

JS2-2:

Links between structure and function of aquatic bacterial communities

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Bacterial community in aquatic environments plays important roles in processes of organic matter degradation and remineralization. Concern that the relationship between bacterial community composition and functioning of aquatic ecosystem has prompted microbial ecology in recent years. The mechanisms of this relationship are still under debate despite the accumulating results the bacterial community consists of diverse bacterial species, which have different ecological traits. In this study we determined bacterial community function in mesocosms with isolated bacterial communities, and to explore how different communities make different function in bacterial properties (e.g., biomass, production, respiration, resource availability). Moreover we determined how the relationship between the composition and function vary against environmental disturbance (as an environmental disturbance, we introduce an antibiotic in this experiment). Our working hypothesis is that more diverse community shows the maximum values in the bacterial properties. To test this hypothesis, we used 29 type-strains of bacteria, which have been determined whole genome, for examining the community and function relationships in microcosm experiments. Our data demonstrated that bacterial properties varied depend on community compositions. In this context, we will discuss the role of bacterial community on bacterial functions.

keywords:bacterail community,bacterial functions
