

COMPARISON OF PHYTOPLANKTON COMMUNITIES DYNAMICS AND WATER CHEMISTRY OF THE PLUMLOV RESERVOIR AND THE BRNO RESERVOIR

SROVNÁNÍ DYNAMIKY FYTOPLANKTONNÍCH SPOLEČENSTEV A CHEMIZMU VODY PŘEHRADNÍCH NÁDRŽÍ BRNĚNSKÉ A PLUMLOVSKÉ

Straková L., Kopp R., Ziková A.

Ústav zoologie, rybářství, hydrobiologie a včelařství, Agronomická fakulta, Mendelova zemědělská a lesnická univerzita v Brně, Zemědělská 1, 613 00 Brno, Česká republika.

E-mail: xzikova1@node.mendelu.cz, xkopp@mendelu.cz

ABSTRACT

During the whole vegetation season of the year 2007, the phytoplankton community compositions of two reservoirs were determined and in parallel basic physicochemical parameters were monitored. Both reservoirs are situated in the same climatic region and deal recently with the problem of heavy cyanobacterial water blooms serving probably as a good model of anthropogenic disturbance of aquatic ecosystem.

Regular determination and quantification of phytoplankton showed the classical cyanobacterial occurrence during July staying dominant over other present algal species until the end of vegetation period in both reservoirs. This typical cyanobacterial occurrence was changed by algological treatment in the Plumlov Reservoir. According to previous experiments the coagulating solution PAX18, commonly used during drinking water treatment, was applied.

After the PAX18 application no negative impact on other aquatic organisms was observed. Few days after the treatment species diversity of phytoplankton increased and this stage was maintained until the end of the season. Several hours after the application higher fluctuations in pH values were observed.

However, in the Brno Reservoir exhibiting no algological treatment the quantity of cyanobacteria did not change much during the whole vegetation period.

The research proofs that it is possible to eliminate cyanobacterial water blooms in Czech reservoirs but these acute treatment should be only a part of the complex solution for the revitalisation of whole water basins

Key words: phytoplankton diversity, PAX18, Brno Reservoir, Plumlov Reservoir.