

XIV SUBFOSSIL CLADOCERA WORKSHOP



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ABSTRACT BOOK



Cladocera remains from the sediments of New Siberian Islands lakes and ponds (Siberian Arctic, Russia)

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Arctic regions are most sensitive to global climate change and Arctic waters are an excellent indicator of a current increase in air temperature on the planet. Reservoirs of the polygonal tundra have a small depth (up to 1,5 m) and a specific thermal and chemical mode, which makes them extremely susceptible to a climate change.

The research aim is to study Cladocera remains of surface sediments and short core of water bodies of Northern Yakutia (Faddeyevsky peninsula, New Siberian Islands (N 75°22'-75°53', E 142°22'-143°28'), as well as to define a role of various physical, chemical, and geographical factors in a Cladocera taxa distribution. Cladocera assemblages from surface sediment of 7 lakes, 2 polygon ponds, and Gedenshtrom's Bay and short core from lake were investigated. The type of water was hydrocarbonate-chloride with a predominance of sodium or calcium cations. The mineralization of the water of all studied water bodies is ≤ 60 mg/l. PH fluctuated from neutral to weakly alkaline values.

A total of 17 cladoceran taxa, of which 12 are in the family Chydoridae (chydorids), were identified from 28 samples. *Chydorus* cf. *sphaericus* (>53,1%) and *B. (Eubosmina)* sp. (>31,0%) are the dominant species. Shannon index (H') varied between 1.40 and 2.70 bits/ind. and the water in the lakes was moderately polluted. The cluster analysis CONISS showed significant qualitative changes in the Cladocera assemblage in the core 12FAD03. An increase in the relative importance of pelagic taxa in the core is likely to be a response to increased plankton production as a result of climate warming. This work was supported by RFBR (research projects № 15-05-04442, 14-05-00787 A).