The role of planktonic organisms in urea metabolism in lakes of temperate zone – case study

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INTRODUCTION

Urea is considered as a key element of nitrogen cycle in marine and oceanic environments (McCarthy 1972, Ignatiades 1986, Zehr and Ward 2002). However, the knowledge on urea transformations in inland waters is still limited and needs further investigations (Berman and Bronk 2003). In majority of aquatic systems urea constitutes only a small percentage of dissolved organic nitrogen (DON) pool (Glibert and Terlizzi 1999, Berman and Bronk 2003). Nonetheless, because of its biological availability and fast recycling in lake water, urea seems to be, besides dissolved free amino acids (DFAA), one of the most important organic N sources for planktonic microorganisms (Mitamura and Saijo 1986, Přesing et al. 2001, Bronk et al. 2006). Many authors pointed out that urea become the one of the main N pollutants for coast-