

The variations of the microcystins in Sonaktong River

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Seasonal changes in species composition of cyanobacterial bloom and the concentrations of toxic heptapeptide hepatotoxin, microcystin-LR, -RR, and -YR were investigated in the Sonaktong River, Republic of Korea. The samples were obtained between July and August 1995. The bloom materials were composed predominantly of *Microcystis aeruginosa*, *M. viridis* and *M. wesenbergii*. Microcystin variant's identification and their concentration determination were achieved by using high performance liquid chromatography (HPLC). The most dominant microcystin variant was Microcystin-RR. The concentration of microcystin-RR in the bloom was estimated in the range from non-detectable to as high as $\sim 800 \mu\text{g/g}$ dried cell. The concentration of Microcystin-LR ranged up to $\sim 300 \mu\text{g/g}$ dried cell. However, Microcystin-YR was present in trace amounts in the cyanobacterial bloom material. Correlation between toxin concentrations and *Microcystis* species composition of the cyanobacterial bloom has been made. Attempts were also made to correlate the toxin concentration of cyanobacterial bloom to various physico-chemical parameters of the water column such as dissolved oxygen, surface temperature, pH and conductivity.