

## Typical Structure and Ecological Properties of Freshwater Molluscs of Gissar Mountain

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**ABSTRACT:** The article provides information on the species composition and ecological grouping of freshwater gastropod molluscs found in the Gissar Mountains.

**KEYWORDS:** Freshwater gastropod mollusks, ecological groups, phytophil, telmatophil, phytoreophil, crenophil.

Freshwater amphibians are a complex group for research, and their distribution, population size, and important role in ecosystems have led to theoretical issues such as the history of freshwater fauna, hydrobiology, as well as practical issues such as bioecological monitoring and bioindication. is attracting the attention of researchers in solving.

Terrestrial molluscs are an important part of living communities. In many biotopes, they constitute a significant part of the communities of destructors of dead organic matter and phytophages. In turn, molluscs serve as food for many species of vertebrates and invertebrates, often making up a significant part of the diet. And some species are specialized malacophages. The role of mollusks is also important as intermediate hosts of parasites, primarily flatworms, the final hosts of which are various types of vertebrates and, sometimes, humans. Some large species can reach large numbers in agrocenoses and often do some harm (primarily on household plots), spoiling some horticultural crops. At present, the fauna of terrestrial gastropods in Uzbekistan in general, and in the Gissar ridge, is extremely poorly studied. Only a few works are known (A. Pazilov, F. Gaibnazarova). The aim of this work is to study the species composition of mollusks in the reservoirs of the Gissar ridge. The studies were conducted from April 2020 to September 2021.

The first data on Central Asian freshwater mollusks were provided by E. Martens, and a number of data on aquatic mollusks were also reflected in the work of O.B. Rosen and YA. Starobogatov.

The systematic study of Central Asian aquatic mollusks was initiated by Z.I. Izzatullaev, whose work describes in detail the taxonomic composition, biological properties, distribution, zoogeography and historical formation of mollusks, as well as their economic significance.

The fauna of freshwater mollusks in the Gissar Mountains and adjacent areas was studied by Z.I. Izzatullayev, who provided information on the distribution and ecology of aquatic mollusks found in the area.

However, we have studied this area due to the lack of data on the species composition and ecological characteristics of freshwater gastropod molluscs found in the plains and mountainous areas of the Gissar mountain range in the scientific literature and sources.

In view of the above, the aim of our study was to study the species composition and ecological characteristics of freshwater gastropod mollusks living in different water bodies of the Gissar mountain range.

The research materials were collected from runoff, springs and springs in the highlands and plains of the Gissar mountain range, and a total of more than 317 specimens of mollusks were used as research material. The research was carried out according to the method of VI Jadin. We used the available literature (Izzatullaev 1993, Starobogatov 1974, Izzatullaev 2002) to analyze the systematic composition of the identified mollusks.

ISSN 2792-4025 (online), Published under Volume: 1 Issue: 5 in October-2021

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As a result of the research, 10 species of freshwater gastropod mollusks belonging to 4 families and 4 genera from different water basins of the Gissar mountain range were recorded (Table -1).

**Table -1. Taxonomic composition of freshwater gastropod molluscs of the Gissar mountain range**

Families	generation	type	%
<b>Belgrandiellidae</b>	<i>Martensamnicola</i>	<i>Martensamnicola brevicula</i>	14
<b>Lymnaeidae</b>	<i>Lymnaea</i>	<i>Lymnaea (L.) stagnalis</i>	50
		<i>Lymnaea (G.) thiessea</i>	
		<i>Lymnaea truncatula</i>	
		<i>Lymnaea (R) auricularia</i>	
		<i>Lymnaea oblonga</i>	
		<i>Lymnaea subdisjuncta</i>	
<b>Physidae</b>	<i>Costatella</i>	<i>Costatella acuta</i>	10
<b>Planorbidae</b>	<i>Planorbis</i>	<i>Planorbis planorbis</i>	26
		<i>Planorbis tangitarensis</i>	
<b>Total</b>	4	10	100

According to the results of the study, 6 species of Lymnaeidae family, 2 species of Planorbidae family, 1 species of Belgrandiellidae and Physidae family were found in the studied areas.

The following results were obtained when studying the distribution of the above-mentioned species by ecological groups on the basis of Z.I. Izzatullaev classification (Table -2).

**Table -2. Ecological groups of freshwater gastropod mollusks distribution by**

№	Name of the species	Fitofil	Tel'matofil	Fitoreofil	Krenofil
1	<i>M. brevicula</i>	-	-	-	+
2	<i>L. stagnalis</i>	+	-	-	-
3	<i>L. thiessea</i>	-	+	-	-
4	<i>L. truncatula</i>	-	+	-	-
5	<i>L. auricula</i>	-	-	+	-
6	<i>L. oblonga</i>	-	-	+	-
7	<i>L. subdisjuncta</i>	-	-	-	+
8	<i>C. acuta</i>	+	-	-	-
9	<i>P. planorbis</i>	+	-	-	-
10	<i>P. tangitarensis</i>	+	-	-	-
	<b>Total</b>	4	2	2	2

According to the results of the study, the study area is dominated by phytophilous species in terms of the number of species of ecological groups of freshwater gastropod mollusks, which include 4 species, accounting for 40%. Crenophilic, telmatophilic and phytoepophilous ecological groups belong to 2 species, each of which accounts for 20%.

## References

- Jadin V.I. Metodi gidrobiologicheskogo issledovaniya. -M.: Visshaya shkola, 1960. -191 s.
- Jadin V.I. Presnovodniye mollyuski basseyna Amudar'i // Tr. Zool.in-ta AN SSSR. -Leningrad, 1950. -T.9. vip.1 - S. 56-78.
- Izzatullayev Z.I. K faune presnovodnix mollyuskov Gissarskogo xrebtta i sopredel'nix rayonov Tadjikistana // Izv. AN TadjSSR, otd. biol. nauk. -Dushanbe, 1972. -№3 (48). -S.44-49.
- Izzatullayev Z.I. Mollyuski vodnix ekosistem Sredney Azii. Tash -2018. 229 s.

5. Izzatullayev Z.I. Ekologicheskiye gruppirovki presnovodnix mollyuskov Sredney Azii // Mollyuski, sistematika, ekologiya i zakonomernosti rasprostraneniya. Sb. nauchnix trudov. -L.: Nauka, 1983. - S.132-135.
6. Starobogatov YA.I. Nekotoriye osobennosti rasprostraneniya mollyuskov v podzemnix vodax Kavkaza i Sredney Azii// Tr. Zool.in-ta AN SSSR. -M: Nauka,1972. -T.51. -S.165-172.
7. Starobogatov YA.I. Sistema i filogeniya Lymnaeidae (Gastropoda, Pulmonata, Basommatophora) // Problemi zoologii. -L.: Nauka, 1976. -S. 79-81.
8. Martens E. Ueber Centralasiatische Mollusken // Men. Acad. Sci. St. Petersburg. 1882. Bd. 30, №11. - S. 1-65.
9. Rosen O.B. Contribution a la faune malacologique terrestre du Turkestan (description de deux especes nouvelles // Feuille Jeunes Natur. 1897.-170 p.
10. Pazilov A., F.Gaibnazarova, M.Saidov Rare and endangered species of terrestrial mollusk in western Tien Shan.
11. Gaibnazarova F., Karimova Kh., Muhammadiyev Z. “Geographical and ecological analysis of dry mollusks in Uzbekistan and adjacent regions” [www.journalsresearchparks.org/index.php/IJHCS](http://www.journalsresearchparks.org/index.php/IJHCS) e-ISSN: 2615-8159|p-ISSN:2615-1898 Volume: 03 Issue: 1 January-February 2021.
12. Gaibnazarova F., Karimqulov A. Composition and distribution of terrestrial molluscs in vertical landscape zones and biotopes. - Novateur publications Journal NX- A Multidisciplinary Peer Reviewed Journal ISSN No: 2581 – 4230 VOLUME 7, ISSUE 3, Mar -2021. p- 177-182.
13. Гаибназарова Ф., Пазилов А. К Фауне наземных моллюсков (Gastropoda, Pulmonata) хребта Кугитангтау. Материалы конференции «Экология, эволюция и систематика животных» 13–16 ноября 2012 г., рязань.
14. Пазилов А., Гаибназарова Ф. Географическая изменчивость конхологических признаков наземного моллюска *Pseudonapaeusartechus* // Материалы VIII Международной научно-практической конференции.- Краснодар, 2014.- С. 128–130.
15. Jalilov J.J. Malakofauna of the gissar reservoir and the gorge ilonli gissar ridge // Jurnal: Asian Journal of Multidimensional Research. India-2021.P. 139-142.
16. Пазилов А., Гаибназарова Ф., Каримова х чужеродный вид *Monacha carthusiana* (Mollusca, Gastropoda, Pulmonata) как новый промежуточный хозяин нематоды *cystocaulus ocreatus* в узбекистане. Научный вестник Ужгородського университету Серия Биология, Выпуск 40, 2016: 83-85.
17. Жалилов Ж.Ж. Гигрофильные виды наземные моллюски Узбекистана // “Oriental renaissance: innovative, educational, natural and social sciences” issue 3 of the scientific journal. Uzbekistan-2021. 805-811 s.
18. Пазилов А., Гаибназарова Ф. Конхологическая изменчивость наземного моллюска *Gibbulinopsis signata* с хребтов Байсунтау, Кугитангтау и Бабатаг. «Экология,эволюция и систематика животных» . Рязан -2012 Материалы международной научно-практической конференции.
19. Жалилов Ж.Ж. Малакофауна водохранилища Гиссар и ущелье илонли Гиссарского хребта // CONFERENCE. “Euro Asian Conference on Analytical Research” 15-october. Германия-2021. 158-161 с.
20. Пазилов А., Гаибназарова Ф. Видовой состав и изменчивость наземных моллюсков рода *Sochlicora* Узбекистана и сопредельных территорий / Экологические особенности биологического разнообразия: материалы 5-месяц Международной конференции - г. Хаджент, 2013- С.96-97.