

**The Geology, Biodiversity and Ecology of Lake Hövsgöl (Mongolia)**  
**edited by Clyde E. Goulden, Tatiana Sitnikova, Jon Gelhaus and**  
**Bazartseren Boldgiv, Backhuys Publishers, 2006, hardback, 525 pp.**  
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Lake Hövsgöl is one of the largest lakes in Mongolia, containing more than 60 percent of the surface freshwater resources of the country. It is also one of the most ancient lakes of Mongolia formed by tectonic activity, located at a relatively high elevation surrounded by high mountains at the southern end of the Eastern Sayan Mountains.

Besides its extremely clean water, Lake Hövsgöl encompasses unique fauna and flora, which might be expressed by their high levels of endemism. Not only the lake Hövsgöl itself, but also its surrounding areas show remarkable natural landscapes, such as high mountain tundra, alpine meadow, cool temperate taiga forest, mountain steppe, wetlands etc. and very rich biological diversity.

Since it has such remarkable features, the Lake Hövsgöl and its surroundings have been an interesting research area for a long time. The Joint Soviet-Mongolian Biological Complex Expedition (named as Natural Conditions and Resources of the Lake Hövsgöl Region) implemented by the Irkutsk State University, Russia, and the Mongolian State University (currently National University of Mongolia), ran for about a quarter of century (between 1970 and 1995) and provided major contributions to the knowledge of biodiversity, ecology, geology, geomorphology and soil studies of the Lake Hövsgöl region. Not only the researchers from these two universities, but also many scientists from various research institutes of the Mongolian Academy of Sciences and the Siberian Branch of the Academy of Sciences of the former Soviet Union have participated in studies of this region. So, at the end of the 1980s the Lake Hövsgöl and its surrounding areas became one of the most thoroughly investigated regions in Mongolia in terms of natural ecosystem studies.

Based on the results of the above-mentioned studies, many scientific articles, conference proceedings and several monographic works or comprehensive books have been published (e.g. Sodonom & Losev, 1976a, b; Bazardorj & Sukhbat,

1984; Bogoyavlenskii, 1989; Sumiya & Skryabin, 1989; Litvinov & Bazardorj, 1993; Jamsran et al., 1995). However, most of them were written in Russian or, rarely, in Mongolian, and published in local or regional publications rather than international journals or by advanced publishers, which restricted the availability of these works to the broader audience of scientists.

The reviewed book unifies the results of collaborative research of the scientists from Mongolia, USA, Russia, Japan, Lithuania and Canada, and it contains many new data on geology, climate, limnology, ecology and biodiversity of the Lake Hövsgöl Region. This is the sixth volume of the series of publications, "Biology of Inland Waters" by Backhuys Publishers, and it is necessary to emphasize that this is the first complete work on Lake Hövsgöl studies published in English.

The name of this book expresses that it is considered the results of the studies on Lake Hövsgöl itself, but after reading the contents of the book, it became obvious that the book includes many data of studies in surrounding areas of the lake.

In addition to the introductory parts (preface, acknowledgements, transliteration of Mongolian geographic names), the book contains 28 chapters, arranged in four main parts, that discuss various aspects of geology, climate, hydrology, biodiversity and ecology of the studied region. Although the name and addresses of the authors of individual chapters are given separately, the name and address of at least one author is missing. Moreover, it is unclear why the full name of some of the authors is not given.

The first part of the book contains extensive introductory information of the Lake Hövsgöl and its surrounding areas. This part consisted of seven chapters, which present the early geological history, geographical features, soil cover, climate and geocryological characteristics of the lake and its surrounding areas.

The second part of the book includes only a single chapter that presents the physical characteristics and processes of the lake water (seasonal

and short-term variations of water temperature, contents of dissolved oxygen, nutrient concentrations in different depths etc.).

The third part is largest, consisting of 22 chapters, and most chapters except for the first one concern the biodiversity of different groups of aquatic animals and algae of the lake and its shorelines. Only a single group of non-aquatic animals, the long-horned beetle, was discussed in this chapter, though many groups of terrestrial arthropods and other groups of animals have been investigated thoroughly. Inclusion of Chapter 9 in this part did not seem reasonable since it concerned land-cover mapping of the Hövsgöl National Park rather than its biodiversity. In my opinion, it would have been more suitable to include this chapter in the first part of the book.

The last part of the book is named Ecology, and it encompasses six chapters that discuss the communities, distribution and population structure of phytoplanktons, water invertebrates and birds of the lake.

There is an appendix at the end of the book that contains the species lists of rotifers and aquatic plants on the lake, and it closes with detailed subject and taxonomic indices and page references of the mentioned taxa. The book is illustrated with more than 170 figures, many of which are line drawings.

The present book was long expected by biologists, geologists and geographers working in the Lake Hövsgöl Region, since it represents an important compilation of the data on biodiversity, ecology, geology and climate etc.

In summary, this book represents a great deal of effort and will be a valuable reference for those engaged in biological, ecological, geographical

and limnological studies of the aquatic ecosystems, especially the ancient lakes. It can be recommended to anyone seeking extensive information on the Lake Hövsgöl and its surrounding areas, if indeed the exorbitant price-tag does not keep it off their bookshelves entirely.

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