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A new species of *Radomaniola* Szarowska, 2006 (Gastropoda: Hydrobiidae) from Peloponnese, Greece

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Abstract: A new species named *Radomaniola feheri* n. sp. was described from Greece, Taigetos Mountain, Lakonia county, Tripi karst spring in the village, 500 m, N37 05 37.3 E22 20 52.7.

Key words: Rissooidea, Balkans, springs

Introduction

The species richness of the Rissooidea in Greece is one of the most diverse in Europe (Bank 2006) and very often new species and even genera are described from this country (Falniowski, Szarowska 2011, Szarowska, Falniowski 2011a). At the same time the spring localities of these minute freshwater snails are found to be disturbed and most of the Greek species seem to be endangered (Szarowska, Falniowski 2011b). Because of this, every piece of information on the Rissooidea of Greece is of great importance for the species conservation.

The species belonging to the genus *Radomaniola* Szarowska, 2006 are distributed in the Balkans and three of them are known to live in Greece: *R. albanica* (Radoman, 1973) from springs around Janina, *R. curta bremius* (*Reischütz*, 1988) near Naoussa (Radoman 1983, Reischütz 1988, Bank 2006), and *R. seminula* (Frauenfeld, 1863) from Arcadia county (Frauenfeld 1863, Schütt 1980, Falniowski *et al*. 2012).

In this paper I describe a new species of the genus *Radomaniola* from Peloponnese.

Material and methods

The living snails were collected and preserved in 70% ethanol. The dissections and measurements were carried out by means of CETI stereo microscope and an eye-piece micrometer. The photographs were made with a camera system with a digital adapter. The type material is stored in the Hungarian Natural History Museum (HNHM), Budapest.

Abbreviations used: H – Shell height, W – shell width, AH – aperture height, AW – aperture width.

Results

Genus *Radomaniola* Szarowska, 2006
Type species: *Paludina curta* Küster, 1852

Shell mostly ovoid, rarely shortened, roundish or elongated, conical. Genital chamber of medium largeness, irregularly heart shaped, with a long duct draining in the anterior part of the vaginal duct. The receptaculum seminis 1 well developed with a relatively long duct and receptaculum seminis 2 also rather developed. Penis prolonged, with a double (fissured at the top) outgrowth on its left side (Radoman 1983, Szarowska 2006, Szarowska *et al*. 2007).

***Radomaniola feheri* n. sp.**

Material examined: 11 ex. (9 ad., 2 juv., 4 adult males dissected) from the type locality, 04.04.2007, Danyi, Konschan, Muranyi leg.

Holotype: H = 1.70 mm, W = 1.32 mm, AH = 0.99 mm, HNHM 98754.

Paratypes: 2 ex., HNHM 98755.

Locus typicus: Greece, Taigetos Mt, Lakonia county, Tripi karst spring in the village, 500 m, N37 05 37.3 E22 20 52.7.

Etymology: The species was named after Dr Zoltán Fehér (Hungarian Natural History Museum, Budapest) who sent samples of the new species to the present author.

Description: Shell: Shell ovate, whorls 3.5-4.5, relatively rounded, white, translucent, glossy, with fine growth lines, and weak suture. Last whorl big, representing about 5/6 of shell height. Aperture slightly angled at top, ovoid, with sharp periostome thickened at columella, umbilicus is slit-like (Fig. 1). Operculum red-yellowish.

Soft body: Head, neck, upper side of sole, base of snout and tentacles black or dark grey. Mantle black, with white border. Other soft body parts white or white-yellow. Tentacles (in preserved specimens) longer than snout. Eyes black.

Penis: Penis whitish, elongated triangular bearing double lobe on its left side, regularly pointed at top (Fig. 2). Some males dissected had abnormal regularly broad penis with rounded apex (Fig. 2).

Differentiating features: The new species differs from both *R. curta bermius* and *R. albanica* by its not so elongated shell which is characteristic for the two species discussed. The new species differs from *R. curta bermius* also by the proportions of the last whorl height/shell height. In *R. curta bermius* the last whorl is 2/3 from the shell height while in *Radomaniola* n. sp. it is 5/6. In addition, Falniowski *et al*. (2012) found that *R. curta* is genetically different from the population of the new species at Tripi. The new species differs from the most closely living *R. seminula* (Arcadia county) by its smaller aperture, (in the species discussed it is half of the shell height, while in *R. feheri* it is about one third). Also the greater number of whorls, >3.5 (versus 3.5), and the white (versus greenish-brown) shell discern *R. feheri* n. sp. from *R. seminula*.

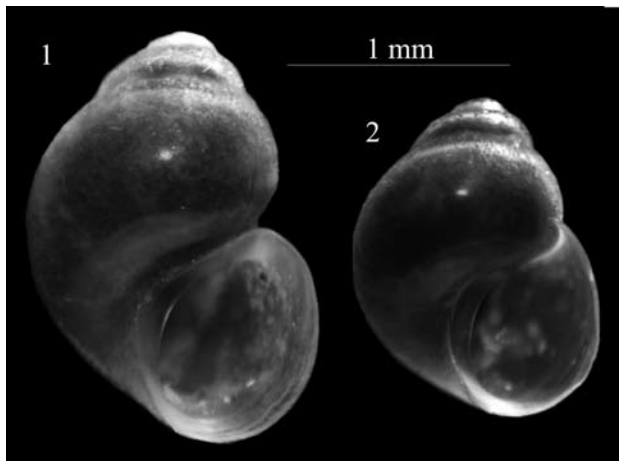

Fig. 1. *Radomaniola feheri* n. sp.: 1 – holotype, 2 – paratype,

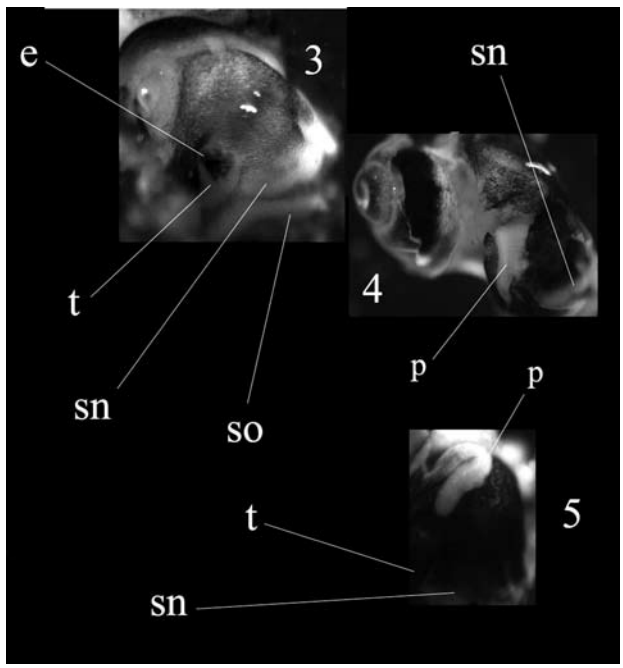

Fig. 2. Part of the soft body and the male anatomy of *Radomaniola feheri* n. sp.: 3, 4, 5 – soft body, e – eye, t – tentacle, sn – snout, so – sole, p – penis.

Discussion

According to Szarowska *et al*. (2007) the genera *Radomaniola* and *Grossuana* are not well defined, but following Radoman (1983), I assign species which have a more triangular, smoothly pointed penis and well visible double lobe on its left side to the former genus, and those with more conical penis, sharply pointed at the top, and bearing hardly visible single or double outgrowths to the latter genus. The genetic studies of Falniowski *et al*. (2012) showed that such penis morphology can discern the two genera as specimens from different populations of *Radomaniola* and *Grossuana* from Greece and Montenegro clearly cluster to the genus groups.

The most similar to the new species, *R. seminula* was first described by Frauenfeld (1863) by its shell morphology as *Amnicola seminula*. Later

Schütt (1980) added some more information and assigned this species to the genus *Belgrandiella* (Wagner, 1927). The author believed that only one species, *B. seminula*, occurred in Peloponnese. He investigated specimens from Tripolis, Achaia, Elis, Messenia, Phokis, Atolia and the island of Kos. All these populations were assigned by the author to one species. The interesting thing is the information on the anatomy of *B. seminula*: "the penis is thin, with an appendix; one receptaculum seminis", features not common to a species of the genus *Radomaniola*.

By genetic studies, Falniowski *et al*. (2012) assigned *Amnicola seminula* to the genus *Radomaniola*. The same authors investigated genetically the population of *Radomaniola feheri* n. sp. and found that it clusters with some closely situated populations in Koumousta, Taigetos Mts. and Piges Pamisou. They did not determine the exact species but supposed that it can be assigned to *R. seminula* from the neighboring Arcadia region (about 50 km far to the north from Tripi).

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