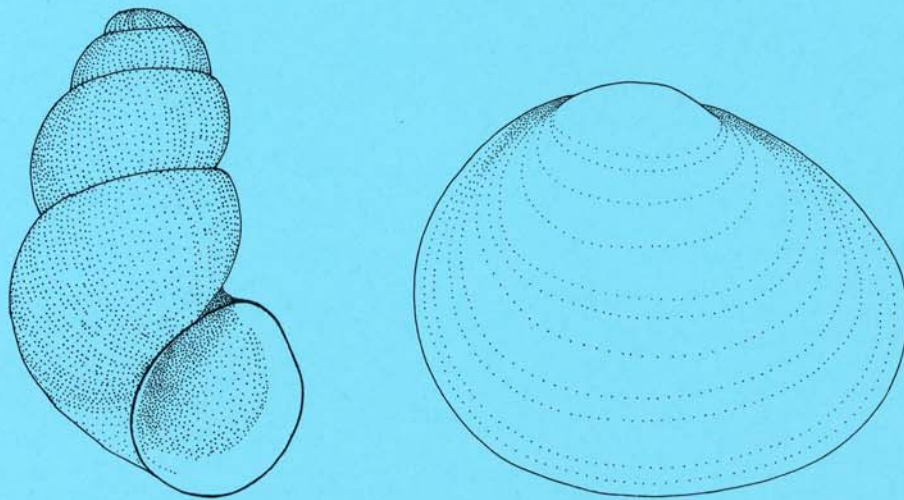


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Herausgegeben von

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München, Juli 2006

Bythinella hansboetersi n. sp., a new species from Bulgaria.

By

PETER GLÖER & VLADIMIR PEŠIĆ

Hetlingen

Podgorica

With 1 plate and 1 map.

Abstract.

From Bulgaria only *Bythinella austriaca* (FRAUENFELD 1856) was known until now, which is distributed in the West and South-West Bulgaria, mainly in karst springs (ANGELOV 2000). The newly described species *Bythinella hansboetersi* n. sp. is by far different from *B. austriaca* and *B. opaca*, living in neighbouring countries. Possibly *B. hansboetersi* is an endemic species.

Kurzfassung.

Bisher ist aus Bulgarien nur *Bythinella austriaca* (FRAUENFELD 1857) bekannt, die in Karstquellen im Westen und Südwesten Bulgariens verbreitet ist (ANGELOV 2000). Die hier beschriebene neue Art *Bythinella hansboetersi* n. sp. stammt aus Zentral-Bulgarien und ist von *B. austriaca* und *B. opaca* (GALLENSTEIN 1848), die in Nachbarländern vorkommen, deutlich unterschieden. Möglicherweise handelt es sich hier um eine endemische Art.

Diagnosis.

Bythinella hansboetersi n. sp.

Description: The shell is cylindrical with 4.5 whorls and an Apex crookedly situated on top. The whorls are convex with a clear suture. The aperture is sharp and hemmed brown. The umbilicus is slit-like. The shell is 2.6-2.9 mm high and 1.6-1.7 mm wide.

The operculum is tender, lightbrown and translucent. The animal is of lightyellow color with a black mantle.

Anatomy: The gills have 18-21 lamellae (n=4). The penis is significantly wide with a short penial appendix. The flagellum is very long, like in other *Bythinella* species (fig. 1).

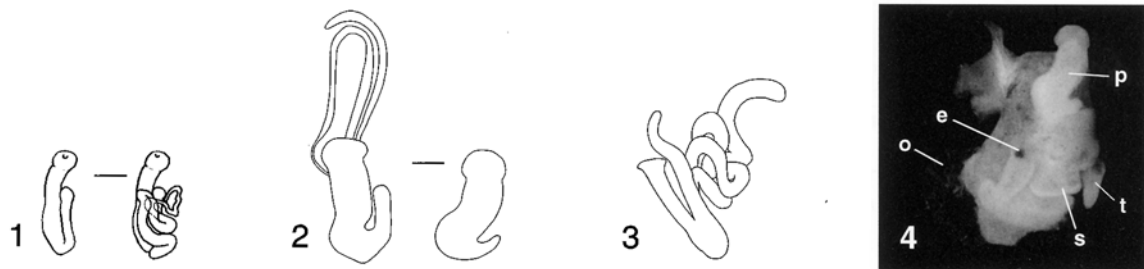


Fig. 1. Figures of the penis in 1. *Bythinella austriaca* (from BOETERS 1998), 2. *B. hansboetersi* and 3. *B. opaca luteola*, 4. *B. hansboetersi*. The flagellum from *B. hansboetersi* is not shown in the natural situation (originally it was layed in 3 folds) but it demonstrates its length.

e = eye, o = operculum, p = penis, s = snout, t = tentacle. Magnification 25:1.

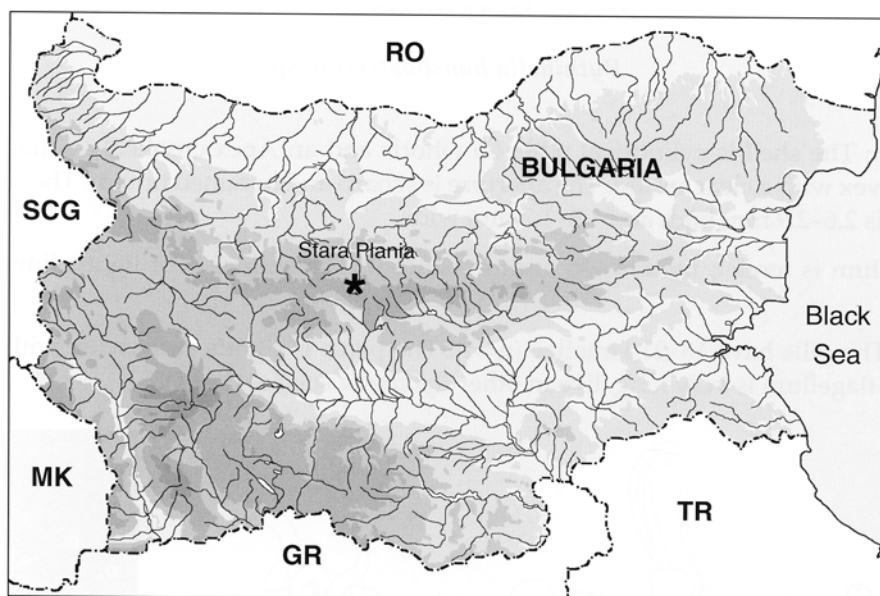
Differential diagnosis: From Bulgaria only *Bythinella austriaca* was mentioned by ANGELOV (2000), also in Rumania only *B. austriaca* is known (GLÖER & SIRBU 2006). In Turkey (YILDIRIM 2000) there lives beside some endemic *Bythinella* species only *B. opaca*, in Greece (BANK 2006) and in the Republic of Macedonia (Ministry Of Environment And Physical Planning 2003) there are exclusively endemic *Bythinella* species, or no *Bythinella* species are known at all. But in Serbia and Montenegro RADOMAN (1976, 1983) lists numerous subspecies of *B. opaca* (Syn. *B. schmidti*). So the differential diagnosis was carried out considering *B. austriaca* and *B. opaca*.

While *B. opaca* has a translucent mantle, in *B. austriaca* it is black with fine net drawings, but in *B. hansboetersi* the mantle is unicoloured black. The shell is smaller and significantly slimmer than *B. austriaca austriaca*'s.

The penis of *B. opaca* is trumpet-like. The penes of *B. austriaca* and *B. hansboetersi* are similar, but the latter is significantly broader in relation to the length (fig. 1). The penial appendix of *B. hansboetersi* is relatively to the length of the penis shorter than it is in *B. austriaca*. But it may be that this character is similarly variable, as it is in *B. austriaca*.

Tab. 1. Measurements of the shells of *B. hansboetersi* (n = 10).

No.	Shell		Aperture	
	height [mm]	width [mm]	height [mm]	width [mm]
1	2.9	1.7	1.2	1.0
2	2.8	1.7	1.2	1.0
3	2.8	1.7	1.2	1.1
4	2.8	1.6	1.2	1.0
5	2.7	1.6	1.1	1.0
6	2.7	1.7	1.2	1.0
7	2.7	1.6	1.2	1.0
8	2.6	1.6	1.1	1.0
9	2.5	1.5	1.1	0.9
10	2.4	1.4	1.0	0.9



Map 1. The sampling site of *B. hansboetersi* (*).

Locus typicus: Stara Planina, Central part of Balkan Mts., spring of river Cherni Osam, Bulgaria. The spring is below the mountain peak Levski.

Habitat: Rheohelocrenic spring, 2150 m asl., with well developed moss and semiaquatic plants.

Holotype: 2.9 mm high, 1.7 mm wide, 4.5 whorls, in ethanole. Zoologisches Museum Hamburg (ZMH) No. 4854.

Paratypes: 2 specimens in ethanole, 2 ex. dried. Zoologisches Museum Hamburg (ZMH) No. 4855.

Etymology: it is named after the outstanding expert on the Rissooidea who helped us to identify the described species as new.

Acknowledgements. We would like to express our gratitude to HANS D. BOETERS for helpful comments on our first manuscript.

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Explanations to plate 2.

Magnification 20:1.

1-12: *Bythinella hansboetersi* n. sp.

Fig. 1. Holotype: 2.9 mm high, 1.7 mm wide,
4.5 whorls, in ethanole.
Zoologisches Museum Hamburg (ZMH)
No. 4854.

Fig. 2-12. Paratypes.

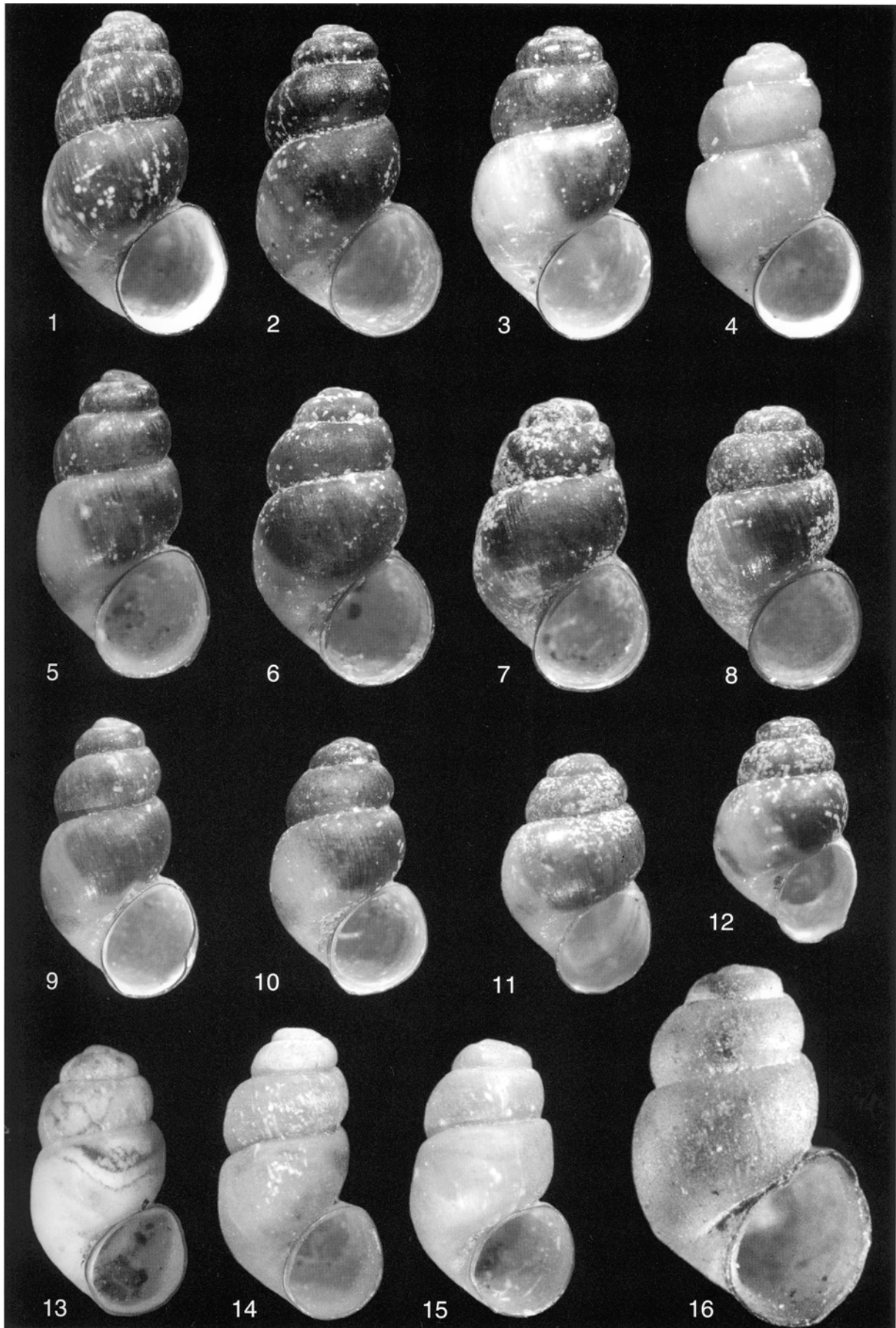
13-15: *Bythinella opaca luteola* RADOMAN 1976

Fig. 13. Photographed in ethanole.

Fig. 14-15. Dried specimens.

16: *Bythinella austriaca* (FRAUENFELD 1857)

Fig. 16. Gosauschmied (Oberösterreich, NHMW 53321)
see: GLÖER (2003, p. 165, fig. 198.4).



GLÖER & PEŠIĆ *Bythinella hansboetersi* n. sp., a new species from Bulgaria.