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Aquatic macrophyte as a natural factor for reducing cyanotoxins

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Abstract

Cyanobacteria are found in a wide variety of environments environments, both aquatic and terrestrial. They can be found in freshwater reservoirs, oceans, hot and cold springs and lakes. and lakes. Over the years, periodic blooms of cyanobacteria have been observed. However, with the with the recent increase in municipal and industrial waste production freshwater reservoirs have undergone eutrophication, characterized by an excessive accumulation of nutrients. This eutrophication has contributed to an increase in the frequency and extent of cyanobacterial proliferation. Certain strains of cyanobacteria, such as *M. aeruginosa*, produce toxins to which humans can be exposed through recreation, drinking water and food. The elimination of cyanobacteria and their toxins is a crucial approach approach to controlling harmful algae. Recently, macrophytes have been as promising tools for biological control of harmful cyanobacterial proliferation. They release metabolites, called allelochemicals, into water, and allelopathy has been proposed as one of the main one of the main mechanisms by which macrophytes control phytoplankton biomass and taxonomic composition in aquatic ecosystems. 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 results suggest that the cell density of cell density of *Microcystis* spp. decreased compared with the control group, indicating that these compounds could be recommended as a remedy against contamination of water bodies by harmful blooms.

Key Words: *Microcystis* sp, *Nymphaea alba*, cyanobacteria, macrophytes, blooms

