



Bottom sediments of the lakes as a key for past conditions reconstructions on Karelian Isthmus (Russian Federation)

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Paleobiological analysis using Cladocera (Branchiopoda, Crustacea) remains was applied for ecological reconstructions of the past on Karelian Isthmus. Cladocera being one of the main groups of aquatic ecosystem organisms currently become popular in climate reconstructions. The chitinized exoskeletal body parts of these microcrustaceans allow to identify most of them to species level.

Medvedevskoye lake (60 ° 14' N, 29 ° 54' E., 102.2 m a.s.l., surface area is 0.44 km², 0.5 km width, 1.18 km length, maximum depth is about 4 m) was selected as an object of the current study. In spring of 2012 two sediment cores of 1 and 2.5 m correspondingly were sampled from the ice surface. Subfossil Cladocera community is represented by 38 taxa. Chydoridae and Bosminidae species are the most common in the lake. Subdominants of Cladocera communities of the Medvedevskoye lake are represented by *Bosmina* (*Eubosmina*) *longispina* and *Alonella nana*, inhabiting mostly northern oligotrophic water bodies. Taxonomic richness was lower at the bottom of the core and increased towards the sediment surface. Organic content (LOI) in the sediment constantly increases throughout the sediment core. Typical northern species were found in the lower layers of the column are replaced by species preferring warmer waters, which can indicate climate changes in the region. At the same time littoral and phytophilic species are replaced by the representatives of the pelagic *Bosmina* genus which is connected with an expansion of the open part of the lake.