

## OPD13) An Epiphytic Diatom on *Microcystis aeruginosa* Colony in the Nakdong River

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### 1. Introduction

A bloom of *Microcystis aeruginosa* (MA) have been steadily reported from the phytoplankton history of the Nakdong River, highly eutrophic ecosystem. The cyanobacterial colonies were in turn colonized by the diatom species. This co-occurrence has been previously reported only fourth in the literature and this study will be the first in Korea.

### 2. Results and Discussions

This diatom (identified as *Nitzschia palea*) had selectivity on MA and the phytoplankton biotic habitat of epiphyton was related to colony size and density. Field observation as well as a literature revision, suggest that the association of between the two types of organisms is symbiotic, assuring a continuous supply of nutrients of exogenous and endogenous origin. Besides obtaining nutrients, an epiphytic diatom also benefits from suspension in the upper part of the photic zone, where availability of light and nutrients is higher. The species was observed up to  $2.0 \times 10^5$  cells/mL only from Hapcheon-Changnyeong weir to the mouth barrages of Nakdong River, and during that time, the inorganic silicate was dramatically depleted. The epiphytic diatom observed this study could be recommended as an ecological pollutant species with *Microcystis* population colonies.