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# Impact of Cyanobacterium *Microcystis* species on Native freshwater Phytoplankton Communities

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## Abstract

Invasion of non-native aquatic algae impact community assembly in freshwater ecosystem. We have a limited understanding of ecological drivers that mediate the invasion success of microscopic organisms. In addition to increased number of studies on invasive plants and animals in terrestrial and aquatic ecosystems, a few reports suggest the invasion of cyanobacterium *Microcystis* species to freshwater environments globally. Species of *Microcystis* are known to release toxic chemicals into environment, thus have potential to effect the composition of the native algal communities and ecosystem functioning. We quantified the invasion of *Microcystis* species to lakes and water reservoirs in subtropical zone and their impact on the native and the co-occurring species of *Monoraphidium* and *Scenedesmus*. We generated data on invasive traits such as high growth rate, better resource utilization efficiency and overall superior competitive abilities over the native species. Since global warming has been identified as a major driving force for the invasion of cyanobacteria, we visualize the future major impact of *Microcystis* invasion. We will discuss why algal invasion is important in context of freshwater communities, and how it could potentially damage our ecosystem services.

**Keywords:** Cyanobacterium *Microcystis*, phytoplankton

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