Original Article

Contribution to the Lake Algal Flora and Microcrustacean Fauna of the Great Lakes Depression, Mongolia

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Abstract

In this paper the taxonomic composition of phytoplankton, diatoms and microcrustaceans (cladocerans and copepods) in lakes of the Great Lakes Depression (Mongolia) is examined. The inventories were based on samples collected in seven lakes and in one small reservoir between 2005 and 2009. Four lakes and the reservoir are of fresh water, (110 - 300 µS/cm of water conductivity) and the three remaining lakes are endorheic and with more mineralized water (5,270 – 9,550 µS/cm of water conductivity). In the phytoplankton 136 taxa were identified, where 29 species and 10 genera are the new records for Mongolia. In case of Diatoms 122 species were identified and 48 of them are the new records for Mongolia. Thirty-nine species of cladocerans and 9 species of copepods were identified, 13 species of cladocerans and one copepod are new for Mongolian fauna. In general, the taxa belonging to the different analyzed groups (pytoplankton, diatoms and microcrustaceans) are known throughout the Palaearctic region. Most taxa of all the analyzed taxonomic groups take place in the lakes with low mineralization, while lakes with more mineralized waters had significantly lower species richness.

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Introduction

Lakes and river systems in Mongolia are relatively untouched compared with heavily populated world. Total 500 km³ water volume of lakes is a valuable resource for Mongolia where total river flow estimated as 38.9 km³ in this dry land.

There are four main landscape regions in Mongolia: Altai Mountain Region (MR), Khangai and Khentii MR, Gobi Desert and East Mongolian steppe regions. Although Gobi region is characterized by only 150 mm annual mean precipitation and high level of evaporation (900-1500 mm), its northwestern part hosts the Great Lakes Depression (GLD), which contains biggest lakes in Mongolia, including Uvs, Khar-Us, Khar, Durgun, Khyargas, Airag and Dalai lakes.

GLD covers more than 100 thousand km² of land stretching from north-west to south-east in the western part of Mongolian territory. It is surrounded by Altai MR in the north, west and south, and by Khangai MR in the east. The GLD is rich in glacial originated lakes including range