



Abstract

Cyanotoxins beyond Plankton and Lacustrine Environments [†]

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Abstract: The first evidence of cyanotoxins production came from planktonic species, and for a long time planktonic species and blooms were the focus of most toxicological studies. The toxicity of benthic species, and its consequences, has also been known from the very beginning. Still, in the last years, a huge amount of data has been gathered worldwide reinforcing the potential importance of cyanotoxins in benthic community dynamics, their role in modelling the physiognomy of aquatic systems, and the associated potential risks for human populations, especially in a climate change scenario. Cyanobacteria can develop in almost any possible habitat, natural or man-made, representing a potential hazard, but concentrations in benthos are usually very low, minimizing risks of sporadic human exposures. The importance of Cyanobacteria in the food webs of several aquatic systems has been highlighted lately as they may represent a very important food resource during different adverse environmental conditions, opening questions on the timing of toxin production or the effectiveness of detoxification methods of aquatic consumers. Furthermore, microalgae food and supplements have become very popular lately, and their regular consumption may represent a real risk when they contain Cyanobacteria and the presence of toxins is not analyzed. The globalization of markets eases the acquisition of products from everywhere, but there is no clear international legislation to protect consumers.

Keywords: benthos; cyanotoxins; animal and human toxicity; detoxification; toxicity adaptation



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