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Toxic Cyanobacteria in Four Brazilian Water Supply Reservoirs

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ABSTRACT

Cyanobacterial blooms have become a worldwide concern due to the production of toxins harmful to humans and animals. In Brazil and worldwide, microcystins are the most frequently found cyanotoxin in water bodies. Four important reservoirs in Brazil ' s Southeast and Northeast regions were sampled to identify the cyanobacteria community and the occurrence of potential toxin-producing species in the country ' s public supply reservoirs. A total of 14 taxa were identi-fied, 11 of which are known as potential toxin producers. Potentially toxic cyanobacteria were recorded at concentra-tions above 20,000 cells.ml^{-1} in all samples from all four reservoirs, thus requiring microcystin monitoring in drinking water according to Brazilian legislation. Although the sample from Mundaú reservoir showed the highest concentration of microcystins in water, it had one of the lowest values of cells.ml-1, which demonstrates the non-correspondence between these two parameters. This calls into question the existence of a minimum level of potentially toxic cyanobacteria cells to merit the monitoring of microcystins in the treated water from these sources.

KEYWORDS

Cyanotoxins; Cylindrospermopsis; Microcystins; Microcystis; Public Water Supply

Cite this paper

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