

SUMMARY

The doctoral thesis discusses thecamoebians assemblages coming from five glacial lakes in the National Park Šumava and from the Lipno Reservoir in the Southern Bohemia (the Czech Rep.). The research analyzes parameters of various assemblages commensurate with environmental characteristics. The aim of this research is to find relations useful in paleoecology. Thecamoebians are freshwater microorganisms with amoeboid cell and simple organic or anorganic test. Species with anorganic tests have been examined because of their better possibilities to fossilize. This taxon may prove to be a key taxon for monitoring environmental change during 21st century. So it is expected that it could bear useful information about freshwater benthic paleoenvironment as well.

Forty-six surface samples from the bottom of five glacial lakes in the Šumava Mts., Czech Republic, collected in 2002 were investigated and twelve species of thecamoebians with anorganic wall were identified in total. 96 % samples contain the species *Diffflugia globulus*. Other common species are *Diffflugia oblonga* and *Centropyxis orbicularis*. Dominance of *Diffflugia globulus* and representation of *Centropyxis orbicularis* and *Trigonopyxis arcuata* are the considerable differences comparing testate fauna from other world lakes. It is possible to distinguish three main types of thecamoebian assemblages by cluster analysis. Their various presence in the lakes make possible to distinguish three categories of the lakes that correlates with classification according to content of phytoplankton there. The assemblages are generally not numerous and their species diversification is poor. That indicates some stressing factor bearing on acidification of the lakes probably. The comparison of recent taxa with the data from Černé jezero Lake and Čertovo jezero Lake published by Frič & Vávra (1898) was made and consequently six new species have been found in these lakes recently (*Euglypha acanthopora*, *Centropyxis orbicularis*, *Centropyxis constricta*, *Diffflugia viscidula*, *Nebela dentistoma*, *Pontigulasia compressa*).

Thirteen surface samples and sixteen cores from the bottom of the Lipno Reservoir were collected in 2001, 2002 and 2003. Thirteen species were determined in total there, the species *Centropyxis orbicularis*, *Centropyxis aculaeta* and *Diffflugia oblonga* were the most abundant. Thecamoebians fauna in the Lipno Reservoir is more diversified and healthier

concerning species composition in comparison with the lakes. However rather low abundance signifies possible stressing factor (stress) as well. The assemblages from deeper part of sediment (5-90 cm) were significantly poorer concerning species diversification and abundance. The capability of thecamoebians to withstand diagenetic changes obviously plays the significant role in parameters of assemblages retained in the sediment. However this phenomenon is unfortunately not suitably explored in literature.

Thecamoebians population from the Šumava Mts. was confronted with lacustrine fauna of other world lakes. The main difference is a dominance of the species *Diffflugia globulus* in Šumava lakes. The important representation of *Centropyxis orbicularis* there and its invariable morphology are interesting as well. This species is characteristic for the Lipno Reservoir, it is relatively abundant there and its representation in the lakes is meaningful as well. However only little information about this species is registered in literature.

Other data about structure and size of tests, character and size of xenosomes and encystation are presented in the thesis as well as variability of assemblages in homogeneous environment within small area (1 m²) that was low.

Some important parameters were discussed in the work - trophic, value of pH, content of phytoplankton and type of sediment with regard to use thecamoebians in paleoecology. Presented doctoral thesis suggests that these variables could affect the composition of thecamoebians fauna.

Keywords: thecamoebians, Šumava Mts., glacial lakes, actuoecology, statistic analysis