Daphnia growth on microcystin-producing and microcystin-free Microcystis aeruginosa in different mixtures with the green alga Scenedesmus obliquus

Lürling, Miquel

Limnol. Oceanogr., 48(6), 2003, 2214-2220 | DOI: 10.4319/lo.2003.48.6.2214

ABSTRACT: The hypothesis that negative effects of *Microcystis* on *Daphnia* growth and reproduction can be explained from the presence of microcystin in the *Microcystis* cells was tested by comparing the effects on *Daphnia* life history characteristics of a microcystin-free mutant strain and microcystin-containing strain of the cyanobacterium *Microcystis aeruginosa* PCC7806. To avoid nutritional deficiency, *Microcystis* was offered to *Daphnia* alone and in various mixtures with the high-quality green alga *Scenedesmus obliquus*. In contrast to expectation, growth of *Daphnia* on microcystin-free cells was not much better than growth on microcystin-containing cells. Because nutritional insufficiency, morphology, and feeding inhibition could not explain the observed effects, the results show that *Microcystis* must contain substances other than microcystins that are poisonous to *Daphnia*.

Article Links

Download Full-text PDF

Return to Table of Contents