



## HISTORY OF THE STUDY OF NUROTA GASTROPODA MOLLUSCS

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### ABSTRACT

*This article presents the history of gastropod molluscs distributed on the northern slopes of the Zarafshan mountain range until today, the data obtained as a result of the study of various sources.*

**Enter.** The natural wealth of Central Asia, the large number of endemic species in the world of flora and fauna, the presence of relict and autochthonous species, the high level of adaptability of various life forms, determine the unique characteristics of the region. This uniqueness has not left Europeans indifferent since the early stages of development. The first information about the fauna of Central Asia appeared in the 13th century, and the information about the malakofauna was based on the materials collected by the famous Russian naturalist A.P. Fedchenko (1868-1871). and the first information about mollusks of Central Asia was given in the monograph "Sliznyaki" by the German malacologist E. Martens (1874) at the end of the 3rd quarter of the 18th century, in which 32 types of water molluscs were described from a conchological point of view, and therefore, along with .

**Material and method.** E. Martens (1882) in his monograph "Ueber Centralasiatische Mollusken" gave brief information about the shell size and their forms of 4 types of water molluscs distributed in Central Asia.

O. B. Rosen (1887, 1901) in his works recorded 21 species of molluscs from the regions of Uzbekistan, Tajikistan and Turkmenistan in Central Asia and recognized *Pseudaminicola prasina* as a new species for science.

Freshwater molluscs of the Amudarya water basin were studied by V. I. Jadin (1950) and information on 31 types of water molluscs was given.

Y.I. Starobogatov (1972) in his work on the mollusk fauna of Central Asian springs and underground waters notes the genera *PseudoCaspia*, *Pyrgobaicalia*, which are new to science. In addition, the presence of *Lymnaea auricularia*, *Planorbis planorbis*, *Anisus ladacensis*, *Costatella acuta*, which is not specific to the region, was noted in these water bodies, and *Paladilhiosis sp.*, which is new for Central Asian water bodies. It is recognized that it was



found in the Nurota mountains. The species studied by the author are zoogeographically analyzed, and it is shown that the majority of the group of molluscs of Mountain Asia is in the eastern and southeastern parts of Central Asia.

The systematic study of Central Asian aquatic molluscs began in the 70s of the last century by Z.I. Izzatillayev, and in a number of his works (1972, 1973, 1975, a, b, v, 1980, 1983 a, b, v,) The taxonomic composition, biological characteristics, distribution, zoogeography and historical formation of molluscs, as well as their economic importance, are described in detail.

Z.I. Izzatullayev (2018) in his monograph entitled "Mollusks of the Central Asian Aquatic Ecosystem" based on the materials collected for almost 50 years (1967-2016), for the first time, the distribution of the main features of the living conditions of Central Asian aquatic mollusks by biotopes and water types studied, the life forms of molluscs were classified and ecologically - zoogeographically described. According to the author, "A number of patterns can be observed in the aquatic fauna of Central Asia, as in other invertebrates. For example, the large number of endemic species in Central Asia (42%), the widespread distribution of endemic species in plain regions, etc.

Information on the taxonomic composition and zoogeography of gastropod molluscs of the Nurota Mountains is expressed in the works of Z. Izzatullayev, J. Kudratov (2012a, b, 2016, 2017).

The fauna, ecology and zoogeography of gastropod molluscs of the North-West Turkestan mountain range was studied by A. T. Karimkulov (2011), who showed that 15 species of aquatic gastropod molluscs were found in this area, and they belonged to 4 families and 6 genera. As a result of studying the ecology of gastropod molluscs, the author divided aquatic molluscs into 5 ecological groups and it was found that 4 species or 26.66% of them live in the desert and 13 (86.34%) in the arid region.

J. Qudratov(2018) studied the taxonomy, bioecological characteristics, distribution and importance of gastropod molluscs of the Nurota Mountains in his dissertation and found that 48 species of gastropod molluscs belonging to 21 families, 30 genera, and 14 types of water and 34 types of terrestrial molluscs are distributed in this area. was found to be. The uneven distribution of molluscs of the Nurota Mountains by altitude regions and biotopes (4 species in the desert region, 15 species in the hill region, 31 species in the mountain region) was studied. *L. mesoleuca*, *L. retteri*, *X. regeliana*, *A. regeliana* species from representatives of the Hygromiidae family are distributed in Nurota mountains, among which *X. candaharica* is recognized as the dominant species.

I.M. Likharev and E.S. using the works published between the 70s and the 50s of the 20th century and the collected materials of the same period and the collection of mollusks kept at the Zoological Institute (St. Petersburg) and the Museum of Zoology at the Lomonosov Moscow State University. In 1952, Rammelmeyer (1952) published a large monograph entitled "Fauna of terrestrial molluscs of the USSR".

In the monograph, a systematic composition of 511 types of land molluscs belonging to 24 families, 114 genera distributed in the territory of the former Soviet Union was developed, and the basis for their systematic study was laid.



In the systematization of land molluscs in Central Asia, the Russian malacologist A.A. Scileyko (1978) in his monograph entitled Land molluscs belonging to a large family, developed a systematization of 166 species distributed in the territory of the former Soviet Union (65 of which are distributed in Central Asia) and created a table of identifiers for all species.

A.A.Scileyko (1984) in his monograph "Land mollusks of the genus Pupillina" gives a systematic overview of 170 species and subspecies included in the genus. Basic morpho-functional analysis

Since the 70s of the last 20th century, the systematics, distribution, ecology and economic importance of land molluscs have been widely studied in the Central Asian countries of Kazakhstan, Kyrgyzstan, Uzbekistan and Tajikistan.

K.K. Uvaliyev (1990) studied land molluscs of Kazakhstan and neighboring regions for several years, and as a result created a monograph entitled "Land molluscs of Kazakhstan and neighboring regions". In the monograph, the ecological, taxonomic and biogeographic description of the malacofauna of the mountainous regions of Kazakhstan, Uzbekistan, Kyrgyzstan, China (bordering Kazakhstan) is given for the first time. New information on the ecology of terrestrial molluscs is presented, the reasons for their distribution in natural landscapes are analyzed, and the life cycle of a number of species is studied. At the same time, although the description of the zoogeographical area and historical formation of land molluscs distributed in the region was given, there was no information about the gastropod molluscs of the Nurota Mountains.

The systematic study of terrestrial molluscs distributed in the territory of Uzbekistan began in the 90s of the last century and is still ongoing.

A. Pazilov (1992) studied the systematics of terrestrial molluscs distributed in the Fergana valley and the surrounding mountains, their distribution by altitude regions, their variability, the importance of mollusks in the national economy, and 12 families were found in this region. and 83 species of land molluscs belonging to 27 genera were noted. The distribution of molluscs by altitude regions was analyzed and their uneven distribution was shown. For example, it was determined that 10 species are distributed in the desert region of the Fergana range, 7 in the hill region, 17 in the foothills, 31 in the mountain region, 13 in the subalpine region, and 6 species in the alpine region. the reasons for uneven distribution are revealed.

In a series of works by A. Pazilov (1998 a, b; 1999; 2001 a, b, v; 2003; 2004 a, b, v; 2005) distribution of land molluscs distributed in Uzbekistan and its neighboring regions by altitude regions, endemic and Endangered species, economic importance of molluscs, zoogeography are studied in detail, and information about their current status is provided. In the works cited above, only the information on the malakofauna of the desert region of the Nurota Mountains is partially covered.

A. Pazilov and J. Azimov (2003), in the monograph entitled "Terrestrial molluscs distributed in Uzbekistan and its neighboring regions", a morphological, anatomical, ecological description of 171 recent species is given. In addition, each family, generation and species identifier tables are compiled. In particular, 17 species of terrestrial gastropod



molluscs were found to be distributed in the Nurota Mountains, and their taxonomic description was given.

D.R.Daminova (2002) first detailed analysis of terrestrial molluscs of the Pamir-Oloy mountain system. Ecological-taxonomic description of 60 species of land molluscs belonging to 13 families and 24 genera was given in the research area, and 3 species unknown to science were identified. Distribution patterns of molluscs by altitude regions were studied, and the reasons for their uneven distribution were analyzed. The zoogeographic composition of molluscs was determined, the reasons for their historical formation were studied, and based on the area and composition of species, the region was divided into 3 malacogeographic regions: Turkestan, Zareafshan and Nurota.

The author noted the distribution of 34 types of land molluscs in the Nurota mountain ranges, and the distribution of molluscs by altitude regions was studied. According to the results of the study, molluscs are unevenly distributed by altitude regions. For example, only *Xeropicta candacharica* is common among land molluscs in the desert region, and its population density is extremely low, this indicator is 1 or 2 per 5-10m<sup>2</sup> area. In the Adir region, 5 species are distributed in 2 biotopes, and their population density is slightly higher than in the desert region, that is, 2 or 3 ex. It is possible to meet. The peculiarity of the relief structure of the mountain region and the higher amount of precipitation compared to the desert and hilly regions provide optimal conditions for the molluscs to live, so there are about 20 types of molluscs in the mountain region of the Nurota Mountains. spread out.

The distribution of land molluscs in the Nurota Mountains by altitude regions was studied by A. Pazilov, F. Gaibnazarova, M. Saidov (2014) in the northwestern part of the mountain in the territory of the Nurota reserve, and the altitude it was determined that it was distributed unevenly by region. 2 types of land molluscs were found in the desert region, 5 in the hill region, and 23 in the mountain region, and it was shown that the density of the population differs sharply according to biotopes.

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