

<https://zoobank.org/urn:lsid:zoobank.org:pub:F09B1EFF-4184-420A-84AC-22A4D4F8427F>

A New *Horatia* spp. from the Balkans (Gastropoda: Hydrobiidae Stimpson, 1865)

PETER GLÖER¹ & ROBERT REUSELAARS²

¹ Schulstrasse 3, D-25491 Hetlingen, Germany; e-mail: gloer@malaco.de

² Traverse 33, 9408 MG Assen, The Netherlands; e-mail: f2hreuselaa@hetnet.nl

Received 30 May 2020 | Accepted by V. Pešić: 18 June 2020 | Published online 24 June 2020.

Abstract

In this article we describe a new species of *Horatia* from North Macedonia (former FYROM). Description of the new species is based on the shell characters only. This new species is compared with the other known species of *Horatia* from the Balkans, i.e., *H. klecakiana*, *H. novoselensis* and *H. macedonica*.

Key words: *Horatia*, Balkans, North Macedonia, new species.

Introduction

The genus *Horatia* Bourguignat 1887 is characterized by the peristome which is at the columella straight and thickened. The type species *Horatia klecakiana* Bourguignat 1877 has been described as a very small species (H = 0.5 mm, D = 1.0 mm) with a wide and deep umbilicus (Bourguignat 1887, p. 49). In addition to *Horatia klecakiana*, with its type locality in the source of Cetina river in Dalmatia, Bourguignat described in 1887 eight more *Horatia* spp. from this locality and most of these species should also occur in Albania. Brusina (1904) thought that the description of these many species is untenable. Binder (1957) studied *Horatia klecakiana* from type locality and found an enormous variability of the shells, obviously ignored by Bourguignat. Later Ant (1962) depicted *Horatia klecakiana* from the Ombla spring in Croatia (leg. Schütt) which has nothing in common with the original description, too large, no umbilicus and having a circular aperture. The *Horatia* from the Ombla spring has been described by Schütt (1961) as *Horatia knorri*, which has not been accepted by Ant (1962) as a distinct species. *Horatia klecakiana* has been misinterpreted also in several publications which deal with molecular-genetics. For the first time Wilke et al. (2001), who worked with samples outside the type locality (spring of the Vrana River, between Vrana and Radosinovci in Croatia, Szarowska & Falniowski leg. and det.), which turned out to group sister with *Radomaniola*, thus obviously misidentified. This sequence has been published in GenBank and has been used in some other publications too. Szarowska (2006) defined *Horatia* as a genus with a wide umbilicus and, in lateral profile, a simple outer lip abapically sinuated, while Bodon et al. (2001) described the umbilicus as not very wide. Later Szarowska & Falniowski (2014) studied “*Horatia klecakiana*” from the type locality, to show that it is not close to *Radomaniola*. However, the species used in their work had a closed umbilicus, the border of the

aperture at the columella is not straight, and the shell is much larger than *Horatia klecakiana*. It looks more similar to *Sadleriana*, a genus to which it groups sister in their molecular-genetic tree. Thus the phylogenetic position of *Horatia* remains still unknown.

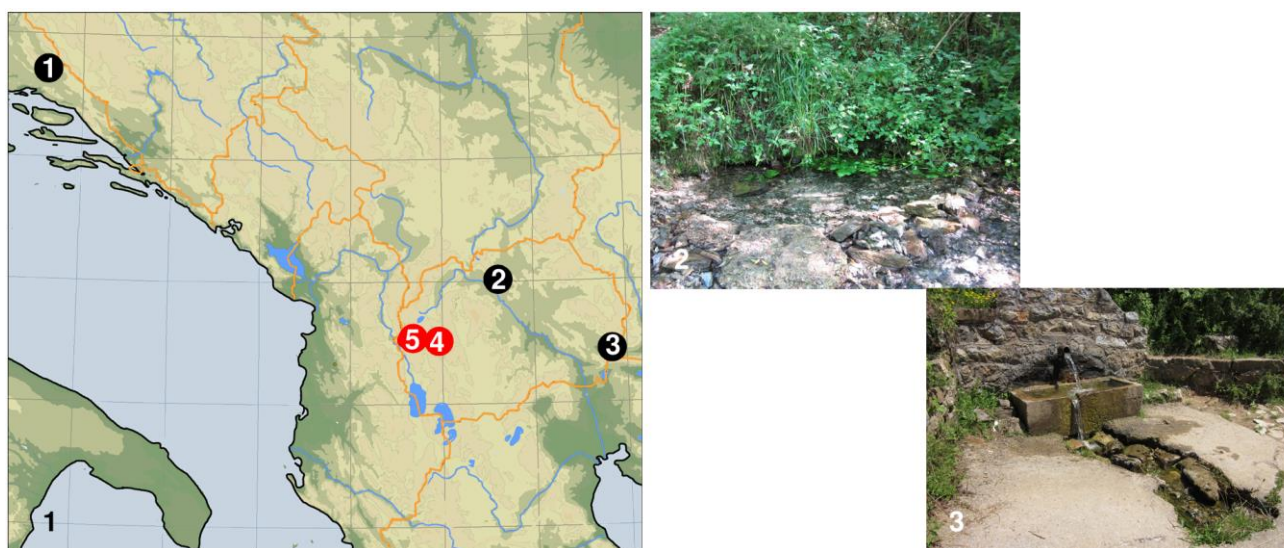
Radoman (1966) depicted a drawing of *Horatia klecakiana* from the region of the source of the river Cetina which showed the characteristic features of the species but it is somewhat larger.

Considering Bank et al. (2017) other accepted *Horatia* spp. are *H. macedonica* (Kuščer, 1937) (type locality: big spring west of Skopje, North Macedonia), and *H. novoselensis* Radoman, 1966 (type locality: Novo Selo, North Macedonia). This paper is intended to contribute to the knowledge of the genus *Horatia* and to describe a new species from North Macedonia.

Material and methods

The snails have been collected by Robert Reuselaars by hand during a fieldtrip in 2014 in North Macedonia. To evaluate the collected samples we reviewed the collected material with the known species of *Horatia* from the Balkans.

The measurements of the shells were carried out using a stereo microscope (ZEISS) with an eyepiece micrometer; the photographs were made with a digital camera system (Leica R8). The type material is stored in RMNH (Rijksmuseum van Natuurlijke Historie Naturalis in Leiden, The Netherlands) and in the collections of Peter Glöer and Robert Reuselaars.



Figures 1-3. 1: The type localities of the hitherto known *Horatia* spp. of the Balkans (black dots) and the new described species (red dots). 1: *H. klecakiana*, 2: *H. macedonica*, 3: *H. novoselensis*, 4 and 5: *H. podvisensis* n. sp. 2: Spring approximately 0.3 km along the E65 before turn to Podvis (type locality of *H. podvisensis* n. sp.), 3: Spring northeast of Debar (sampling site of *H. podvisensis* n. sp.).

Results

Taxonomic part

Family **Hydrobiidae** Stimpson, 1865

Genus ***Horatia*** Bourguignat, 1887

Type species: *Horatia klecakiana* Bourguignat 1887

Description: Shell valvate, conical to globular with a prominent body whorl. The umbilicus is wide and deep or slightly covered by the last whorl. The peristome is at the columella straight, broadened or reflexed. The outer lip of the circular aperture is oblique, its lower end drawn backwards from lateral view.

Differentiating charcters: The shell shape of some *Sadleriana* spp. are looking similar, but the latter genus has no umbilicus and the peristome is in the region of the columella broader.

***Horatia podvisensis* n. sp.**

Material examined: Holotype (RMNH.MOL.347636), 20 paratypes from type locality and 12 paratypes from additional sampling site.

Holotype: 1.95 mm high, xx mm broad from type locality.

Paratypes: 2 (RMNH.MOL. 347637), 3 ex. in coll. Peter Glöer, 15 ex. in coll. Robert Reuselaars (no. 952) from type locality, 12 ex. in coll. Robert Reuselaars (no. 967) from additional sampling site.

Locus typicus: Spring approximately 0.3 km along road E65 before the turn to Podvis, North Macedonia, 41° 28' 42.31047" N 20° 52' 51.89824" E, 03.07.2014, Robert Reuselaars leg.

Additional sampling site: Spring northeast of Debar (Sv Jovan), North Macedonia, 41°31'56.53542" N 20°32'31.13449" E, 01.07.2014, Robert Reuselaars leg.

Habitat: Type locality: natural spring (appr. 2 m²), the specimen were collected from small stones from the bottom of the basin; secondary sampling site: artificial basin (apr. 0.5 m²) were the specimen were collected from the concrete sides of the basin.

Etymology: Named after the nearby town Podvis.

Description: The shell is conical to globular with 3-3.5 slightly convex whorls with a deep suture. The body whorl is prominent, the spire is short with slightly shouldered, convex whorls. The aperture is nearly circular. The peristome is sharp straight and somewhat thickened at the columella. The umbilicus is open and slightly covered by the last whorl. The ratio of shell height to shell width is 0.8-1.0. The shell is 0.85-1.55 mm high and 1.05-1.6 mm broad.



Figures 4-6. Shells of *Horatia podvisensis* n. sp. **4:** Holotype, **5:** Paratype from type locality, **6:** Paratype from the spring northeast of Debar.

Differentiating characters: In *Horatia klecakiana* and *H. novoselensis* the umbilicus is much wider than in *H. podvisensis* n. sp. In *Horatia macedonica* the tangentline of the spire is straight and the whorls are not convex. The aperture of *Horatia macedonica* is angled at the top and not rounded as it is in *H. podvisensis* n. sp. In addition the umbilicus in *H. podvisensis* n. sp. is covered by the last whorl that in adult shells the umbilicus is only very narrow visible (fig. 5). Moreover, *Horatia macedonica* is larger (H=1.4-1.6 mm, D=1.6-1.8 mm) than *H. podvisensis* (H=0.9-1.6 mm and D=1.0-1.6 mm).

Distribution: Western part of North Macedonia; only known from this region.

Conservation: We do not consider *Horatia podvisensis* n. sp. as an endangered species because it lives in two localities and there is lesser chance of human disturbance, especially in the type locality. Because of the separated localities of which one is quit remote, we assume it can be found in other (remote) springs in the area.

References

- Ant, H. (1962) Bemerkungen zum Genus *Horatia*. *Archiv für Molluskenkunde*, 91(3), 71–76.
- Bank, R. & Neubert, E. (2017) MolluscaBase. Checklist of the land and freshwater Gastropoda of Europe. Last update: July 16th, 2017, 170 pp.
- Binder, E. (1957) Note sur le genre *Horatia* Bourguignat. *Journale de Conchyliologie*, 97, 59–62.
- Bodon, M., Manganelli, G. & Giusti, F. (2001) A survey of the European valvatiform hydrobiid genera, with special reference to *Hauffenia* Pollonera, 1898 (Gastropoda: Hydrobiidae). *Malacologia*, 43, 103–215.
- Brusina, S. (1904) Zur Rettung unserer Mollusken-Fauna. *Nachrichtenblatt der deutschen malakozoologischen Gesellschaft*, 36 (4), 157–168.
- Bourguignat, J.R. (1887) Étude sur les noms génériques des petites Paludinidées à opercule spirescent, suivie de la description du nouveau genre *Horatia*. 56 pp. + 1 pl. Paris (TREMBLAY).
- Radoman, P. (1966) Die Gattungen *Pseudamnicola* und *Horatia*. *Archiv für Molluskenkunde*, 95 (5/6), 243–253.
- Radoman, P. (1983) Hydrobioidea a superfamily of Prosobranchia (Gastropoda). I Systematics. Serbian Academy of Sciences and Arts, Monographs 547, Department of Sciences, 57, 1–256.
- Schütt, H. (1961) Das Genus *Horatia* Bourguignat. *Archiv für Molluskenkunde*, 90, 69–77.
- Szarowska, M. (2006) Molecular phylogeny, systematics and morphological character evolution in the Balkan Risssooidea (Caenogastropoda). *Folia Malacologica*, 14(3), 99–168.
- Szarowska, M. & Falniowski, A. (2014) *Horatia* Bourguignat, 1887: Is this genus really phylogenetically very close to *Radomaniola* Szarowska, 2006 (Caenogastropoda: Truncatelloidea)? *Folia Malacologica*, 22(1), 31–39.
- Wilke, Th., Davis, G.M., Falniowski, A., Giusti, F., Bodon, M. & Szarowska, M. (2001) Molecular systematics of Hydrobiidae (Mollusca: Gastropoda: Risssooidea): testing monophyly and phylogenetic relationships. *Proceedings of the Academy of Natural Sciences of Philadelphia*, 151, 1–21.