



Microbial Ecology of Particulate Organic Matter Aggregates in Aquatic Ecosystems

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Message from the Guest Editor

Downward fluxes in particulate Organic Matter (OM) represent the major process for the sequestering and storing of atmospheric CO₂ in sediment of aquatic bodies through the process known as the biological carbon pump. The sinking process of OM particles, typically referred to as marine or lake snow, has been studied for eight decades. However, though much is known, even more is left to be uncovered. For example, studies from the last decade have shown that the amount of carbon sequestered may be underestimated. There are two main reasons for this: first, the methodological difficulties in following OM particles from the surface to the sediment through the sinking process, and second, the lack of a good mechanistic understanding of the microbial processes taking place while OM particles sink. For example, the role of fungi in the degradation process of OM particles is largely unknown. Similarly, not much is known regarding the remineralization of OM by particle-associated viruses.

[...]

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