What can we learn from lake zooplankton: a training set of Cladocera subfossil assemblages and new statistical approaches used to model lake conditions of the past

The work in presented project will focus on creating advanced method of quantitative paleolimnological reconstruction and broadening of the existing knowledge about indicative value of littoral Cladocera species (zooplankton). Cladocera are very important zooplankton group that live in the lakes and are very sensitive to environment changes such as temperature or trophy. The main objective of the proposed research project is to create scheme for the reconstruction of the past lake trophy changes using the indicator properties of sub-fossil fauna of Cladocera.

In the project, new, more accurate information on the ecological requirements of the subfossil Cladocera species will be gained. The relationship between the occurrence of individual species and the parameters of the environment will be assessed using several multivariate statistical methods. We will supplement an existing knowledge about environmental requirements of this important group of zooplankton which will be very useful for paleolimnologists but also for hydrobiologists.

As the results of our project a new method for reconstruction of water trophy will be established. This method will be useful for assessing the reference condition of the lakes strongly influenced by human activity. It will be also used for reconstructing trophy changes of the lakes since the last glaciation. We will also be able to add a new knowledge of ecological demands of littoral species which will contribute to better understanding the results of reconstruction based on subfossil Cladocera analysis.