



Phytoremediation of phytoplankton and their toxins

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Abstract

Harmful cyanobacterial blooms are a serious environmental concern in aquatic ecosystems worldwide. Eutrophication and climate change stand out as the primary factors driving the escalation and expansion of harmful blue-green algae blooms. The *Microcystis* genus is widely recognized as the predominant cyanobacteria responsible for forming harmful blooms. These blooms lead to substantial degradation of water quality, primarily through scum formation, toxin release, hypoxia, and the generation of unpleasant tastes and odors. In recent times, macrophytes have garnered significant attention as a novel reservoir of bioactive compounds and an effective alternative to traditional methods for controlling the growth of cyanobacteria. *In our study, we used bioactive compounds extracted from the roots of *Nymphaea alba* to study their effect on the growth of *Microcystis* spp.* The findings indicate a decrease in the cell density of *Microcystis* spp. compared to the control group, suggesting that these compounds could serve as a potential remedy for mitigating contamination of water bodies caused by harmful blooms.

Key Words: Harmful cyanobacterial blooms, *Nymphaea alba*, *Microcystis* spp, contamination, aquatic ecosystems

