

## BIOLOGICAL DIVERSITY OF GASTROPODS/MOLLUSKS (*GASTROPODA*, *PULMONATA*, *GEOPHILA*) OF THE KUKHITANG RIDGE

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**Abstract.** The article presents the results of the analysis of the species diversity of the Kukhitang territory of the Gissar Range. The results obtained significantly supplement the previously known data on the biodiversity of the terrestrial gastropod mollusks Cuhitanga.

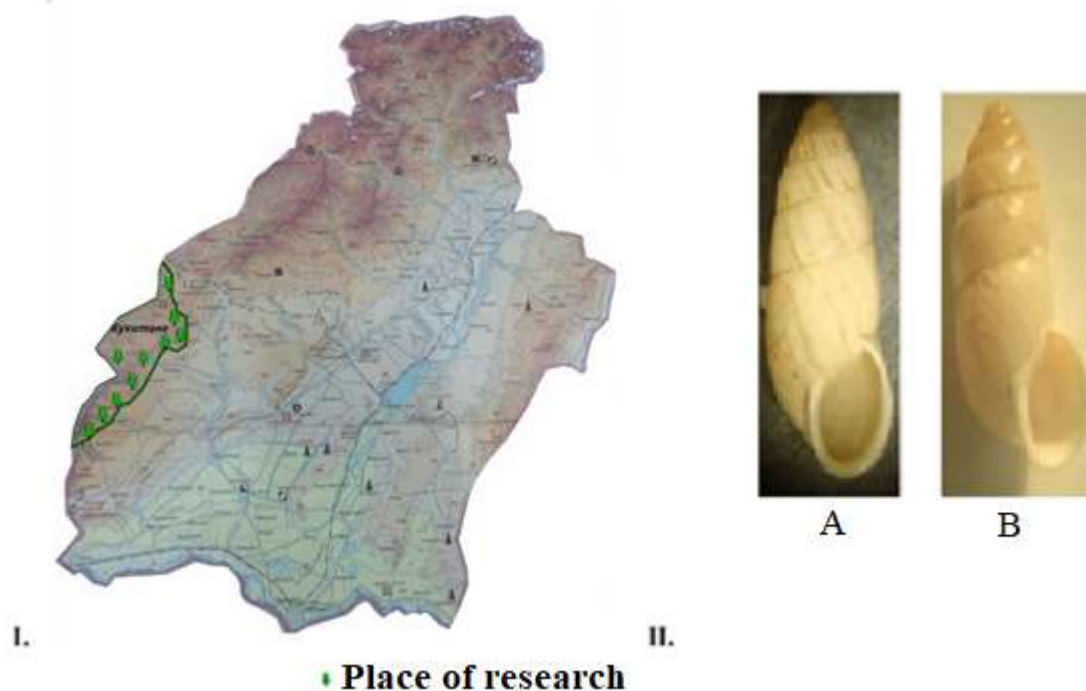
**Keywords.** Biodiversity, terrestrial molluscs, Kukhtang mountains, Gissar Range.

**Introduction.** Increased anthropogenic pressure on the environment associated with an increase in population leads to depletion of biodiversity, including wildlife resources. The use of mountain ecosystems as pastures, especially mountains located close to human settlements, has a very negative impact on flora and fauna. In connection with changing conditions, the study of the taxonomic composition, distribution and significance of gastropod mollusks in such territories, as well as the assessment of the current ecological state of populations and the development of measures for their conservation, is of particular importance. Based on this, the study of the taxonomic composition and changes in the distribution of gastropods in the Hissar Range under the influence of the anthropogenic factor is very relevant.

### Material and research methods.

The collection of terrestrial mollusks was carried out both manually and by sifting the litter through a soil sieve, according to the method of A. Pazilov, Zh. Azimov [1], A. Pazilov [2] and A. A. Shileiko [3,4]. Samples for screening were taken on an area of 0.25 m<sup>2</sup> with at least three repetitions.

Total authors in 2021-2022 More than 20 sections of the Kukhtang Ridge have been explored (Fig. 1).



**Fig.1.** Research sites (I) and dominant mollusk species (II), where A is *Pseudonapaeus sogdianus* (Martens, 1874); B-*Pseudonapaeus maydanica* (Gaibnazarova et Pazilov, 2017)

As a result, 2500 copies were collected and processed. terrestrial gastropod mollusks, mostly kept in the collections of the authors, and partly in the Zoological Museum of Samarkand State University.

### Results and its discussion.

As a result, our research in the mountains of Kuhitanga of the Gissar Range established the habitat of 37 species of terrestrial mollusks belonging to 21 genera. Their species composition is given below: *Sphyradium*

*doliolum* (Bruguière, 1792), *Lauria cylindracea* (Da Costa, 1778), *Acanthinula aculeta* (O. F. Müller, 1774), *Vallonia pulchella* (O. F. Müller, 1774), *Cochlicopa nitens* (Gallenstein, 1852), *C. lubrica* (O. F. Müller, 1774), *C. lubricella* (Porro, 1838), *Gibbulinopsis signata* (Mousson, 1873), *G. nanosignata* (Schileyko et Izzatullaev, 1980), *Pupilla triplicata* (Studer, 1820), *P. muscorum* (Linnaeus, 1758), *Chondrina granum* (Draparnaud, 1801), *Ottorozenia varenzovi* (Rosen, 1893), *Pseudonapaesus albiplicatus* (Martens, 1874), *Ps. miser* (Martens, 1874), *Ps. kasnakovi* (Westerlund, 1898), *Ps. otostomus* (Westerlund, 1899), *Ps. Sogdianus* (Martens, 1874), *Ps. maydanica* (Gaibnazarova et Pazilov, 2017), 2001), *L. rufispira* (E. Martens, 1874), *L. hypophaea* (Lindholm, 1927), *L. angulata* (Westerlund, 1896), *Xeropicta candacharica* (L. Pfeiffer, 1846), *Angiomphalia regeliana* (Martens, 1882), *Phenacolimax annularis* (Studer, 1820), *Candacharia rutellum* (Hutton, 1849), *Candacharia levanderi* (Simroth, 1901), *Macrochlamys turanica* (Martens, 1874), *M. sogdiana* (Martens, 1871), *M.s schmidtii* (Brancsik, 1891), *Zonitoides nitidus* (Miiller, 1774), *Oxyloma elegans* (Risso, 1826).

In terms of the number of species in the fauna of the Kukhtang Ridge, the genus *Pseudonapaesus* (6 species) and *Leucozonella* (4 species) are in the lead. The remaining genera in the studied areas include 1 or 2 species.

In the course of research, we studied the population density of terrestrial mollusks in mountainous areas.

Here, molluscs live in the following biotopes: Among trees and shrubs, rocks and talus, on the banks of streams and springs.

On the banks of streams and springs, overgrown with dense grassy vegetation, interzonal species live: *Cochlicopanitens* (25); *C. lubrica* (9); *C. lubricella* (11); *Acanthinula aculeata* (3); *Wallonia costata* (12); *V. pulchella* (11); *Pupillamuscorum* (23); *Zonitoides nitidus* (6).

In the tree-shrub biotope, among the decaying plant remains, we found: *Sphyradium doliolum* (13); *Chondrulopsinaintumescens* (7); *Candacharia rutellum* (5); *C. levanderi* (2).

On rocks and screes under stones and at the roots of plants and in stony gravel soils develop: *Gibbulonopsissignata* (42); *G. nanosignata* (13); *Pupillatriplicata* (11); *Pseudonapaesus sogdianus* (6); *Ps. albiplicatus* (5); *Ps. otostomus* (3); *Ps. guttula* (5); *Ps. kasnakovi* (2); *Chondrulopsinaintumescens* (6); *Phenacolimax annularis* (2); *Leucozonella retteri* (3); *L. angulata* (5); *Macrochlamys turanica* (1); *M. sogdiana* (3); *M. schmidtii* (2).

Thus, in the mountainous zones of the Kukhtang Ridge, 27 species of terrestrial mollusks were found to dominate in density: *Gibbulonopsissignata* (42), *Cochlicopanitens* (25) and *Pupillamuscorum* (23), *Phenacolimax annularis* (2); *Candacharia levanderi* (2), *Macrochlamys turanica* (1), are represented by a small number of species.

This complex of species consists of Central Asian endemics - 12, its main faunal core is supplemented by Palearctic and Holarctic species - 7, European and Western Asian - 3 each, Highland Asian and Mediterranean - 1 species each.

The richness of the species composition, the high number of populations of individual species are associated with the diversity of biotopes, since tree and shrub vegetation (forest) here alternates with open rocky slopes. Therefore, both mesophilic and xerophilic mollusks find optimal conditions here.

**Conclusion.** Thus, 37 species of terrestrial gastropod mollusks were also found on the territory of the Kukhtang ridge. Here, the genera *Pseudonapaesus* and *Leucozonella* are represented by the largest number of species. There are 27 species of terrestrial mollusks in the mountain zones. The density is dominated by *Gibbulonopsissignata*, *Cochlicopanitens* and *Pupillamuscorum*.

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