Incorporation and burial of carbon from settling cyanobacterial blooms by deposit-feeding macrofauna

Karlson, Agnes M. L., Francisco J. A. Nascimento, Ragnar Elmgren

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ABSTRACT: Summer blooms of filamentous, nitrogen-fixing cyanobacteria are typical of the Baltic Sea, and recent findings indicate that cyanobacteria may be an important food source for the benthos below the euphotic zone. In a 2-week laboratory experiment, we measured incorporation of cyanobacterial carbon by the deposit-feeding amphipod *Monoporeia affinis* when exposed to ^{14}C-radiolabeled, natural blooms of cyanobacteria dominated by either the toxic *Nodularia spumigena* or nontoxic *Aphanizomenon* sp. Carbon from both cyanobacterial blooms was used, with greater incorporation from *Aphanizomenon*-dominated bloom material than from *N. spumigena*, indicating that the latter is less suitable as food. However, neither cyanobacterium supported significant amphipod growth. Also, less cyanobacterial carbon was mixed down in the sediment in the *N. spumigena* treatment, indicating lower bioturbation activity in this treatment. Long-term effects on feeding and survival remain to be studied, especially for the toxic *N. spumigena*.

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