

tolerance relative to other taxa (0.35 (log+1) m), because of its large optimum of 6.2 m and the low number of lakes sampled within this depth range.

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DATABASES OF THE NORTHERN LAKES AS A BASIS FOR ECOLOGICAL AIMS

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Data about abiotic and biotic factors are necessary condition to conduct modern investigations in ecology and in paleogeography (and other areas). All our knowledge about modern features of ecosystems' functioning is basis for understanding of past ecosystems conditions. Furthermore the value of the system information about environmental components increases for the farthest poorly known regions such as Arctic or the North of Siberia.

One of the most interesting and sensitive component of the environment is lakes. They accumulate the most useful and informative material about natural conditions of their surroundings in bottom sediments (as remains of diatoms, cladocerans, chironomids etc.). During our every year work we have been gathering the information about the investigated lakes and systemize it into our databases. According with this activity during a few past years we invented useful databases. Among them are “Database of the Central Yakutian lakes”, “Diatoms, morphometric and hydrochemical characteristics of the lakes located in basins of major rivers of Northern part of Yakutia”, “Morphometric and hydrochemical parameters of thermokarst ponds located in the river basins of Northern Yakutia”, and “Diatom spectra of the Anabar River basin”. All the information which contains in the databases reflects the modern conditions of the water ecosystems because we use the results of the upper sediment observations (for biota), water chemistry analyzes and lake morphological measurements. On the

basement of the database information we conduct researches in different areas of water ecology such as estimation of diatom assemblages' diversity (Gorodnichev et al., 2015b) and similarity (Gorodnichev et al., 2015c), evaluation of lakes' saprobity, relationships between biotic and abiotic components (Gorodnichev et al., 2015a) of the ecosystems etc. All our lake investigations are based on the regional morphological classification of lakes' genesis which was founded by Innokentiy Zhirkov in 1977 (Zhirkov, 1977). According with the classification the most part of lakes in Yakutia has thermokarst, fluvial-thermokarst, and fluvial-erosion genesis. Today above then 200 lakes and water ponds are involved in our databases. It is not enough for such big region as Yakutia because recent counting reveals that the territory of the region is covered by more than 800000 lakes (Arzhakova et al., 2007).

For some districts of Yakutia lakes are the only source of fresh drinking water for the people so this is why the researches of modern and future water conditions of lakes are very important. Thus our databases could be used not only for the aims of environmental monitoring and past environmental analogies, but also for the purposes of nature protection. Especially the information about the water objects will be useful after industry development in the Northern part of Yakutia.

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TOWARDS BETTER UNDERSTANDING EUROPEAN ICE AGE POLLEN RECORDS: A LESSON FROM MODERN POLLEN ASSEMBLAGES OBTAINED FROM YAKUTIAN LAKES

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Pollen analysis of lake sediments and peat accumulations has been, over more than a century, the most widely used method to reconstruct past vegetation cover and character of the landscape. Sophisticated models considering pollen–vegetation relationship are often calibrated in current conditions (modern landscapes, climates) and seem to be robust enough to enhance reliability of reconstructions of the Holocene vegetation cover and its changes (e.g. Abraham et al. 2016). However, the same approach can be hardly applied to European records of the coldest (cryocratic) stages of the Pleistocene. In these records, high proportions of non-arboreal pollen (NAP), especially Poaceae and