The Occurrence of Cyanobacteria in the Reservoirs of the Mahaweli River Basin in Sri Lanka

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Abstract

About forty species of cyanobacteria belonging to twenty-four genera have been reported so far from Sri Lanka's reservoirs. Of these, except for *Microcystis aeruginosa*, the other species are either rare or occur only in small numbers. The composition of the phytoplankton in 21 reservoirs in the Mahaweli river basin were examined during February-March, 1994 to determine whether the cyanobacteria exhibit a particular pattern of distribution and abundance. Of the cyanobacteria found in the Mahaweli reservoirs, the genus *Anabaena* occurred in two reservoirs. It was dominant in the Ambewela reservoir (relative importance - 70%) while in the Kande-Ela reservoir, which is located in the immediate downstream of the Ambewela reservoir, its relative importance in the phytoplankton community was only 1%. The relative importance of the genus *Microcystis* ranged from 46% to 2% and was found in twenty water bodies. The genus *Pseudanabaena* was found in four reservoirs with a relative importance ranging from 4% to 46%. *Coelosphaerium* sp. was found in two water bodies but its relative importance varied from 7% to 1%. The genus *Lyngbia* was found in one water body with a relative importance of 1%. In addition, several other genera of cyanobacteria reported by others were found in a few numbers. Of the five major genera of cyanobacteria, *Microcystis* had the highest distribution and relative abundance in the Mahaweli river basin. The lowest relative abundance and distribution were recorded for *Planktolyngbia*. The relative importance of cyanobacteria in the phytoplankton assemblage in most of the reservoirs were found to be high (>50%) or moderate (25-50%) when total phosphorus and NO_3-N contents are relatively low. Further when the NO_3-N content is very low, pH also appears to affect the relative importance of cyanobacteria.