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Subfossil cladocera from boreal lake gahkozero (The republic of Karelia, Russia) as paleoenvironmental proxies

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Abstract

© SGEM2017. All Rights Reserved. This investigation is aimed to determine general development patterns of the natural and climatic situations and lakes of the boreal zone in the later and postglacial time in the southeastern periphery of the Fennoscandian crystalline shield since the time of the last deglaciation. The analysis of the subfossil Cladoceran community was carried out on the basis of the 23 samples of Lake Gahkozero' bottom sediments in the Republic of Karelia. In the subfossil Cladoceran community of the lake 42 taxa have been identified. The species inhabiting the zones of the Palaearctic and Holarctic are predominant in the lake; most of the identified subfossil remains relate to the pelagic species inhabiting the open part of the reservoir. The discovered subfossil remains of the phytophilous species (representatives of the genera *Alona*, *Alonella*, *Pleuroxus*) indicate the presence of the well-developed zone of macrophytes in the lake. The history of the development and the evolution of the lake is traced by the change of the taxonomic composition in the column of the bottom sediments. In the samples there is a dominance of two taxa - *Bosmina* (*Eubosmina*) cf. *longispina* и *Chydorus* cf. *sphaericus*, which replace each other during the evolution of the lake. The analysis of the variation in the diversity of the biotic groups is carried out using indices, determining the degree of species richness, diversity, and the dominance of Cladoceran communities. Results of statistical and stratigraphic analyses are presented.

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Keywords

Gahkozero lake, Paleoclimate reconstruction, Republic of Karelia, Subfossil Cladocera

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