

## A new species of *Macedonica* O. BOETTGER 1877 from Bulgaria

(Gastropoda: Pulmonata: Clausiliidae)

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### Abstract

In the present article a new species is described, *Macedonica hartmuti* n. sp. It was found in the Rhodopy Mountains, Bulgaria. The article presents the clausiliid fauna from the region of the locality, as well as the sympatric clausiliid species. Ecological data for the habitat are also presented.

**Key words:** Bulgaria, Rhodopy Mountains, Clausiliidae, new species.

### Introduction

The species composition of the terrestrial gastropod fauna and their distribution in the Rhodopy Mountains are not very well investigated yet. The description of the

following new species supplements the existing information on the composition of the clausiliid fauna of Bulgaria and from the Rhodopy Mountains.

### Systematics

Alopiinae, Cochloclini

*Macedonica hartmuti* n. sp.

Figs. 1–4

**Differential diagnosis:** *Macedonica hartmuti* n. sp. has a strongly ribbed shell, which resembles that of *Macedonica pinteri* Sajo, 1968, occurring in the Vratsata countryside, western Stara Planina Mountain, and to *Macedonica martae* Sajo, 1968, occurring at Vihren peak, Pirin Mountain, Bulgaria. The newly discovered species differs from *M. martae* by its strongly developed closing apparatus (which in *M. martae* is reduced). Compared to

*M. pinteri*, it differs in its smaller size, evenly ribbed apical whorls, lower inferior palatal plica and totally missing lunella rudiment.

**Description:** The shell is spindle-shaped, horny-brown to violet-brown in colour. The protoconch whorls are 2–2.5 in number, smooth, yellowish brown to reddish brown, glossy. The apical whorls are provided with fine, evenly spaced ribs. The ribs of the lower whorls are unevenly spaced, massive, round and widely separated, and on the neck of the last whorl they are sharper and more densely spaced. The whorls are 10 to 11 in number and with a shallow suture, which in the last whorls is thread-like whitish. The aperture is pear-shaped, widely

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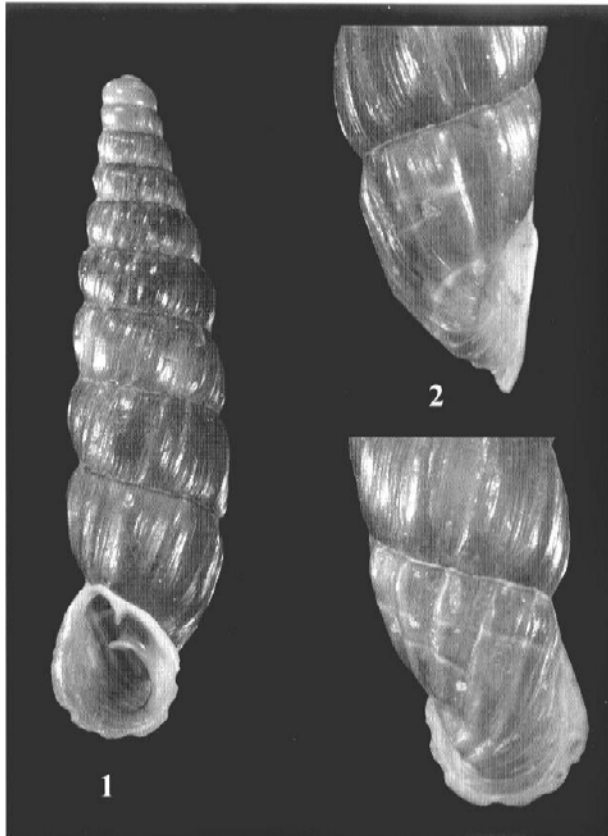


Fig. 1, 2: *Macedonica hartmuti* n. sp., holotype SMF 323884: South Bulgaria, Dobrostan region of the Western Rhodopy Mountains. 1) front view (x5), 2) lateral and dorsal view (x7), all photos by E. NEUBERT.

open and with a small and thin lip, which is yellowish brown in colour. The superior lamella passes the spiralis. The spiralis can hardly be seen from an oblique view into the aperture. The inferior lamella is big, strongly bent and going upright to the spiralis; it ends almost horizontally at the peristome. The subcolumellar lamella is visible at a perpendicular view into the aperture. A lunella rudiment is missing. The principal plica is long and well-visible in the aperture. The inferior palatal plica is inclined downwards and is visible in the front part of the aperture. The external part of the clausilium plate (fig. 3) has a  $\pm$  saddle-like shape and is curved. It is distinctly excised.

**Genital anatomy** (Fig. 4): The canalis serosus is weakly developed. The diverticulum of bursa copulatrix is equally long to insignificantly longer compared with bursa and its stalk. The (distal) pedunculus of bursa copulatrix and the free oviduct are shorter than the vagina. The retractor vaginae is muscular and inserts on the pedunculus near to the transition point between vagina and pedunculus. The penis is shorter than the vagina and contains a reduced penial papilla. The epiphallus has a short distal and a long proximal part separated by

the insertion of the retractor penis, and as a whole it is longer than the penis. The retractor penis is simple (one branch). The distal vagina is swollen, with a pad within, the atrium is broad.

**Etymology**: This taxon is dedicated to Mr. HARTMUT NORDSIECK, who rendered invaluable assistance in the exact determination of the species.

**Type material**: Holotype SMF 323884, Bulgaria, Western Rhodopy mountains, Dobrostan Ridge, valley of Sushitza River, S of Martziganitza hut, 1300 m alt., 1.06.2001, on rocks; paratypes SMF 323886/5 (dry), SMF 323885/4 (preserved in alcohol).

**Additional paratypes**: coll. IRIKOV/5 and coll. H. NORDSIECK/4; same locality, 28.04.2002; coll. IRIKOV/9, SMF 323671/2 (preserved); 21.08.2003: SMF 324773/2 (preserved) coll. NORDSIECK/8, coll. NEUBERT/1.

**Measurements** (holotype): Shell height: 12.55 mm; shell width: 3.1 mm; aperture height: 3.1 mm; aperture width: 2.0 mm.

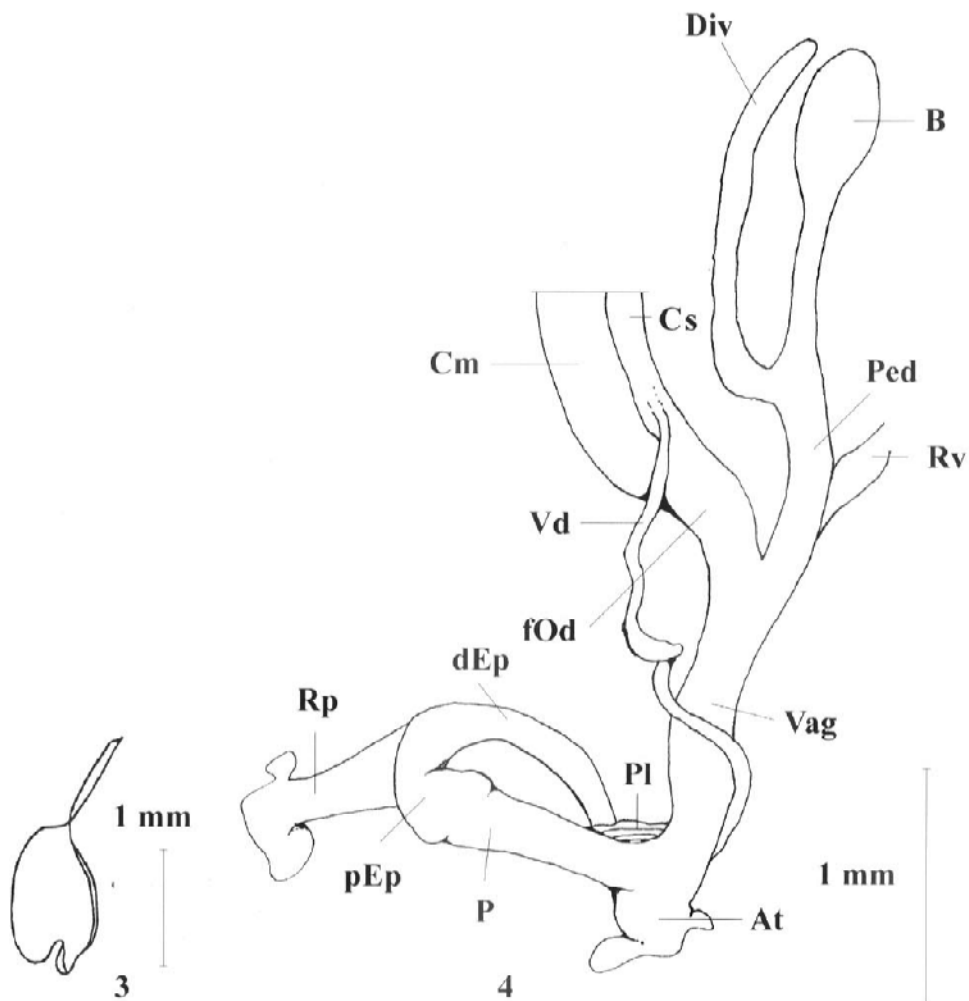
**Discussion**: The genital anatomy agrees with that of *Macedonica marginata* ROSSMÄSSLER, i. e. the species belongs to the *M. marginata* group (H. NORDSIECK, written comm.). This is surprising, because the shell and the biotope are more like those of the other *Macedonica*-groups.

Until now, the following clausiliid species are reported from the Dobrostan ridge: *Cochlodina laminata* MONTAGU, *Macedonica marginata* ROSSMÄSSLER, *Laciniaria plicata* DRAPARNAUD, *Laciniaria macilenta* ROSSMÄSSLER, *Laciniaria bajula* A. SCHMIDT, *Balea biplicata* MONTAGU, *Bulgarica fraudigera* ROSSMÄSSLER, *Bulgarica fritillaria* FRIVALDSKY, *Bulgarica bulgariensis* L. PFEIFFER, *Bulgarica denticulata thessalonica* ROSSMÄSSLER. In the rocky valley of Sushitza River the following species were found: *M. marginata*, *L. macilenta*, *B. fraudigera*, *B. bulgariensis*, *B. denticulata thessalonica*, but *Macedonica hartmuti* is met on vertical rocks, only together with *B. bulgariensis* and *L. macilenta*.

By the discovery of *M. hartmuti* the number of endemic Bulgarian species of *Macedonica* increases to five: *M. brabeneci* NORDSIECK, *M. zilchi* URBANSKI, *M. martae* SAJO and *M. pinteri* SAJO, and *M. hartmuti* n. sp.. *M. pinteri*, *M. zilchi* and *M. hartmuti* have a much restricted distribution. The new species is closely related to *Macedonica pinteri* described by SAJO (1968).

**Variation**: Variations are present what concerns the shell size and the degree of ribbing (broader or smaller ribs).

**Distribution/Ecology**: *Macedonica hartmuti* occurs in South Bulgaria, Dobrostan ridge of Western Rhodopy Mountains, in the valley of Sushitza River, at about 2 km SE Martziganitza hut. The species is found at about 1300 m alt., in a restricted locality, near a rocky slope with a south exposition. The animals live at the bottom of smooth vertical rocks, among rare and tuft-like plant vegetation, as well as in small clefts together with *Laciniaria macilenta* and *Bulgarica bulgariensis*.



**Figs. 3, 4:** *Macedonica hartmuti* n. sp.: 3) clausilium plate; 4) genital system (scale 1 mm), acronyms (proximal-distal seen from the ovotestis): At = atrium, B = bursa copulatrix, Cm = canalis mucosus, Cs = canalis serosus, dEp = proximal part of epiphallus, Div = diverticulum; fOd = free oviduct, P = penis, Ped = pedunculus, pEp = distal part of epiphallus, PI = penial ligament, Rp = retractor penis, Rv = retractor vaginae, Vag = vagina, Vd = vas deferens.

Karst rocks with south exposition are characterized by their xerothermal conditions. The rocks are smooth and steep, in winter there is hardly any snow, and animals are sometimes active.

Zoogeography: Bulgarian endemic species.

#### Acknowledgements

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#### References

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