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Seasonal variation of phytoplankton community in the Hoidong Reservoir

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Phytoplankton community and water quality were investigated from March 2003 to February 2004 on the biweekly basis. On the epilimnion at the deepest station and in front of the dam, secchi disc transparency, total nitrogen, total phosphorus, pH, COD, TOC, chl-*a* concentration and bacterial abundance were in the range of 0.3 ~ 2.3 m (mean, 1.2 m), 0.53 ~ 4.10 mgN/l (mean, 2.12 mgN/l), 1 ~ 910 µgP/l (mean, 108 µgP/l), 6.6 ~ 10.3 (mean, 8.4), 2.2 ~ 7.1 mg/l (mean, 3.9 mg/l), 2.39 ~ 26.90 mg/l (mean, 6.71 mg/l), 12.6 ~ 499.7 mg/m³ (mean, 78.1 mg/m³) and 30 ~ 1.9 × 10⁴ cfu/ml, (mean, 6.3 × 10³ cfu/ml), respectively. TN/TP ratio of the epilimnion and hypolimnion (maximum depth, 18 m) varied from 51 to 168 and 65 to 145, respectively. The dominant species of phytoplankton were *Aulacoseira granulata* var. *angustissima*, *A. italica*, *Synedra acus* and *Microcystis aeruginosa*. During the cyanobacterial bloom period (the mid of August to the early November), *Microcystis aeruginosa*, *M. ichthyoblabe* and *Anabaena spiroides* occurred in high abundance. Relative abundance of zooplankton community were rotifers (92%), Cladocera (2.5%) and Copepoda (1.8%). During the dry period, water from the Nakdong River was pumped to the reservoir. Water quality and phytoplankton community in the Hoidong Reservoir affected by high precipitation and pumping from the Nakdong River.