B405 The spatio-temporal distribution of phytoplankton biomass in the mid to lower Nakdong River (1993-1997)

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Biweekly changes of phytoplankton biomass (chl. a) were studied at 5 sites in the main channel as well as 3 tributaries of the mid to lower Nakdong River from March 1993 to April 1997. The chl. a concentration was gradually increased towards the lower part and the seasonal changes was distinctive in all study sites in main channel. The seasonal fluctuations of chl. a in the 3 tributaries (Nam R., Hwang R., Kumho R.) were less clear than sites in the main channel. Mean chl. a ($\mu g/\ell$, n=51) sites in the main channels were 14± 16 (Waekwan: River Km 181 from estuary dam (R.K. 0)), 26±21 (Koryung: R.K. 149), 35± 34 (Jukpo: R.K. 107), 37±24 (Namji: R.K. 83), 57±54 (Mulgum: R.K. 27), and in tributaries (Nam R., Hwang R., Kumho R.) were 21±16, 2.0±1.2, 38±25 respectively. Consistently low chl. a concentration was observed in Waekwan and Hwang R. Almost all cases, dramatic increase of algal biomass was observed distinctive between Waekwan and Kumho R. due to the high nutrient loading from K. R.. Among the sites studied, biomass changes in Mulgum was due to the longer hydrological retention and grazing activity of zooplankton.

B406 Comparison of micro- and macrozooplankton bacterivory in coastal and offshore communities of Lake Erie

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Microzooplankton (MICZ, 40-200 μm) and macrozooplankton (MACZ, >200 μm) bacterivory at coastal and offshore sites in Lake Erie, USA, were determined *in situ* using both fluorescent and radiolabeled bacteria during the summers of 1993 and 1994. Bacterial abundance, cellular carbon content, and productivity were significantly higher at the more eutrophic coastal site ($p< 0.01$). Bacterivorous rotifers usually dominated total rotiferan abundance at both sites. All cladocerans except *Leptodora kindtii* grazed bacteria but most copepods did not. MICZ, especially rotifers, were generally more important bacterial grazers than MACZ (primarily cladocerans) at both sites, and accounted for 56% and 71% of total zooplankton bacterivory at the coastal and offshore sites, respectively. However, on four occasions (out of 16 cases) when cladoceran biomass was greater than 60% of total zooplankton biomass, MACZ bacterivory accounted for 54 - 95% of total bacterivory. Total zooplankton generally consumed <50% of bacterial productivity at the coastal site, while zooplankton bacterivory often exceeded bacterial productivity at the offshore site. Our results demonstrate the importance of bacteria as a carbon source for zooplankton in the Lake Erie food web, where rotifers can significantly contribute to total zooplankton bacterivory.