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Cladocera remains from sediments of thermokarst lakes of north-central Siberia (Russia)

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Abstract

© SGEM2017. Cladocera (Crustacea: Branchiopoda) constitute a major component of the planktonic and benthic fauna of the high-latitude lakes. They are tolerant to extreme environmental conditions and are one of very few groups of aquatic animal that are not only able to persist in cold thermokarst lakes but to build up viable populations. Subfossil Cladocera were sampled from surface sediments of 20 thermokarst lakes along a transect crossing the tree line in the Khatanga-river basin, south of Taymyr Peninsula, north-central Siberia (Russia). Surface samples (0–2 cm) were analysed to study the distribution of Cladocera in relation to environmental gradients. We counted 220-351 individuals per sample that gave us a very accurate picture of the contemporary cladocera assemlages. In all investigated lakes, we identified 20 Cladocera taxa in total, with 9 taxa per lake on average. The most common taxa, occurring in the majority of the lakes, were Chydorus sphaericus, Bosmina longispina gr., Daphnia longispina gr., Acroperus harpae. Mulivariate statistical analyses indicated that the cladoceran communities differed in their taxonomic composition and structure. Differences in the cladoceran assemblages were related to limnological features, geographical position, vegetation type, climate and water chemistry.

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Keywords

Khatanga-river basin, Palaeoclimatology, Palaeolimnology, Russian Arctic, Subfossil Cladocera

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