

SFB 680

MOLECULAR BASIS OF EVOLUTIONARY INNOVATIONS

Rainer Kurmayer

Institute for Limnology, Austrian Academy of Sciences, Mondsee, Austria

Microevolution of Toxin Production in Cyanobacteria

Harmful algal blooms formed by cyanobacteria are a global phenomenon observed both in fresh and brackish water. The human society is facing half a dozen of so-called cyanotoxins, which have been involved in outbreaks and diseases of livestock or humans. From an ecological point of view a toxin-producing phenotype is considered as relatively static, i.e. costs and benefits of toxin synthesis are related both theoretically and experimentally directly to the fitness of a particular organism. This approach has been the basis for numerous concepts and models predicting the ecological success of toxin-producing organisms under certain conditions. In several papers I argued that this approach rather represents a single snapshot sampling event and cannot address the ecological diversification of a toxic phenotype driven by selective factors not directly linked to toxin production. As lakes and reservoirs are ephemeral in terms of evolutionary time scales when compared with marine ecosystems, the current success of some toxic bloom-formers may rather result from opportunistic abilities than from an adaptation to a specific freshwater habitat.

January 25th, 4:00pm

Biocenter, Lecture Hall Ground Floor

Host: Eric von Elert

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