

ABSTRACT

Diatom analysis of basal part of profile PK-1-L contributes to multi-proxy research of former Lake Komořany. At this part of profile radiocarbon dating (dates sediments into Late Glacial and Early Holocene) and LOI (loss on ignition) had been conducted before, of which results have been utilized to more accurate interpretation of diatom analysis conclusions. Apart from diatom valves, presence of stomatocysts of Chrysophyceae has been observed.

Having separated diatom valves from 32 sediment samples in intervals 0,4–0,6 cm, permanent preparates have been created. Concentration of valves in a gramme of dry sediment and relative abundance of diatom taxons in each sample have been investigated using light microscopy. In a half of samples subdominants and rare taxons have been observed separately to eliminate the interference from dominant taxons.

Cluster analysis based on relative abundances of diatom taxons have been calculated and on its results have been subsequently determined three diatom accumulation zones (DAZ). Moreover trophic and saprobic indices have been calculated and levels of pH, conductivity and concentration of total phosphorus (TP) have been estimated by transfer functions.

Even before beginning of Holocene the major shift in composition of diatom communities have happened, to the start of Holocene dominant taxons haven't responded any more. Reconstructions of conductivity, trophic and saprobic state have provided very stable values, only reconstructed pH has increased simultaneously with exchange of dominant taxons.

Results of water environment parameters calculation have been interpreted in the context of climatic changes. The special attention have been paid to reconstruction of lake trophic state, in order to re-examine the traditionally cited conclusions about trophy of Lake Komořany in Late Glacial.

Key words: diatoms, *Bacillariophyceae*, Komořany Lake, Quaternary, Late Glacial, paleolimnology, indices, transfer functions