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Interaction between cyanobacterial bloom and
fishes in the Hoedong Reservoir
: laboratory and enclosure experiment

Jang, Min-Ho*, J. M. Jung, K. S. Jeong, K. Ha and G. J. Joo

Dept. of Biology, Pusan National University, Busan 609-735, S. Korea

To clarify the interaction between native fishes and *Microcystis* in a small reservoir, *in vivo* and *in vitro* feeding experiment of the filtered cells (< 35 μ m mesh size; 96% *Microcystis* spp.) and 2 dominant native fishes (*Hemiculter eigenmanni* and *Culter brevicauda*) were conducted. This reservoir was constructed in 1967 for drinking water supply. A massive *Microcystis* bloom event occurred during the precipitation was very low from mid July to mid September (81.7 mm). While no toxin was detected in *Microcystis* from the reservoir, low level of microcystin was detected in both fish free and fish treated *Microcystis* culture in the laboratory experiment (> 40 g g⁻¹-dry cell) after 24 hours. There was almost no difference in microcystin level between the control and treatment (ANOVA <0.01) at the end of incubation. However, microcystin contents in the both of fish excreta and body tissue were increased on the final day of incubation (day 6). The toxin quantity of fish body tissue was much higher on surface zone (0 m) than the subsurface zone (3 m). After day six, toxin contents of body tissue were higher in *H. eigenmanni* than that in *C. brevicauda* in surface zone (0 m). Both *in vivo* and *in vitro* experiments showed that feeding pressure from fishes would be trigger the microcystin production. There is also a possibility of increased toxin production in the laboratory culture due to the change of environmental condition. Based on the fact that lower microcystin level of body tissue than the water column and higher toxin level of excreta than the body tissue, we conclude that two fishes may selectively feed on microcystin free *Microcystis* in the reservoir.

Key words: cyanobacteria, microcystin, pumping reservoir, *Hemiculter eigenmanni*, *Culter brevicauda*