

Micropontica annae sp. nov., a new species of Clausiliidae (Gastropoda, Pulmonata) from Northwest Caucasus

Pavel V. KIJASHKO

Zoological Institute of Russian Academy of Sciences, Universitetskaya embankment 1,
Saint-Petersburg 199034, RUSSIA

ABSTRACT. A new species *Micropontica annae* Kijashko sp. nov. (subgenus *Micropontica* s. str.) from the high-mountainous part of Northwest Caucasus is described.

Subgenus *Micropontica* (*Micropontica*) s. str.

Micropontica (*Micropontica*) *annae*
Kijashko sp. nov.
(Figs. 1 A-E, 2 A, B)

The genus *Micropontica* (O. Boettger, 1881) is an endemic West Caucasian clausiliid genus consisting of species dwelling on limerocks. According to the most recent review [Schileyko, 2000], the genus *Micropontica* consists of two subgenera: *Micropontica* s. str. and *Baleopsina* Lindholm, 1924. The first subgenus includes *Micropontica closta* (O. Boettger, 1881) according to Nordsieck [1975], or two species: *M. closta* and *M. circassica* (O. Boettger, 1888), according to Egorov [2002]. The subgenus *Baleopsina* contains two species – *Micropontica retowskii* (O. Boettger, 1888) (= *caucasica* A. Schmidt, 1868) and *M. circassica*, according to Nordsieck [1975], or *M. caucasica* (A. Schmidt, 1868) [= *retowskii* (O. Boettger, 1888)] and *M. interjecta* (Rosen, 1914) according to Egorov [2002]. Currently, of the above-mentioned species the anatomy was studied only for *M. closta*. Probably it causes divergences of views (based on the conchological features) concerning the interspecific relationships of the species of *Micropontica* and the taxonomy of this genus.

In summer 2000, extensive alcohol material on three species of *Micropontica* has been obtained as a result of the expedition to valley of the Belaya River and Lagonaki Mountains (Adygeja and Krasnodar Territory). Two species were identified as *M. retowskii* and *M. circassica*. The third species is described below.

Family Clausiliidae Mörch, 1864

Subfamily Baleinae A. Wagner, 1913

Genus *Micropontica* O. Boettger, 1881

Type species: *Clausilia* (*Micropontica*) *closta*
O. Boettger, 1881

Material. Northwest Caucasus, Adygeja, Lagonaki Mountains, western part of Lagonaki Ridge, southern slope of Mt. Zhitnaya (~ 1900 m above sea level), lime rocks, August 6, 2000; coll P.V. Kijashko (holotype and paratype). Holotype and 68 paratypes are stored in the Zoological Institute of the Russian Academy of Sciences (Saint-Petersburg, № 505-2003); five paratypes are in the Zoological Museum of Moscow State University.

Type locality. Northwest Caucasus, Adygeja, Lagonaki Mountains, western part of Lagonaki Ridge, southern slope of Mt. Zhitnaya (~ 1900 m above sea level).

Diagnosis. Shell small, with larger and widely spaced ribs; whorls convex, last whorl weakly narrowed; superior lamella high, continuous with spiral lamella through a light curvature, reaching aperture margin; spiral lamella below superior lamella, starts on right side. There are lunella and principal plica; lunella expanded in lower portion and located right-dorsally; principal plica long (almost 0.75 of last whorl in length), stretches at a small angle upwards and practically reaches margin of aperture. Palatal wall of last whorl with a strong longitudinal palatal crest clearly seen at direct view of aperture. Vas deferens smoothly passing in fusiform penis. Penis internally with longitudinal folds (two strong and a series of smaller, irregular), a circular pilaster and a sphincter on top. Spermathecal reservoir adjoins albuminous gland, diverticle weakly curled and expanded in the final part.

[**Диагноз.** Раковина небольшая, с крупной и редкой ребристостью; обороты выпуклые, последний оборот слабо сужен. Верхняя пластинка высокая, впереди достигает края устья, сзади сливается со спиральной, формируя небольшой изгиб. Спиральная пластинка ниже верхней, начинается на правой стороне. Имеются полулунная и главная складки; полулунная складка в нижней части расширена, располагается на право-спинной стороне; главная складка длинная (почти 0.75 от длины последнего оборота), тянется несколько под

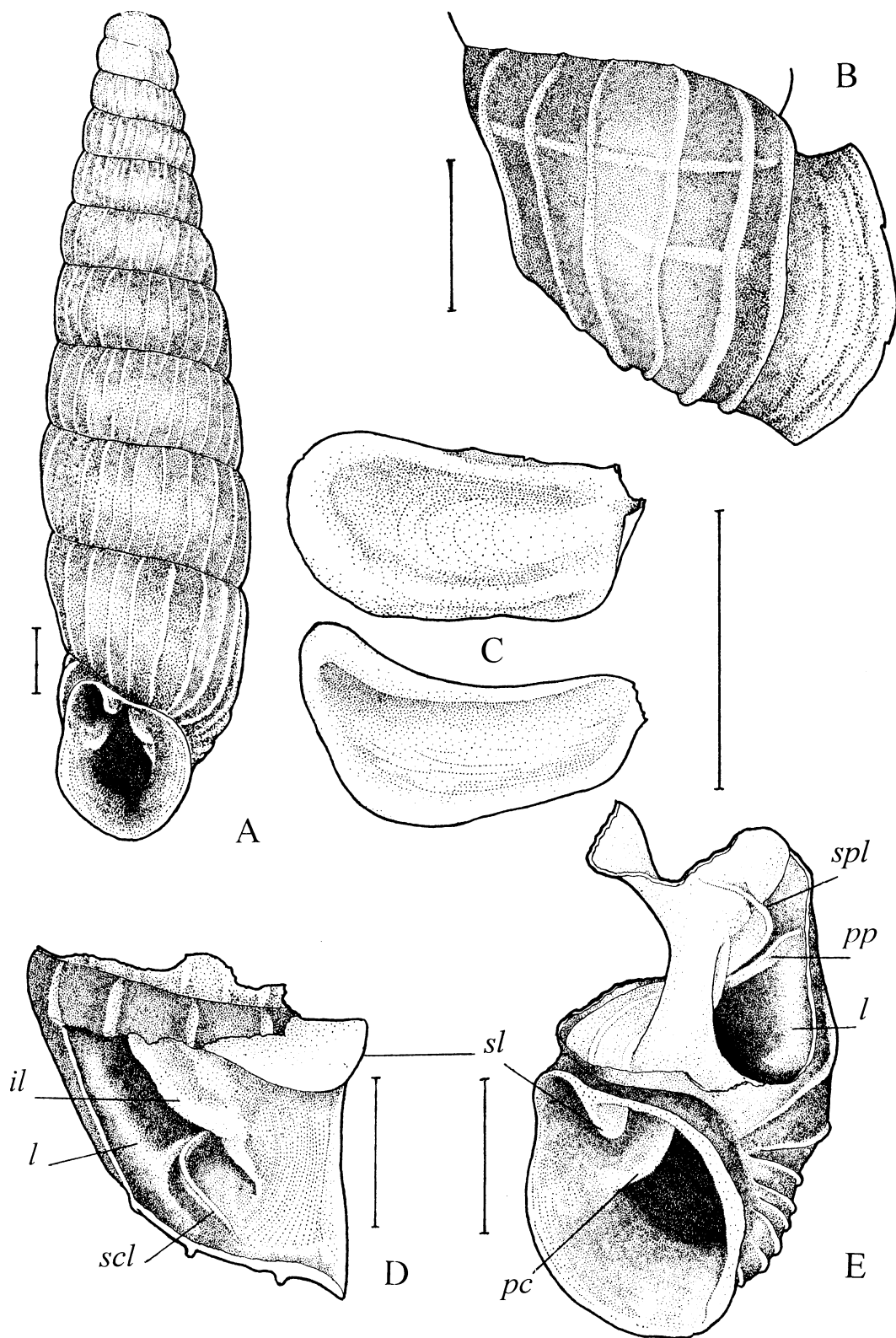


FIG. 1. *Micropontica annae* sp. nov. Holotype.

A – shell; B – left side of last whorl; C – plate of clausilium; D, E – closing apparatus (part of the last whorl wall and clausilium are removed). *il* – inferior lamella; *l* – lunella; *pc* – palatal crest; *pp* – principal plica; *sl* – superior lamella; *scl* – subcolumellar lamella; *spl* – spiral lamella.

РИС. 1. *Micropontica annae* sp. nov. Голотип.

A – общий вид раковины; B – левая сторона последнего оборота; C – лопасть клаузилия; D, E – замыкательный аппарат (часть стенки последнего оборота и клаузилий удалены). *il* – нижняя пластинка; *l* – полулунная складка; *pc* – палатальный гребень; *pp* – главная складка; *sl* – верхняя пластинка; *scl* – субколумеллярная пластинка; *spl* – спиральная пластинка.

углом вверх и практически достигает края устья. На палатальной стенке последнего оборота имеется мощный продольный палатальный гребень, хорошо заметный при прямой проекции устья. Семяпровод плавно переходит в веретеновидный пенис. Пенис внутри с продольными складками (двумя мощными и серией более слабых, нерегулярных). В верхней части пениса выражены сфинктер и кольцевой пилластр. Резервуар семяприемника прилегает к белковой железе; отросток семяприемника слабо извитой, в конечной части расширен.]

Description. Shell turret-shaped, with large widely spaced ribs (24-25 on last whorl), intervals between them smooth, opaque, mat, brownish-corneous. Embryonic whorls (about 2.5) smooth. Definitive whorls 7-8.25. Last whorl with large leaf-shaped ribs behind the aperture margin; an occiput flat (Fig. 1 A, B). There is a distinct palatal depression on the periphery of last whorl behind aperture. Aperture small, free, pear-shaped, with more or less wide and shallow sinulus; margins thin, a little reflected. Superior lamella high, continuous with spiral lamella through a light curvature, reaching aperture margin. Spiral lamella below superior lamella, starts on dextral side, curved in the opposite direction to the shell axis. Inferior lamella low, steeply ascending, weakly visible in direct view of aperture; closely approaches spiral lamella, starts on right side, lower end weakly curved (Fig. 1 D). Lamella sub-columellaris high but not visible in frontal view. Lunella well developed, expanded at base, located on right-dorsal side. Principal plica long (almost 0.75 of last whorl in length), running a little at some angle, approaches the suture and practically reaches the margin of aperture, upper end of this lamella lies deeper than lunella. Palatal wall of last whorl with strong longitudinal palatal crest, starting on left-dorsal side and clearly seen at direct view of aperture (Fig. 1 A, E). Lobe of clausilium rather broad, strongly curved, with thickened distal end (Fig. 1 C).

Dimensions: height 8.7-10.8 mm; diameter 2.5-2.7 mm; height of aperture 1.9-2 mm; width of aperture 1.5-1.6 mm. Dimensions of holotype: 10.3, 2.5, 2.1, 1.7 mm, respectively.

Reproductive anatomy. Vas deferens smoothly passing in fusiform penis (Fig. 2A). Penis internally with longitudinal folds (two strong and a series of smaller, irregular), circular pilaster and sphincter on top (Fig. 2B). Strong retractor attached to vagina. Besides, vagina and distal male ducts intertwined with muscular fibres. Free oviduct somewhat longer than vagina. Spermathecal reservoir reaching albumen gland, diverticle not convoluted, extended at end, shorter than reservoir duct.

Ecology. Ovoviviparous species. It inhabits calcareous rocks of alpestrine and alpine zones (at 1800-2000 m above sea level), frequently along with *M. retowskii*.

Ethymology. The species was named in honour

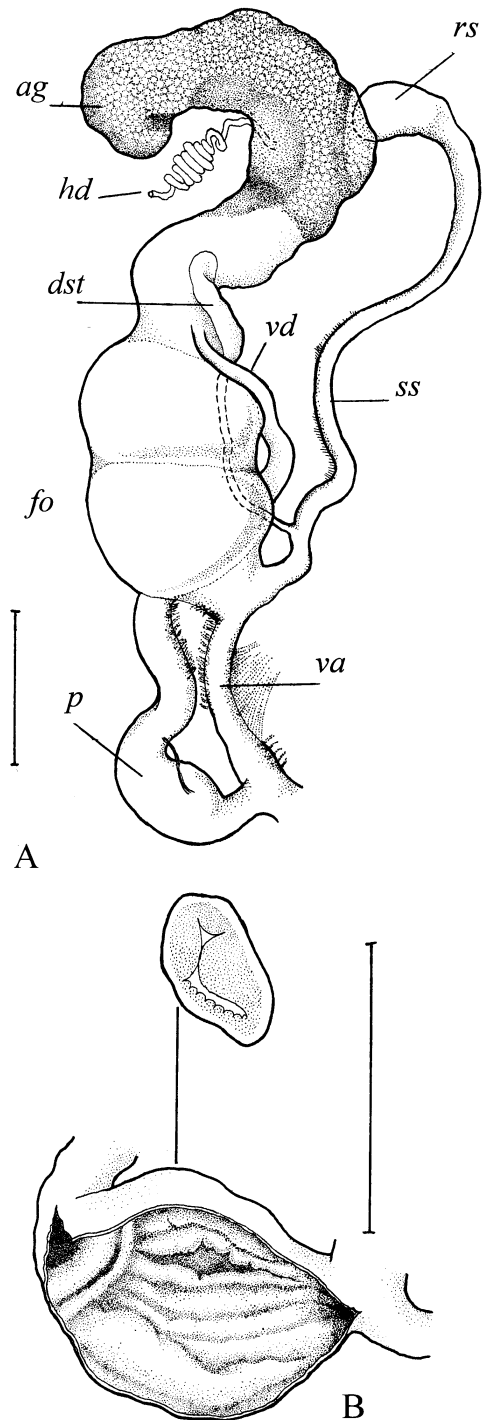


FIG. 2. Reproductive tract of *Micropontica annae* sp. nov. Paratype. A – general view of reproductive tract; B – interior of penis; ag – albumen gland; dst – diverticle of spermatheca; fo – free oviduct; hd – hermaphroditic duct; p – penis; rs – reservoir of spermatheca; sod – spermoviduct; ss – protok семяприемника; va – vagina; vd – семяпровод.

РИС. 2. Половая система *Micropontica annae* sp. nov. Паратип. А – общий вид половой системы; В – внутреннее строение пениса; ag – белковая железа; dst – дивертикул семяприемника; fo – яйцевод; hd – гермафродитный проток; p – пенис; rs – резервуар семяприемника; sod – спермовидукт; ss – проток семяприемника; va – вагина; vd – семяпровод.

Table 1. Comparison of conchological characters of species of the genus *Micropontica*

Features	Species			
	<i>M. closta</i>	<i>M. circassica</i>	<i>M. annae</i>	<i>M. retowskii</i>
Shell height, mm	9.0-12.5	11.0-14.0	8.7-10.8	9.0-13.0
Postembryonic sculpture	Radially ribbed (distinct)	Radially ribbed (distinct or fine) or irregular striated	Radially ribbed (distinct)	Radially striated (fine, irregular)
Superior lamella	Low	Low	High	Low or rudimentary
Spiral lamella	Starts on ventral side	Starts on right-ventral side	Starts on right side	Rudimentary or absent
Lamella subcolumellaris	Low, almost not visible in oblique position	Low, almost not visible in oblique position	High, distinctly visible in oblique position	High, distinctly visible in oblique position
Lunella	Strong, located on right side	Rudimentary, located on right-dorsal side	Strong, located on right-dorsal side	Strong, located on left-dorsal side
Principal plica	0.5 of last whorl	0.33 of last whorl	Almost 0.75 of last whorl	Absent
Palatal plica	Strong, its end visible through aperture	Absent	Absent	Absent
Palatal callus/crest	Absent	Rudimentary callus or absent	Crest	Rudimentary callus or absent
Basal keel and groove	Absent	Absent	Absent	Distinct

of the spouse of the author who actively assisted in the preparation of expeditions, and also served as wholehearted supporter and inspirer of all the work involved in field research.

Remarks. Conchologically *M. annae* differs from all other species of the genus by a smaller size, high superior lamella, deep position of top end of spiral lamella, long principal plica and presence of palatal crest. Besides, it differs from other species of the subgenus *Micropontica* s. str. by the absence

of palatal plica, less deep position of lunella (from *M. closta*) and strong lunella (from *M. circassica*) (Table 1).

Acknowledgements

The work was supported by the Competitive Centre for Basic Natural Sciences (CCBNS) at the Ministry of Education of the Russian Federation; grant № E 00-6.0-230.

References

- Egorov R.V. 2002. Clausiliidae. Clausiliinae, Baleinae. *Treasure of Russian shells*, 5(2): 74 p.
- Likharev I.M. 1962. Clausiliidae. *Fauna SSSR*, vol. III, pt. 4, NS., № 83: 317 p. [in Russian].
- Nordsieck H. 1975. Zur Anatomie und Systematik der Clausilien, XVI. Zur Kenntnis der Mentis-soideinae und kaukasischen Baleinae. *Archiv für Molluskenkunde*, 106 (1-3): 81-107.
- Rosen O. 1914. Katalog der schalentragenden Mollusken des Kaukasus. *Izvestiya Kavkazskogo Muzeya*, 6: 141-252.
- Schileyko A.A. 2000. Treatise on Recent terrestrial pulmonate molluscs. Clausiliidae. *Ruthenica*, Suppl. 2(5): 565-729.

Micropontica annae sp. nov. — новый вид клаузилиид (Gastropoda, Pulmonata) с Северо-Западного Кавказа

П. В. КИЯШКО

Зоологический институт РАН, Университетская набережная 1, Санкт-Петербург 199034, РОССИЯ

РЕЗЮМЕ. Новый вид *Micropontica annae* Kijashko sp. nov. относящийся к подроду *Micropontica* s. str. описывается по экземплярам, добытым в высокогорной части Северо-Западного Кавказа.