Invasion of Pectinatella magnifica in Freshwater Resources of the Czech Republic

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Abstract : *Pectinatella magnifica* (Leidy, 1851) is an invasive freshwater animal that lives in colonies. A colony of *Pectinatella magnifica* (a gelatinous blob) can be up to several feet in diameter large and under favorable conditions it exhibits an extreme growth rate. Recently European countries around rivers of Elbe, Oder, Danube, Rhine and Vltava have confirmed invasion of *Pectinatella magnifica*, including freshwater reservoirs in South Bohemia (Czech Republic). Our project (Czech Science Foundation, GAČR P503/12/0337) is focused onto biology and chemistry of *Pectinatella magnifica*. We monitor the organism occurrence in selected South Bohemia ponds and sandpits during the last years, collecting information about physical properties of surrounding water, and sampling the colonies for various analyses (classification, maps of secondary metabolites, toxicity tests). Because the gelatinous matrix is during the colony lifetime also a host for algae, bacteria and cyanobacteria (co-habitants), in this contribution, we also applied a high performance liquid chromatography (HPLC) method for determination of potentially present cyanobacterial toxins (microcystin-LR, microcystin-RR, nodularin). Results from the last 3-year monitoring show that these toxins are under limit of detection (LOD), so that they do not represent a danger yet. The final goal of our study is to assess toxicity risks related to fresh water resources invaded by *Pectinatella magnifica*, and to understand the process of invasion, which can enable to control it.

Keywords : cyanobacteria, fresh water resources, Pectinatella magnifica invasion, toxicity monitoring
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