POSTER PRESENTATION

SUCCESSION OF DIATOM NONOBLIGATE ECTOSYMBIONTS ON CLADOPHORA FROM WEST OKOBOJI LAKE, IOWA

Blia Lor1 and Kalina M. Manoylov1

1 Department of Biological and Environmental Sciences, Georgia College & State University, Georgia, 31061 USA

Epiphytic diatoms have an implied fitness advantage accessing light and nutrients when colonizing macrophytes or other algae. In the research, conducted on West Okoboji Lake, coverage of the epiphytic diatom community on Cladophora was assessed and related to water column nutrients. Epiphyte biofilms of living diatom cells were compared two weeks apart. Nutrient relationship was inferred based on coverage by adnate diatoms versus chain forming and stalked diatoms. More adnate diatoms were expected in low nutrient water column conditions, where taking nutrient from the macrophyte would have been advantageous. A minimum of ten undisturbed Cladophora filaments were observed and placement and physiological state of the diatom frustules were documented and compared. Population descriptions of the dominant diatoms found: *Cocconeis pediculus* Ehrenberg, *C. placentula* Ehrenberg, *Diatoma vulgaris* Bory, and *Rhoicosphenia abbreviata* (Agardh) Lange-Bertalot were compared with literature valves and periphyton communities from the area. Surface area limitation on older Cladophora stimulated longer stalks on Gomphonemoid and Cymbeloid diatoms, the number of adnate diatoms was reduced significantly. High biomass of the substrate and epiphytes suggest high nutrient condition in the system.