degradation rates by pelagic harpacticoid copepods

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ABSTRACT: We measured field abundances, feeding rates, swimming behavior, and particle colonization of two harpacticoids, the pelagic *Microsetella norvegica* and the semibenthic , to examine (1) if aggregates have a significant role in harpacticoid nutrition and (2) if harpacticoids contribute significantly to aggregate degradation. Neither of the harpacticoids was able to feed efficiently on suspended food, while both grazed well on attached food, indicating that pelagic harpacticoids depend on food attached to surfaces, such as those offered by marine aggregates. We estimated that the two harpacticoids are able to search substantial volumes of water for aggregates (up to 1.2 L d⁻¹), and that during bloom conditions in the North Sea, reported aggregate concentrations allow *M. norvegica* to daily encounter about three aggregates. High short-term hunger-induced feeding rates observed in *A. normanni* indicate that at least some harpacticoid species can fill their gut during few short visits to aggregates. Harpacticoids may cause substantial degradation of aggregates of <1 cm (5-100%) when their abundance exceeds 10⁵ m⁻², which is not atypical during summer in temperate waters.

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