



Does dispersal limitation constrain diversity in aquatic microbes? An experimental test

Robert Ptacnik (1), Sarah Lena Eggers (2,1), Mia Brigitta Bengtsson (3,1), Christian Preiler (1), Theresa Lumpi (4,1), Zsófia Horváth (1), and Radka Ptacnikova (1)

(1) WasserCluster Lunz, (2) Alfred-Wegener-Institut Helmholtz-Zentrum für Polar- und Meeresforschung, (3) Ernst-Moritz-Arndt-Universität Greifswald, (4) Universität Uppsala

Following the influential theorem of 'everything is everywhere' by Baas-Becking, connectivity was for the longest time not considered a relevant factor for structuring communities of unicellular organisms. Their small size in combination with formation of resting stages makes them highly effective dispersers. Still, recent analyses on observational datasets suggest regional pattern that seem to be in conflict with the often proposed the ubiquity of microbes. We first summarize evidence from observational studies, and show then results from a mesocosm experiment where manipulation of connectivity resulted in strong effects on taxon richness and community composition within only a few weeks. This apparent conflict between unlimited dispersal and the role of connectivity is discussed within the framework of existing theory.