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Проблемы изучения биологического разнообразия  
водорослей, грибов и мохообразных Арктики

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Getzen, M. V., Stenina, A. S., Patova, E. N.

**Algae of the East European tundras in Russia**

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For the first time the data about algae of water and terrestrial ecosystems are generalized on the uniform ecological approach for tundras of Russia.

The taxonomical diversity of algae in Bolshezemelskaya tundra is evaluated as high; 1201 species (1626 with varieties and forms), including 1048 species in water bodies and 233 ones in soils are revealed. The characteristic for the Extrem North ratio of algae was established. *Bacillariophyta* (52%), *Chlorophyta* (27%) and *Cyanophyta* (11%) compose the basis of algal flora in water bodies and *Cyanophyta* (44%), *Chlorophyta* (30%) and *Xanthophyta* (15%) in soils. On species diversity the families *Naviculaceae* and *Desmidiaceae* prevail in water bodies and *Oscillatoriaceae* and *Pleurochloridaceae* predominate in soils.

The boreal species are the main part of algal flora in East-European tundras. Zonal peculiarities are expressed in the composition of leading families, their role in the flora and the predominance of genera with the little number of species in reservoirs (75%) and soils (79%). Large percent of the nitrogen-fixing algae among *Cyanophyta* is the feature of the tundra communities. The complexes of rare species reflect the regional features and the result of anthropogenic effect on algae.

The transformations of physical and chemical conditions in water and soil in the regions with coal and oil extraction cause the changes composition and structure of algal flora and constitute not typical for tundra assemblages.

The dangerous results of anthropogenic influence are the reduction of biodiversity and simplification of algal communities.

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**The PLANTCOD classifier and the OCEAN information retrieval system applied to studies on Arctic marine dinoflagellate biodiversity**

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Based on the standard computer classifier for plants and fungi worked out at the Laboratory of Systematics and Geography of Fungi, BIN (Kovalenko and Novozhilov, 1995), a database (DB) for about 2000 dinoflagellate taxa has been created. The DB comprises all supraspecific names of taxa included in the classification of recent and fossil dinoflagellates by Fensome et al. (1993) and the names of species re-corded from the Arctic and adjacent areas. It gives the opportunity to obtain information on the systematic position of any taxon, and to up-date the classification scheme.

The OCEAN information retrieval system (IRS) developed at ZIN and managed under the MDBS FoxPro was applied to the DB for dinoflagellates. IRS allows combination and storage of physical oceanographic data with the taxonomical data collected on sampling trips.

The approach proposed gives us a tool to study the biodiversity and distribution of different taxa at species level or higher. With little change, the approach could be applied to other marine algae.

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The PLANTCOD classifier and the OCEAN information retrieval system applied to studies on Arctic marine dinoflagellate biodiversity

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