

## DISTRIBUTION AND ECOLOGICAL GROUPS OF HYDROBIONTS OF CHIMKURGAN AND KHATYRCH FISHERIES

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**Abstract.** *It has been established that in the Chimkurgan fishery on the coast of Kashkadarya, 9 species and 2 subspecies of hydrobionts are common; they belong to 2 families and 4 genera. Compared to other fisheries in the Kashkadarya basin, this fishery is distinguished by the abundance of species of hydrobionts of the families Unionidae and Corbiculidae. It has been established that 10 species of hydrobionts are common in the Khatyrchinsky fishery on the banks of the Zarafshan River. It was analyzed that Planorbis tangitarenis is a stenabiont common in the Khatirchi fishery.*

**Keywords:** *corbiculina tibetensis, Corbiculina ferghanensis, Lymnaea stagnalis, Lymnaea, biomass.*

**Introduction.** In recent years, many decisions have been made in the Republic of Uzbekistan on the development of the fishing industry and on the basis of these decisions a lot of work is being carried out. Resolution of the President of the Republic of Uzbekistan, dated May 1, 2017 N. PD-2939 “On measures to improve the management system of the fishing industry”, dated February 3, 2018 N. PD-3505 “On additional measures to increase the volume of fish production” Resolution, Resolution, N. PD-3657, dated November 6, 2018 “On additional measures for the further development of the fishing industry.” These decisions are important for the development of the fishing industry in the regions. At present time, the study of the fauna of hydrobionts and the patterns of their distribution in the Chimkurgan and Khatyrchi fisheries is one of the urgent tasks [3,4,8,9].

**Materials and learning methods.** Research on the fauna and ecology of aquatic organisms was carried out in 2014-2024 in Khatyrchi fishery on the bank of Kashkadarya River and Chimkurgan fishery on the bank of Zarafshan River. More than 1,200 samples of hydrobionts were collected. These samples were studied using the methods of V.I. Zhadina (1938, 1952), Ya.I. Starobogatova, Z.I. Izzatullaeva (1984), Z.I. Izzatullaeva, Kh.T. Boymurodova (2009).

**Results of the study and their discussion.** The research was carried out in Chimkurgan on the bank of Kashkadarya River and Khatyrchi on the bank of Zarafshan River. Chimkurgan fishery is located in the middle reaches of Kashkadarya River. The fishing industry receives part

of the water from Eski Ankhora canal. In 1955, Eski Ankhora canal was built to transfer part of the waters of Zarafshan River to Kashkadarya basin. In the aquatic ecosystems of Kashkadarya basin, species of the genera *Sinanodonta*, *Colletopterum*, *Corbicula* and *Corbiculina* are common, distributed along the banks of Zarafshan River through Old Ankhora canal. For example, in Chimkurgan fishery there is an expansion of aquatic ecosystems with the establishment of fisheries. In the middle of the 20th century, anthropogenic disruption of zoogeographic barriers on land caused the invasion of fauna in many areas, especially hydrofauna, which remained unchanged for a long time [2,3,4,8,9].

As a result of studying the literature and our research, 9 species and 2 subspecies of hydrobionts are common in Chimkurgan fishery; they belong to 2 families and 4 genera. Compared to other fisheries in Kashkadarya basin, this fishery is characterized by a larger composition of species of hydrobionts of the families Unionidae and Corbiculidae. One of the reasons for the large number of hydrobiont species is *Sinanodonta orbicularis*, *S. gibba* and *S. puerorum*, distributed along the banks of Zarafshan River. In the silts of the right bank of Khimkurgan fishery, the density of the mollusks *Sinanodonta orbicularis*, *S. puerorum* and *S. gibba* is 1.2-1.4. The species *Sinanodonta gibba*, *S. puerorum* *S. orbicularis* are shown for fishing for the first time. The relative density coefficient of *Sinanodonta orbicularis* in this area is 1.3, *S. gibba* - 1.4.

In swampy biotopes, the species *Colletopterum bustrianum* and *Solletopterum ponderosum volgense* were found during fishing. These species occur on average 0.6-0.8 per 1 m<sup>2</sup> at depths of 0.5-1.6 m. *S. syreum sogdianum* is distributed in muddy biotopes from 1.4 per 1 m<sup>2</sup>. *Corbicula cor*, *C. purpurea* and *C. fluminalis* were distributed in sandy biotopes from 1.8-2.3 per 1 m<sup>2</sup>, and their distribution was influenced by changes in water level as a limiting factor. The specific density coefficient of these mollusks in *Corbicula cor* is 0.7, in *C. purpurea* and *C. fluminalis* - 0.8.

The species *Corbiculina tibetensis* and *C. ferghanensis* are characterized by a high density on the farm. For example, in sandy biotopes there are 2.9-3.6 of these species per 1 m<sup>2</sup> [1,5,6,7,10,11]. There are 8 species of pelorheophiles (*Sinanodonta gibba*, *S. orbicularis*, *S. puerorum*, *Corbicula purpurea*, *S. cor*, *C. fluminalis*, *Corbiculina tibetensis*, *C. ferghanensis*) and 2 species of rheophiles (*Colletopterum bustrianum*, *S. syreum sogdianum*). and 1 species of pelolimnophiles (*Solletopterum ponderosum volgense*) lives in the mud of running waters. Species belonging to the pelorheophilic ecological group account for 67%, rheophilic ecological group 16.5% and pelorheophilic ecological group 16.5%. There are 5 species of eurybionts in the fishery - *Corbicula purpurea*, *S. cor*, *C. fluminalis*, *Corbiculina tibetensis*, *C. ferghanensis* and 7 species of stenobionts - *Sinanodonta gibba*, *S. orbicularis*, *S. puerorum*, *Colletopterum bustrianum*, *S. syreum sogdianum*, *S. ponderosum volgense*, *S. cocandicum* entrance detected.

Khatyrchinsky fishery is located on the banks of Zarafshan River and receives water from Zarafshan River through canals. The fishery is located at an altitude of 519 m at coordinates E 40.200379345263705, N 65.85170745849611. Part of the fishing farm is located on the territory of the forestry enterprise and covers an area of more than 50 hectares. Since 2014, white carp, talstalabik and other fish have been grown in the fishery. Initially (in the 1960s), grass carp was not introduced to Uzbekistan, it was accidentally introduced to Turkmenistan, from there it rose to the middle reaches of the Amu Darya, then moved to the irrigation network of the Navoi and Bukhara regions, and since 1990 it has been present in these aquatic ecosystems reproduces [1,3,4,7, 9].

It has been established that 10 species of hydrobionts are common in Khatyrchinsky fishery. The distribution of hydrobionts by family is as follows: 2 types of Beelgrandiellidae, 6 types of Lymnaeidae, 1 type of Physidae and 1 type of Planorbidae have been studied. From gastropod aquatic mollusks of marsh biotopes of water discharge for fishing: Beelgrandiellidae of the family Martensamnicola hissarica 1.1, Bucharamnicola bucharica 1.2, family Lymnaeidae of the genus Lymnaea stagnalis 1.1, Lymnaea truncatula 0.8, Lymnaea thiessea 1.1, Lymnaea oblonga 1.0, Lymnaea subangulata 0.9, distribution of Lymnaea aurularia 1.0. Costatella acuta of the family Physidae 1.2 and Planorbis tangitarenis 0.3 of the family Planorbidae were found on the shores of the fishery. The species Anisus ladacensis and Pontastacus leptodactylus were not found in the aquatic ecosystem. The stenabiont species Planorbis tangitarenis is common in Khatyrchi fishery. It has been established that Lymnaea stagnalis, Lymnaea thiessea and Lymnaea aurularia are common among eurybiont species.

Ecological groups 2 types of pelophiles 20% (Martensamnicola hissarica, Bucharamnicola bucharica), 1 type of rheophiles 10% (Lymnaea thiessea), 5 types of phytophiles 50% (Lymnaea stagnalis, Lymnaea oblonga, Lymnaea subangulata, Costatella acuta, Planorbis tangitarenis), 1 type of telmotophiles We found 10% (Lymnaea truncatula) and 1 type of fetoreophiles 10% (Lymnaea aurularia). In Khatyrchinsky fishery, 10 species of aquatic organisms belonging to 5 ecological groups are common.

Conclusion. It has been established that in Chimkurgan fishery on the coast of Kashkadarya, 9 species and 2 subspecies of hydrobionts are common; they belong to 2 families and 4 genera. Compared to other fisheries in Kashkadarya basin, this fishery is characterized by a larger composition of species of hydrobionts of the families Unionidae and Corbiculidae. It has been established that 10 species of hydrobionts are common in Khatyrchi fishery on the banks of the Zarafshan River. It was analyzed that Planorbis tangitarenis is a stenabiont common in Khatirchi fishery.

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