

**МИНИСТЕРСТВО НАУКИ И ВЫСШЕГО ОБРАЗОВАНИЯ
РОССИЙСКОЙ ФЕДЕРАЦИИ**

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учреждение высшего образования
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ИМЕНИ ПАТРИСА ЛУМУМБЫ»**

АКТУАЛЬНЫЕ ПРОБЛЕМЫ ЭКОЛОГИИ И ПРИРОДОПОЛЬЗОВАНИЯ

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ПОПУЛЯЦИОННАЯ ЭКОЛОГИЯ И ЭКОЛОГИЯ СООБЩЕСТВ

*Boymurodov Kh.T.¹, Izzatullaev Z.I.², Sabohiddinov B.S.¹,
Boymurodov S.X.³, Egamkulov A.N.¹*

DISTRIBUTION DENSITY AND ECOLOGICAL GROUPS OF HYDROBIONTS IN BIOTOPES IN AQUATIC ECOSYSTEMS OF URBANIZED AREAS (ON THE EXAMPLE OF WATER ECOSYSTEMS OF THE CITY OF NAVOI AND ITS SURROUNDINGS)

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The distribution of hydrobionts in aquatic ecosystems in the territory of Navoi city was studied. Nucleotide sequence data for the 5.8S region of the rDNA ITS-2 region of *Corbicula fluminalis* species have been deposited in the National Center for Biotechnology Information (NSBI) database

The study of hydrobionts in urbanized areas and their surrounding aquatic ecosystems was carried out by Aldridge. D.C. et al. [1], Beshpalaya, Y. V. et al. [2], Boymurodov, Kh. et al. [3-5], Bolotov. I. N. et al. [6,7], Izzatullaev Z.I.[8], Lopes-Lima. M. et al. [9], Pfeiffer J.M. et al. [10], made a significant contribution.

The methods of Izzatullaev Z.I.[8], Bolotov I.N. et al. [6,7], Boymurodov Kh.T. et al. [3,4] were used to collect materials from the urbanized areas of Navoi city and its surroundings. During the research seasons of 2018-2024, hydrobionts were collected from the territory of Navoi city, the part of the Zarafshan River flowing through Navoi city, and the canals and ponds of Navoi city. The collected hydrobionts were identified to the species level by Izzatullaev Z.I. [8], Boymurodov Kh.T. [3,4] were used. Some hydrobionts distributed in urbanized areas include *Corbiculina ferghanensis* from the family Corbiculidae and *Corbicula*

fluminalis Molecular genetic studies were conducted to identify the species. GeneJET GENOMIK DNA reagent kit was used to isolate DNA from selected samples.

We conducted research in water types in urbanized areas. The distribution of hydrobionts was studied in Lake Yoshlar in the Navoi city area, the part of the Zarafshan River flowing through Navoi city, and canals and ponds in the Navoi city area.

Lake of “Yoshlar” (Youth) is located in the territory of the city of Navoi, it is filled with water by 12 pumps, the lake has a volume of 2,800 cubic meters of water and is used by the population for recreation. From the beginning of the lake’s creation, water from the Zarafshan River was supplied to the lake through canals and ditches. Until now, the hydrobionts of Lake Yoshlar in the urbanized area have not been specifically studied. A total of 5 species of hydrobionts were found in the lake basin: 1 species from the Glossiphoniidae family, 1 species from the Erpobdellidae family, 1 species from the Unionidae family, and 2 species from the Corbiculidae family. It was found that all species distributed in this lake are broadly adapted eurybiont species. The ecological groups of species distributed in the lake were analyzed: 1 rheophilic species 20% (*Sinanodonta puerorum*), 2 pelorheophytic species 40% (*Corb. tibetensis*, *Corb. ferghanensis*), 1 phytolithophilic species 20% (*Helobdella stagnalis*) and 20% of lithorheophiles (*Erpobdella octoculata*) distribution was analyzed.

The total length of the Zarafshan River is more than 878 km, and the basin area is 41,878 km², of which the mountainous part is more than 17,810 km², and the remaining parts are foothills and plains. Many canals, such as Dargham , Kalqonata, Shohrud, Romitan and ditches, receive water from the Zarafshan River. The Zarafshan River also flows through the urbanized city of Navoi. We found that a total of 10 species are distributed in the urbanized city of Navoi, including 5 from the Unionidae family, 3 from the Corbiculidae family, 1 from the Astacidae family, and 1 from the Glossiphoniidae family. When studying the distribution in

biotopes, rocky areas were found to be *Hemiclepsis marginata*, *Helobdella stagnalis*, *Corbicula cor*, *Corbicula purpurea*, *Corbiculina ferghanensis*, *Pontastacus leptodactylus*, *Sinanodonta gibba*, *Sinanodonta ruerorum*, *Sinanodonta orbicularis*, *Colletopterium bactrianum*, *Colletopterium cyreum sogdianum*, *Colletopterium ponderosum volgense* were analyzed in 1 month.

Canals and ponds in the Navoi city and its surrounding areas receive their water from the Zarafshan River and its tributaries, so we observed the occurrence of species common in the river in these water types. In 4 canals and 6 small ponds in the Navoi city area, 8 species were found: 1 from the Glossiphoniidae family, 1 from the Haemopidae family, 2 from the Unionidae family, 3 from the Corbiculidae family, and 1 from the Astacidae family. Ecological groups peloreophiles 5 62.5% (*Sinanodonta ruerorum*, *Corbicula fluminalis*, *Corbiculina tibetensis*, *Corbiculina ferghanensis*, *Haemopsis sanguisuga*), pelolimnophilic 1 species (*Colletopterium ponderosum volgense*) 12.5%, phytophilic 1 species (*Pontastacus leptodactylus*), crenophilic 1 species 12.5% (*Hemiclepsis marginata*).

Corbiculina ferghanensis from the Corbiculidae family, widespread in aquatic ecosystems of urbanized areas and the nucleotide sequence data of the rDNA ITS-2 region 5.8S. of the species *Corbicula fluminalis* have been deposited in the National Center for Biotechnology Information (NCBI) database. As a result, *Corbiculina ferghanensis* (PP239092) and Identification numbers for the species *Corbicula fluminalis* (PP256501) have been obtained, which will allow for the identification and phylogeny of bivalve mollusks on an international scale.

So, in Lake Yoshlar, 5 species of hydrobionts were found, including 1 species from the Glossiphoniidae family, 1 species from the Erpobdellidae family, 1 species from the Unionidae family, and 2 species from the Corbiculidae family. In the urbanized part of the river in Navoi city, 10 species were found, including 5 species from the Unionidae family, 3 species from the

Corbiculidae family, 1 species from the Astacidae family, and 1 species from the Glossiphoniidae family. In 4 canals and 6 small ponds in Navoi city, 8 species were found, including 1 species from the Glossiphoniidae family, 1 species from the Haemopidae family, 2 species from the Unionidae family, 3 species from the Corbiculidae family, and 1 species from the Astacidae family.

References

1. Aldridge D.C., Ollard I.S., Bespalaya Y.V., Bolotov I.N., Douda K., Geist J., Zieritz A. Freshwater mussel conservation: A global horizon scan of emerging threats and opportunities // *Global Chang Biology*. 2003. № 29(3). P. 575–589.
2. Bespalaya Y.V., Aksenova O.V., Gofarov M.Y., Kondakov A.V., Kropotin A.V., Kononov O.D., & Bolotov I.N. Who inhabits the world's deepest crater lake? A taxonomic review of *Corbicula* (Bivalvia: Cyrenidae) clams from Lake Toba, North Sumatra, Indonesia // *Journal of Zoological Systematics and Evolutionary Research*. 2021a. № 59, Pp. 400–410.
3. Boymurodov Kh., Suyarov S. Bivalve mollusk fauna and ecological groups of Unionidae and Corbiculidae families in natural and artificial reservoirs of Uzbekistan // *E3S Web of Conferences*. 2021. № 265. P. 01014
4. Boymurodov Kh., Jabborov Kh., Jabbarova T., Aliyev B., Mirzamurodov O., Egamqulov A. Distribution and ecological groups of bivalve mollusks of the families Unionidae and corbiculidae in the aquatic ecosystems of the Kyzylkum nature reserve // *Reliability: Theory and applications*. 2022. №4 (70). P. 343–347
5. Boymurodov. Kh., Khodjaeva N., Raximov M., Bobonazarov.G., Boymurodov. S., Khurazov. S., Davronov. B. Effect of hydrochemical indicators of Sangzor river water on mollusk population indicators // *E3S Web of Conferences*. 2024. № 555. P. 02002
6. Bolotov I.N. et al. New taxa of freshwater mussels (Unionidae) from a species-rich but overlooked evolutionary hotspot in Southeast Asia // *Scientific Reports*. 2017. №7. P. 1–18
7. Bolotov I.N. et al. Discovery of *Novaculina myanmarensis* Sp. Nov.

(Bivalvia: Pharidae: Pharellinae) closes the freshwater razor clams range disjunction in southeast asia// Scientific Reports. 2018. №8. P.16325

8. *Izzatullaev Z.I.* Molluscan fauna of aquatic ecosystems of Central Asia and adjacent territories. Tashkent: LESSON PRESS, 2019

9. *Lopes-Lima M. et al.* // Molecular Phylogenetics and Evolution. 2017. №106. Pp.174–191

10. *Pfeiffer J. M., Graf. D. L., Cummings, K. S. Page. L.M.* Molecular phylogeny and taxonomic revision of two enigmatic freshwater mussel genera (Bivalvia: Unionidae incertae sedis: Harmandia and Unionetta) reveals a diverse clade of Southeast Asian Parreysiinae // Journal of Molluscan Studies. 2018. №84. Pp. 404–416

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Сабохиддинов Б.С.¹, Боймуродов С.Х.³, Эгамкулов А.Н.¹***
**ПЛОТНОСТЬ РАСПРЕДЕЛЕНИЯ И ЭКОЛОГИЧЕСКИЕ
ГРУППЫ ГИДРОБИОНТОВ В БИОТОПАХ В ВОДНЫХ
ЭКОСИСТЕМАХ УРБАНИЗИРОВАННЫХ ТЕРРИТОРИЙ
(НА ПРИМЕРЕ ВОДНЫХ ЭКОСИСТЕМ ГОРОДА НАВОИ
И ЕГО ОКРЕСТНОСТЕЙ)**

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Изучено распространение гидробионтов в водных экосистемах
на территории г. Навои. Данные о последовательности
нуклеотидов 5.8S области рДНК ITS-2 вида *Corbicula fluminalis*
депонированы в базе данных Национального центра
биотехнологической информации (NSBI).

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**АКТУАЛЬНЫЕ ПРОБЛЕМЫ
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