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Implification of ephippium analysis (Cladocera, branchiopoda, crustacea) for reconstruction of past environmental changes in central yakutia, Russia

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Abstract

© SGEM2017. All Rights Reserved. The aim of our investigation is to reconstruct the local and regional palaeoenvironmental conditions and to highlight the rapid evolution of the thermokarst lake during the Holocene climate optimum. The investigated lake was located in Central Yakutia, Siberia, Russia. The investigated core was collected in a small pingo within a large Central Yakutian thermokarst Khara Bulgunnyakh basin (alas). According to ephippium analysis the formation of the lake coincided with the Holocene climatic optimum. Using cluster analysis we identified three statistically significant ecological zones that reflected changes in the species composition of sub-fossil cladoceran communities and sharp increase in concentrations of ephippia per sample. The period of optimal conditions for Cladocera that took place between 6500 and 6350 cal. yrs. BP is characterized by complex community structures and numerous resisting eggs of cladoceran remains deposited in sediments. Development of the lake ecosystem was rapid and it disappeared quite quickly.

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Keywords

Ephippium analysis, Palaeoclimatology, Palaeolimnology, Siber, Subfossil cladocera, Yakutia

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