

Seven new taxa of the subfamily Alopiinae (Gastropoda: Pulmonata: Clausiliidae) from the Balkans

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Abstract

Seven new taxa of Balkan clausiliids, *Agathylla biloba martae* ERÖSS & SZEKERES ssp.n. from W Albania, near Ibë, *Montenegrina perstriata diminuta* FEHÉR & SZEKERES ssp.n. from SW Macedonia, NE of Ohrid, *Montenegrina perstriata crassa* ERÖSS & SZEKERES ssp.n. from W Macedonia, near Modrić, *Montenegrina helvola carinata* ERÖSS & SZEKERES ssp.n. from SW Albania, at Greshicë, *Montenegrina helvola ornata* ERÖSS & SZEKERES ssp.n. from central Albania, near Elbasan, *Montenegrina irmengardis welterschultesi* FEHÉR & SZEKERES ssp.n. from SE Albania, near Përmët and *Isabellaria riedeli distanta* SZEKERES ssp.n. from N Greece, Voros mts. N of Vorino are described with comments on their zoogeographical and systematic positions.

Key words: Clausiliidae, Alopiinae, new subspecies, zoogeography, Albania, Greece, Macedonia.

Zusammenfassung

Sieben neue Unterarten aus der Familie Clausiliidae vom Balkan werden beschrieben: *Agathylla biloba martae* ERÖSS & SZEKERES ssp. n. aus Westalbanien, nahe Ibë, *Montenegrina perstriata diminuta* FEHÉR & SZEKERES ssp.n. aus Südwestmazedonien, nordöstlich von Ohrid, *Montenegrina perstriata crassa* ERÖSS & SZEKERES ssp.n. aus Westmazedonien, nahe Modrić, *Montenegrina helvola carinata* ERÖSS & SZEKERES ssp.n. aus Südwestalbanien, bei Greshicë, *Montenegrina helvola ornata* ERÖSS & SZEKERES ssp.n. aus Zentralalbanien, nahe Elbasan, *Montenegrina irmengardis welterschultesi* FEHÉR & SZEKERES ssp.n. aus Südostalbanien, nahe Përmët und *Isabellaria riedeli distanta* SZEKERES ssp.n. von den Vorosbergen nördlich von Vorino in Nordgriechenland. Ihre Zoogeographie und systematische Stellung wird diskutiert.

Introduction

Despite some serious efforts in the past three decades, the Clausiliidae fauna of the central Balkans has remained poorly explored, with most of the data obtained from the vicinity of the main transit roads of the region. Particularly little information is available from Albania, which was practically inaccessible for zoological research during the second half of this century. The publications of NORDSIECK (1996) and WELTER-SCHULTES (1996), both based on collections made in this decade, represent the only recent contributions to our knowledge regarding Albanian clausiliids. The present paper provides further information about this little-known zoogeographical area by the description of new taxa which were collected by Z. P. Eröss and Z. Fehér in Albania and Macedonia (latter referring throughout the text to the Former Yugoslavian Republic of Macedonia; August, 1993 and July to August, 1996), as well as P. Subai and M. Szekeres in northern Greece (May, 1997).

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Abbreviations

In the text, the names of the public collections where type material of the newly described taxa has been deposited is abbreviated as follows:

NHMB Natural History Museum, Budapest, Hungary

NMW Naturhistorisches Museum, Wien, Austria

SMF Senckenberg Museum und Forschungsinstitut, Frankfurt am Main, Germany

Agathylla biloba martae ERÖSS & SZEKERES ssp.n.

(Fig. 1)

Type material: Holotype NHMB 70830, paratypes NHMB 70831/5, NMW 100078/2, SMF 312505/2 and further 17 in the collections of the authors (leg. Eröss & Fehér, July 3, 1996).

Type locality: Albania, Mangull pass SE of Tiranë, 7 km from Ibë along the road to Killojkë, DL16.

Diagnosis: Compared to the nominate subspecies, the shell is more prominently costate over the neck, the lamella spiralis is stronger, the upper palatal fold and the basalis are longer.

Description: The greyish horn-coloured fusiform shell of $9\frac{1}{4}$ to $9\frac{3}{4}$ whorls is covered with widely-spaced white ribs. Over the neck the sculpture becomes stronger and less regular, at the basis a crest is present. The aperture is pear-shaped, its margin is narrow, light ochre-coloured. The lamella superior reaches the edge of the peristome. Inwards it extends beyond and gets very close to the outer end of the spiralis which is often visible in the front view. The lamella inferior is well developed, the subcolumellaris is not visible in a perpendicular view. The plica principalis starts over the dorsolateral or lateral side. The dorsally positioned upper palatal fold and basalis are long, often about half length of the plica principalis. The dimensions of the specimens are 11.2-13.2 × 2.0-2.3 mm.

Etymology: The new subspecies is dedicated to and named after the mother of Z. P. Eröss.

Discussion: So far both other forms of this species, *A. b. biloba* (A. J. WAGNER, 1914) and *A. b. dabovici* BRANDT, 1961, have been recorded only from the vicinity of Shkodër (NORDSIECK 1996, WELTER-SCHULTES 1996). Therefore the occurrence of the new subspecies 15 km SE of Tiranë considerably extends the known distribution area of *biloba* in the southern direction.

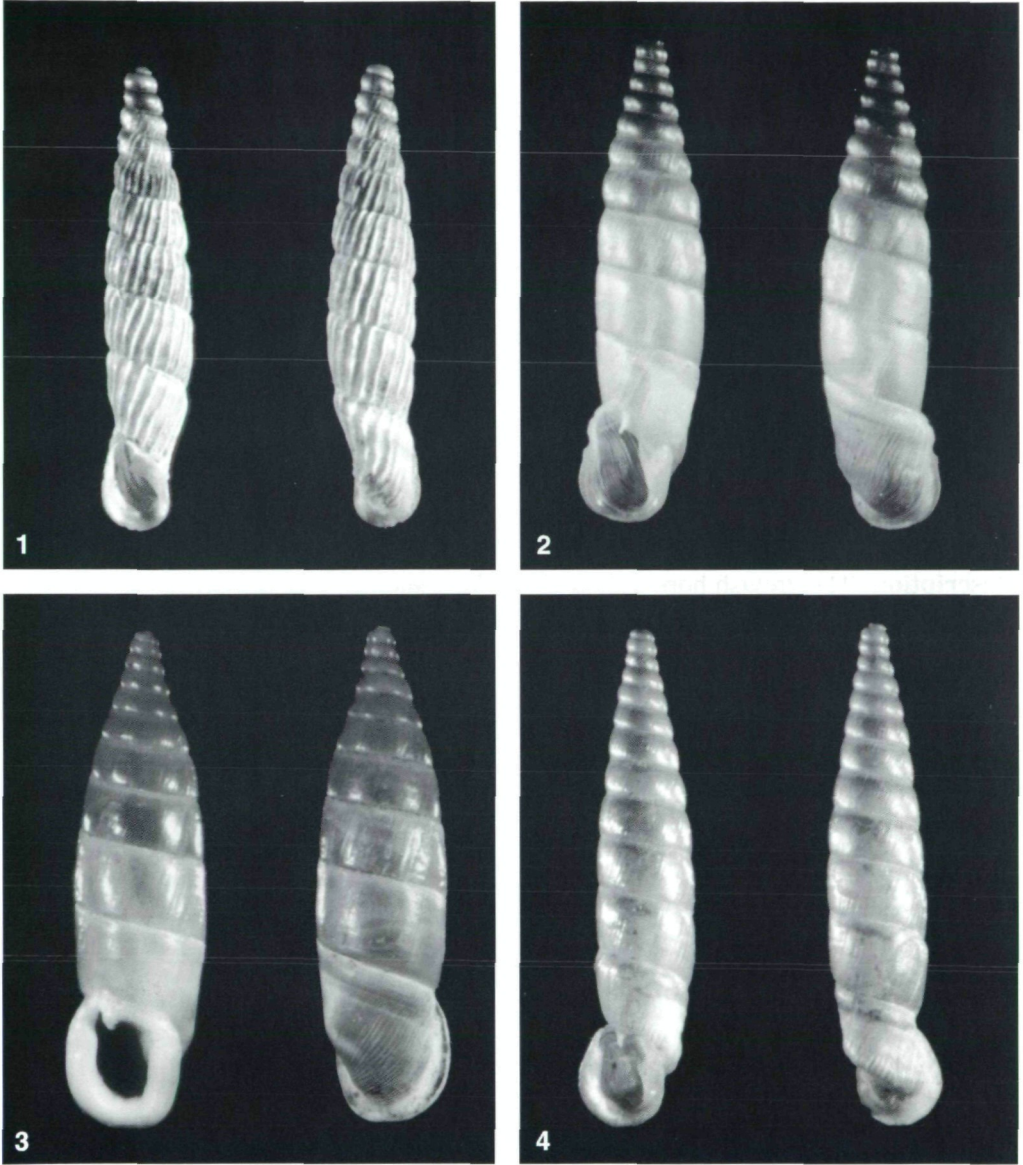
Montenegrina perstriata diminuta FEHÉR & SZEKERES ssp.n.

(Fig. 2)

Type material: Holotype NHMB 70832, paratypes NHMB 70833/5, NMW 100075/2, SMF 312510/2 and further 71 in the collections of the authors (leg. Eröss & Fehér, August 11, 1996).

Type locality: Macedonia, Galičica mts., 8 km NW of the Bukovo pass along the road from Ohrid to Resen, DL96.

Diagnosis: Shell is small, costate, with low lamella inferior and retracted subcolumellaris. Lunella lateral to ventrolateral, mostly separated from the fore-part of the upper palatal fold and the basalis.



Figs 1-4: (1) *Agathylla biloba martae* ERÖSS & SZEKERES ssp.n., holotype NHMB 70830, 12.2 × 2.3 mm; (2) *Montenegrina perstriata diminuta* FEHÉR & SZEKERES ssp.n., holotype NHMB 70832, 17.4 × 3.7 mm; (3) *Montenegrina perstriata crassa* ERÖSS & SZEKERES ssp.n., holotype NHMB 70834, 19.0 × 4.9 mm; (4) *Montenegrina helvola carinata* ERÖSS & SZEKERES ssp.n., holotype NHMB 70836, 18.9 × 3.7 mm.

Description: The light horn-coloured shell consists of 10 to 12 whorls, the last four of which are of almost identical width. Except for the embryonic and the neck regions, the whorls are covered with fine, uniform, wrinkle-like ribs. Over the stronger sculptured

neck two basal crests are recognisable. The angular peristome is simple, with almost parallel inner and outer lips. The lamella superior is well developed, reaches well beyond the emergence of the spiralis. The lamella inferior is very low, while the subcolumellaris remains deep, so that it is not visible through the aperture. Positioned on the lateral to ventrolateral side, the lunella is interconnected with the plica principalis. The basalis is separated from the lunella, as is the infrequently present fore-part of the upper palatal fold. Shell dimensions are 14.0-18.5 × 3.0-3.8 mm.

Discussion: The new subspecies was found near the distribution area of the closely related *M. p. ochridensis* (A. J. WAGNER, 1925) from which it can be distinguished by its subtler shell, the thin margin of the peristome, as well as the positions of the lunella and the lamella subcolumellaris. Although on the basis of certain shell characteristics NORDSIECK (1988) proposed the separation of *ochridensis* as an independent species, in our opinion its apparent morphological similarity to the members of the *perstriata* group (see NORDSIECK 1972) and the contiguity of the distribution areas do not seem to support this notion.

***Montenegrina perstriata crassa* ERÖSS & SZEKERES ssp.n.**
(Fig. 3)

Type material: Holotype NHMB 70834, paratypes NHMB 70835/6, NMW 100076/2, SMF 312509/2 and further 91 in the collections of the authors (leg. Eröss & Fehér, August 13, 1996).

Type locality: Macedonia, left side of the Crni Drin 2 km N of Lukovo, 1 km S of the road junction to Modrić, DL68.

Diagnosis: Shell is smooth, ventricose, with a wide, often distinctly swollen peristome. Lunella dorsolateral to lateral, continuous with the long fore-part of the upper palatal fold, but not with the basalis.

Description: The tumid, greyish horn-coloured shell consists of 9³/₄ to 11¹/₄ almost entirely smooth whorls. The neck region is finely and regularly costate, its basis features a weak double crest. Compared to the size of the entire shell, the aperture is large, forms a wide, callous, deflexed peristome. The lamella superior is strong, its inner end overlaps with the outer end of the spiralis. Having a low position in the aperture, the lamella inferior ends close to the lower end of the lamella subcolumellaris which is usually visible in the front view. The lunella lies dorsolaterally or, less frequently, laterally. It is continuous with the long fore-section of the upper palatal fold, but stands separated from the basalis. The dimensions of the shells are 14.0-21.5 × 3.8-5.0 mm.

Discussion: The new subspecies occurs within the distribution range of *M. p. drimica* NORDSIECK, 1972 from which it differs by the positions of the upper palatal fold and the lamella inferior, as well as the formation of a wide peristome. With respect to the latter two characteristics, *crassa* ssp.n. is remarkably similar to *p. ochridensis*.

***Montenegrina helvola carinata* ERÖSS & SZEKERES ssp.n.**
(Fig. 4)

Type material: Holotype NHMB 70836, paratypes NHMB 70837/2, NMW 100077/2, SMF 312506/2 and further 54 in the collections of the authors (leg. Eröss, August 17, 1993).

Type locality: Albania, Konakut valley 4 km SSE of Greshicë, 33 km SW of Fier, CK98.

Diagnosis: Shell slender, with very strong double crest at its basis. Lunella is ventrolateral, the fore-part of the upper palatal fold ends close to it.

Description: The horn-coloured shell is large, elongated, consists of $10\frac{1}{2}$ to $12\frac{2}{3}$ whorls. The whorls at the centre are almost smooth, but towards the apex they become regularly costate. The neck sculpture consists of densely-spaced sharp ribs. A strongly developed double-crest dominates the last whorl, lending a pronounced concave contour to its lateral side. The peristome is wide, protracted, its upper rim stands separated from the adjacent whorl. The lamella superior is long, reaches well beyond the outer end of the spiralis. The lamellae inferior and spiralis lay deep in the aperture, usually they are not visible in a perpendicular view. The plica principalis starts on the ventral side, close to the upper end of the lunella. The lunella is positioned ventrolaterally, in most cases it is slanted toward, rather than perpendicular to, the plica principalis. The fore-part of the upper palatal fold is well developed, continuous with or barely separated from the lunella. The basalis is strong, represents an almost straight continuation of the backwards bent lunella. Shell dimensions are $15.4\text{--}21.2 \times 3.4\text{--}4.2$ mm.

Discussion: see *M. helvola ornata* ssp.n.

***Montenegrina helvola ornata* ERÖSS & SZEKERES ssp.n.**
(Fig. 5)

Type material: Holotype NHMB 70838, paratypes NHMB 70839/2, NMW 100079/2, SMF 312507/2 and further 44 in the collections of the authors (leg. Eröss, August 19, 1993).

Type locality: Albania, 5 km SSE Gracen, 12 km from Elbasan along the road to Tiranë, DL15.

Diagnosis: The entire shell is covered with regular blunt ribs. The lunella is lateral to ventrolateral, it is well separated from the fore-part of the upper palatal fold.

Description: The light horn-coloured shell consists of 10 to $11\frac{2}{3}$ whorls. Except for the embryonic shell, the whorls are covered by regular wrinkle-like ribs which become denser and sharper over the neck. The double-crest at the basis is well developed, similar to that of the nominate subspecies. The aperture is rounded, moderately protruding. The lamella superior runs deep inside the aperture, overlapping the outer half of the spiralis. The lamella inferior is high, in a front view it can often be seen as a small fold. The lamella subcolumellaris is retracted, not visible through the aperture. The lunella lies laterally or, more frequently, ventrolaterally, standing well apart from the fore-part of the upper palatal fold. The basal fold is mostly well developed, continuous with the lunella. The dimensions of the specimens are $13.2\text{--}16.9 \times 3.0\text{--}3.9$ mm.

Discussion: Both of the above two new subspecies differ from *M. h. helvola* (KÜSTER, 1860) from Krujë and *M. h. pageti* BRANDT, 1962 from Berat by the deeper position of the lunella (BRANDT 1962). The southernmost representative of this species, *carinata* ssp.n. can also be distinguished from all other subspecies by its strong basal crest and larger size. On the other hand, *ornata* ssp. n. shows a superficial resemblance to the similarly sculptured *pageti*, but differs from it by the deeper lunella and the more reduced lamella inferior. The localities of *helvola* forms are quite isolated from each other and,

according to the material available, the morphological differences between the four subspecies do not seem to show much correlation with their respective geographical distances between them.

***Montenegrina irmengardis welterschultesi* FEHÉR & SZEKERES ssp.n.**

(Fig. 6)

Type material: Holotype NHMB 70840, paratypes NHMB 70841/7, NMW 100080/2, SMF 312508/2 and further 84 in the collections of the authors (leg. Eröss & Fehér, July 7, 1996).

Type locality: Albania, Petran 5 km SE of Përmët, at the confluence of the Vjosë and Langericë rivers, DK55.

Diagnosis: The shell is slender, with attached peristome. The long fore-part of the upper palatal fold is mostly separate from the dorsal to dorsolateral lunella.

Description: The light brown shell is subtle, elongated. Except for the finely wrinkled apex, the 10 to 11½ whorls are almost smooth, separated only by a simple suture. The neck is covered with very fine ribs, at the basis a weak crest is recognisable. The aperture is relatively small, its upper rim is attached to the adjacent whorl with a smooth transition. Reaching deep inside, the lamella superior overlaps with the outer end of the spiralis. The lunellar region lies dorsolaterally. Diverging from the plica principalis in an angle, the fore-part of the upper palatal fold is long and straight, stands distinct from the lunella. The dimensions of the specimens are 16.0-22.7 × 4.0-5.0 mm.

Etymology: The above described subspecies is named after F. W. Welter-Schultes who first collected this form in 1995.

Discussion: The new subspecies is most probably identical with the *irmengardis* form mentioned by WELTER-SCHULTES (1996) as a probable new taxon from the same area, but which was not described due to the lack of sufficient material. The collection site (6 km SE of Përmët) is very close to, or perhaps even identical with, the type locality. The shell structure of *welterschultesi* ssp. n. shows close relationship to the subspecies *konitsae* NORDSIECK, 1972 and *lambdaformis* REISCHÜTZ & SATTMANN, 1990 from north-western Greece (NORDSIECK 1972, REISCHÜTZ & SATTMANN 1990). From the former it can be distinguished by its subtler stature, as well as the weaker basal crest and neck sculpture, while from the latter by the attachment of the peristome, the development of the fore-section of the upper palatal fold and the position of the lunella.

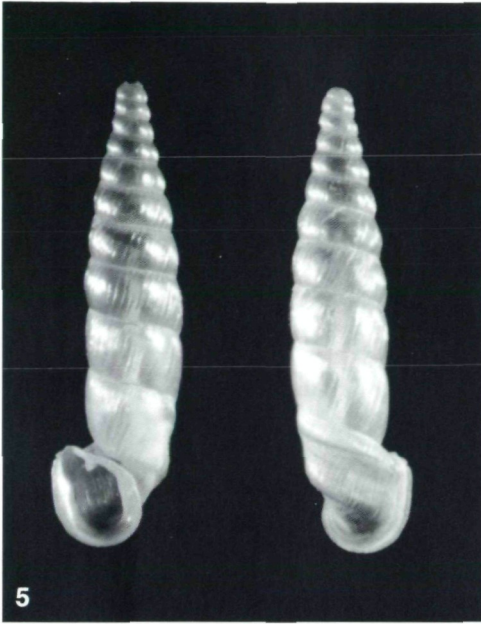
***Isabellaria riedeli distanta* SZEKERES ssp.n.**

(Fig. 7)

Type material: Holotype NHMB 70842, paratypes NMW 100081, and further 2 in the collections of P. Subai and M. Szekeres (leg. Subai & Szekeres, May 19, 1997).

Type locality: Northern Greece, N of Aridea, 10.5 km N of Vorino along the road toward Pefkoto, then further 1 km on a footpath to the limestone cliffs at 940 m, EL94.

Diagnosis: Compared to that of the nominate subspecies, the last whorl is wider and stronger sculptured over the neck. The lamella inferior is less developed, the lunella is more ventolateral.



Figs 5-7: (5) *Montenegroina helvola ornata* ERÖSS & SZEKERES ssp.n., holotype NHMB 70838, 15.7×3.3 mm; (6) *Montenegroina irmengardis welterschultesi* FEHÉR & SZEKERES ssp.n., holotype NHMB 70840, 22.1×4.8 mm; (7) *Isabellaria riedeli distanta* SZEKERES ssp.n., holotype NHMB 70842, 15.6×3.9 mm.

Description: The brownish horn-coloured shell of 9 to $9\frac{1}{3}$ whorls is almost entirely smooth, with fine ribs appearing over the apex. The aperture is relatively large, rounded, the peristome is gradually widening. From behind the peristome to the dorsal region the neck is covered by coarse, evenly spaced ribs. The basal crest is well developed, it lends an angular contour to the last whorl when seen from the front. The lamella superior is short, slightly S-shaped. The lamella inferior is positioned high in the aperture, in a perpendicular view it stands well apart from the lamella superior and the mostly hidden subcolumellaris. The lunella is lateral to ventrolateral. The dimensions of the shells are $15.5\text{-}16.3 \times 3.7\text{-}3.9$ mm.

Discussion: Central Evia, the currently known distribution area of *I. r. riedeli* BRANDT, 1961 (see: BRANDT 1961), is separated by a distance of 300 km from the locus typicus of *r. distata* ssp. n. in the Voros mountains. The new subspecies was found sympatric with *Sericata stussineri* (O. BOETTGER, 1885) and in the vicinity of *S. dextrorsa* (O. BOETTGER, 1877), both occurring here isolated from their previously known area.

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