

## HELMINTHS OF WATERBIRDS FROM THE RESERVOIR OF LAKE SEVAN, ARMENIA

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Lake Sevan is the unique largest Alpine water reservoir of Armenia (1916 m above sea level with 1416 km<sup>2</sup> surface). The ornithofauna of the reservoir numbers 210 bird species comprising 91 waterbirds that belong to the following 7 orders: *Charadriiformes* - 41 species, *Anseriformes* - 20 species, *Ciconiiformes* - 11 species, *Gruiformes* - 10 species, *Podicipitiformes* - 4 species, *Pelecaniformes* - 3 species, *Gaviiformes* - 2 species. Here, 16 species are settling birds, 28 - nesting transmigrated, and 47 - transmigrated ones. From the mentioned orders of birds 500 specimens referred to 47 species are subjected to helminthological investigation (by dissection). As a result, 313 specimens or 62.6 % are found infected with helminths comprising 23.3 % of trematodes, 81 % of cestodes, 7.9 % of nematodes, and 17 % of acanthocephala. Seventy-two helminth species referred to 50 genera and 22 families are revealed in birds, of which 33 species are trematodes, 22 species - cestodes, 10 species - nematodes, and 7 species - acanthocephala.

The following 22 families present the structure of helminthofauna:

*Trematoda* (10 families): *Echinostomatidae*, *Diplostomatidae*, *Strigeidae*, *Cyclocoeliidae*,  
*Notocotylidae*, *Echinochasmidae*, *Plagiorchidae*, *Cyathocotylodae*,  
*Bilharziellidae*, *Dicrocoeliidae*

*Cestoda* (4 families): *Ligulidae*, *Hymenolepididae*, *Choanotaeniidae*, *Dilepididae*

*Nematoda* (5 families): *Anisakidae*, *Capillariidae*, *Amidostomatidae*, *Acuariidae*,  
*Streptocaridae*

*Acanthocephala* (3 families): *Polymorphidae*, *Plagiorhynchidae*, *Filicollidae*.

It has been proved that the principal role in the forming of helminthofauna and circulation of helminths of waterbirds from Lake Sevan play the most frequently occurring species - *Larus argentatus*, *Anas platyrhynchos*, *Fulica atra*.

Various species of invertebrates take part of natural infection of invertebrates with helminths' larvae has been revealed by us. Mollusks of *Lymnaea stagnalis* have been infected with the larvae of trematodes by 90.6 %, *L. auricularia* - by 80.4 %, *L. lagotis* - by 64.4 %, *Planorbis planorbis* - by 72.2 %. *Cestoda cysiceroids* have been revealed in single specimens of *Cyclops strenuus*, *Arctodiaptomus bacilifer* and *Daphnia pulex*, and *acanthelia* of *acanthocephala* - in *Gammarus locustis*. Not high percent of infection of crustacea is, likely, explained by the fact that in natural conditions to reveal the very infected one among the numerous specimens, is highly problematic. Besides, the temperature limit of the lake being 18-22 °C during 2-2.5 months (from June 15 to August 15), and considerably low in other seasons, is also an inhibiting factor for the development of the larval forms of helminths in the organism of invertebrates before the infection stage. Unlike mollusks, that are in great number enough in off-shore grass-plots of the lake, where the water temperature is considerably high, and therefore, the larvae of trematodes develop successfully, crustacea occur mostly in the very lake with the limited low temperature that leads to their infection with the larvae of helminths.

The other component of Lake Sevan is the fish of the following 2 families: *Salmonidae* and *Cyprinidae*. The species *Salmo ischan* with its four races (Winter Bakhtak, Summer bakhtak, Gegharkhuni and Bojak) and, subspecies Sevan Sig - *Coregonas lavaretus sevanicum*, are characteristic for the first family; *Varicorhinus capoeia* - "lamy" and *Barbus goktschaicus* - year - for the second one. Considerably, water invertebrates and fish are considerable in the food ration of a number of species of waterfowls. As is known, among the mentioned animals are species, that participate in the life cycles of helminths as invertebrate hosts.

Thus, as a result of forming of helminthofauna of the region waterbirds, fish and invertebrates, mostly fresh-water mollusks and a single species of *Crustacea*, play a decisive role.