

Leucozonella Lindholm, 1927 Conchological Change in Representatives

Abdulazizova Shoirra Karimovna

Termez State University, Uzbekistan

Abstract: The article describes the geographical variability of conchological features in the *Leucozonella* genus, which is widespread in the Surkhan-Sherabad valley and surrounding mountains.

Keywords: *Leucozonella* genus, Kohitang, Boysun, Gissar, Babatag, terrestrial mollusks, conchological variability.

The processes of variability in terrestrial mollusks are one of the least studied problems not only in Uzbekistan but also in Central Asia. It should be noted that the processes of variability in mollusks (on the example of mollusks distributed in those regions) were studied in detail by Ukrainian and Russian malachologists S.S. Kramarenko, I.M. Khokhutkin and L.M. Khlus.

However, although there are currently more than 170 terrestrial mollusks in Uzbekistan, only about 20 species, the variability of conchological and anatomical features have been studied to some extent by A. Pazilov, D.R. Daminova, F. Gaibnazarova.

Therefore, we focused our research on the geographical variability of conchological features in the representatives of the *Leucozonella* genus, which is widespread in the mountains around the Surkhan-Sherabad valley.

The aim of the study was to reveal the causes of conchological variability in common species.

Leucozonella, a species belonging to this genus, is widespread in the study area. *rufispria*, *L. mesoleuca*, *L. schileykoi*, *L. angulata*, *L. hypophaea*, species.

The research materials were collected from different biotopes of the foothills and mountainous areas of the Kohitang, Boysun, Gissar and Bobotag mountains surrounding the Surkhan-Sherabad valley in 2012-2018, as well as the collection of mollusks collected by A. Pazilov kept at Gulistan State University.

In the implementation of the dissertation used the generally accepted route, malachological (Shileyko, Likharev), morphometric research, statistical and comparative analysis methods.

Studies have shown that the variability of the conchological characteristics of terrestrial mollusks is reflected in the shape, color, thickness, sculpture, and morphometric dimensions of the shell.

The Kohitangtov ridge of the *L.rufispira* species is domed, the southern slopes of the Gissar ridge are conical, the Boysuntov ridge, the southern slopes of the hills around the Lower Machay, the wrap has an even slightly angled structure. This variability can be explained by the fact that the shell-shaped dome or cone is a process of adaptation of these mollusks to their habitat, living in biotopes with mesophilic conditions and spending the awkward period of the year or summer (pause) slightly buried in soft soil near the root part of the plant. The mollusks, whose shells are very sticky and whose end wraps even have a slightly angular structure, live among large rock clusters. Mollusks with such a shell structure quickly hide between the rock piles with the occurrence of adverse conditions, which is more convenient to enter and under the rock piles with such a structure than shells of other shapes, so their shells are sticky or the edges are angled.

Hence, the variability of the shell shape depends more on the environment in which the mollusk lives, the shells of the mollusks living under semi-shrubby, bushy plants may be conical or spherical, while those living among the rock clusters may have shell-like, edged edges.

At this point, the development of peripheral tape in the shell also reflects the process of adaptation to the environment, and depending on the habitat of the mollusks, the shell peripheral tape may be developed to varying degrees. For example, the white tape in the shell of the *L.rufispira* species, which lives in the Surkhandarya State Reserve (Kohitangtov Ridge), under semi-shrub vegetation in the open, and between the rocky mounds on the southern slopes of the hills around Lower Machay (Boysuntov Ridge), not only at the periphery while well-developed, the peripheral tape is inexplicably developed in mollusks living under shrubby vegetation of the Oqmachit river pass (Bobotog ridge). In our opinion, the different levels of peripheral tapeworm development depend on the level of light and temperature

control, peripheral white tape is well developed in mollusks living on the southern slopes where sunlight is abundant, while in the northern slopes the opposite is almost undeveloped.

When the geographical variability of *L. schileykoi* species was studied in mollusks scattered around the Boysun Range, Machaydara River Basin, and Gissar Range in the Topalang Reservoir, it was as follows: The shell shape, thickness, sculpture, and umbilical structure of the mollusks. The color of the shell is variable, the mollusks scattered in the Boysun mountain range are light brown, while the mollusks in the Gissar ridge are branched and the embryonic part is brown.

The species of *L. hypophaea* was first recorded by us, only in the Kohitang mountain range. Therefore, the geographical variability of this species has been studied in comparison with mollusks distributed outside the study area (Alay and Chatkal mountain ranges).

The mollusks distributed in the study area (Kohitang mountain range, Surkhan state reserve, Vandob area - collected under semi-shrubs) differ from the mollusks of this species found in the Alay and Chatkal mountain ranges by the shape of the shell, number of folds, sculpture.

Since the *L. angulate* type, like the previous type, was first recorded from the Kohitang mountain range, the variability of conchological signs has been studied in comparison with museum materials.

The shells of mollusks distributed in the study area (Surkhan State Reserve) are slightly constricted, the upper shell has a dome-shaped structure, the shell walls are thick, the shells are 5.5, the latter is bent at the mouth of the shell, the peripheral band is strongly developed, the shell mouth is wide-oval sharp, with only the columellar portion slightly curved to partially cover the narrow umbilicus.

Conclusion: In the mountains surrounding the Surkhan-Sherabad valley, the variability of conchological features in mollusks of the genus *Leucozonella* is manifested in the shape, color, thickness, sculpture and morphometric dimensions of the shell, which is based on the habitat of the mollusk.

References

1. Абдулазизова Ш. Сурхон-Шеробод водийси ва унинг атрофини ўраб турган тоғлардаги куруклик моллюскаларининг биологик хилма-хиллиги.: Дис...биол.фан.бўй. PhD. - Тошкент, 2019. – 120 б.
2. Пазиллов А. Биотопическая изменчивость раковины наземного моллюска *Leucozonella hypophaea* // XXVIII научно-теоретическая конференция профессорского-преподавательского состава ГулГУ. – Гулистан, 1994. – С. 27-28.
3. Пазиллов А., Гаибназарова Ф., Каримкулов А. Мирзачўл қориноёқли моллюскалари. – Ташкент: Фан, 2016. – 152 б.
4. Хохуткин И.М., Структура изменчивости видов на примере наземных моллюсков. – Екатеринбург: УрО РАН, 1997. – 175 с.
5. Abdulazizova Sh.K., Jo'raeva S.X. The complexes of terrestrial mollusks related to the various biotopes of ranges Kugitangtau and Babatag // ACADEMICIA: An International Multidisciplinary Research Journal. Vol. 10, Issue 7, July 2020. P. 699-704.
6. Абдулазизова Ш. Популяционная изменчивость конхологических признаков у *Leucozonella rufispira* // Вестник ГулГУ. – Гулистан, 2018. - №3. – С. 15-18.
7. Pazilov A., F.Gaibnazarova, M.Saidov Rare and endangered species of terrestrial mollusk in western Tien Shan.
8. Gaibnazarova F., Karimova Kh., Muhammadiyev Z. “Geographical and ecological analysis of dry mollusks in Uzbekistan and adjacent regions” www.journalsresearchparks.org/index.php/IJHCS e-ISSN: 2615-8159|p-ISSN:2615-1898 Volume: 03 Issue: 1 January-February 2021.
9. Gaibnazarova F., Karimqulov A. Composition and distribution of terrestrial molluscs in vertical landscape zones and biotopes. - Novateur publications JournalNX- A Multidisciplinary Peer Reviewed Journal ISSN No: 2581 – 4230 VOLUME 7, ISSUE 3, Mar -2021. p- 177-182.
10. Гаибназарова Ф., Пазиллов А. К Фауне наземных моллюсков (Gastropoda, Pulmonata) хребта Кугитангтау. Материалы конференции «Экология, эволюция и систематика животных» 13–16 ноября 2012 г., рязань.
11. Пазиллов А., Гаибназарова Ф. Географическая изменчивость конхологических признаков наземного моллюска *Pseudonapaeusartechus* // Материалы VIII Международной научно-практической конференции.-

Краснодар, 2014.- С. 128–130.

12. 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.
13. Пазилов А., Гаибназарова Ф., Каримова х чужеродный вид *Monacha carthusiana* (Mollusca, Gastropoda, Pulmonata) как новый промежуточный хозяин нематоды *cystocaulus ocreatus* в узбекистане. Научный вестник Ужгородского университета Серия Биология, Выпуск 40, 2016: 83-85.
14. 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.
15. 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.
16. 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.
17. Пазилов А., Гаибназарова Ф. Видовой состав и изменчивость наземных моллюсков рода *Cochlicopa* Ўзбекистана и сопредельных территорий / Экологические особенности биологического разнообразия: материалы 5- месяц Международной конференции - г. Хаджент, 2013- С.96-97.