

First record of *Grossuana angeltsekovi* Glöer & Georgiev, 2009 (Gastropoda: Risooidea) from Greece

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Abstract. In this paper it is reported the first finding of a representative of the genus *Grossuana* from the Greek Rhodopes Mts. – *Grossuana angeltsekovi* Glöer & Georgiev, 2009 which is and the first record of the species for this country. The locality is a karstic spring, Rodopi county, Papikio Oros, near Vronti (= 4 km N of Kerasia) (445 m a.s.l.). The material is stored in the Hungarian Natural History Museum, Budapest.

Key words: Balkans, Rhodopes, Hydrobiidae, malacofauna, springs.

Introduction

The species richness of the Risooidea 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). According this fact every information on the Risooidea of Greece is of great importance for the species conservation.

The genus *Grossuana* Radoman, 1973 consists of species inhabiting springs and streams of the East Balkan Peninsula. There are 3 species known from Greece: *G. haesitans* (Westerlund, 1881) from the spring of the Louros River, *G. vurliana* Radoman, 1966 from Kamena Vurla spring near the road Larissa-Athens, and *G. delphica* (Radoman, 1973) from the spring Kastalia at Delphi (Radoman 1983, Szarowska *et al.* 2007). No any *Grossuana* or even a species of freshwater mollusc is known from the Greek part of the Rhodopes Mt (Bank 2006).

In this paper it is reported the first finding of a representative of the genus *Grossuana* from the Greek Rhodopes Mts. – *Grossuana angeltsekovi* Glöer & Georgiev, 2009 which is and the first record of the species for this country.

Material and methods

The materials (preserved in 70% ethanol) were provided by the Hungarian Natural History Museum (HNHM), Budapest with the co-operation of Dr Zoltan Fehér. The drawings of the shell and the female genitalia were made by Marco Bodon and were kindly provided to the author for use.

The dissections and measurements were carried out by means of CETI stereo microscope and an eye-piece micrometer, and photographs were made with camera system with a digital adapter. The 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 and Discussion

Genus *Grossuana* Radoman 1973

Grossuana angeltsekovi Glöer & Georgiev, 2009

Material examined: 15 ex., Karstic spring, Rodopi county, Papikio Oros, near Vronti (= 4 km N of Kerasia) (445 m), leg. Dányi, Eröss, Fehér, Kontschán, Murányi, 2007.04.04.

Description of the Greek specimens. The shell and the penis morphology of the specimens from Greek Rhodopes were very similar to those mentioned by Glöer & Georgiev (2009). The elongated conical shell is whitish to light horn-colored and consists of 4-4.5 whorls that are slightly rounded with a weak suture. The apex is very small, the umbilicus is narrow. The aperture is oval and slightly angled at the top, with a sharp periostome, which is thickened at the columella. (Fig. 1) The penis is small, thin, with narrow base, and sharply pointed at the top, with a dark spot near the tip (Fig. 2).

In addition the female genitalia of the specimens from the Hungarian Natural History Museum is characterised by pear shaped bursa copulatrix and two seminal receptacles with short ducts (dissection results by Dr Marco Bodon).

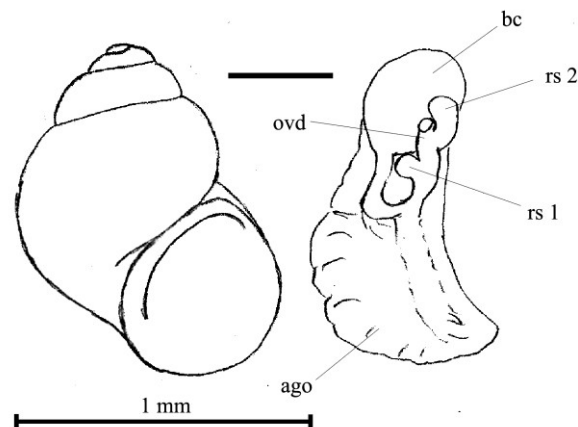


Fig. 1. Shell (left) and female (right) genitalia of a specimen dissected by Marco Bodon (drawing by M. Bodon) from the same locality.

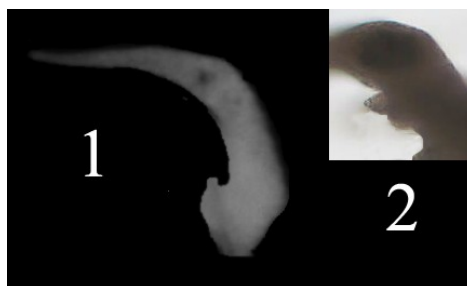


Fig. 2. Penis of *Grossuana angeltsekovi* from Greece: 1 – right side, 2 – light microscope picture of the outgrowth (40x).

Discussion.

According Szarowska *et al.* (2007) the genera *Radomaniola* and *Grossuana* are not well defined but following Radoman (1983) we assign species to the first genus which have more triangular, smoothly pointed penis and well visible double lobe on its left side, and to the second – those with more conical penes, sharply pointed at the top, and bearing hardly visible single or double outgrowth. Also the female genitalia of our specimens is characterised by pear shaped bursa copulatrix and two seminal receptacles with short ducts. In *Radomaniola* the bursa copulatrix is of different shape and the ducts of the seminal receptacles are longer.

The finding of *Grossuana angeltsekovi* in the Greek Rhodopes was expected knowing that this species is widely distributed in this mountain in Bulgaria (Glöer & Georgiev, 2009 and unpublished data). It was considered by some authors (Radoman 1983, Angelov 2000) that on the Balkans dominate one species of *Grossuana* named *G. serbica* or *G. euxina* with a lot of subspecies.

Assuming the recent knowledge, we consider the specimens collected in Greece as *G. angeltsekovi* and not only according the relatively close localities of the Bulgarian populations of this species but analyzing and the specific shell and penis morphology. The characteristic narrow based penis with very long and thin apical part (“filament” considering Szarowska *et al.* 2007) is typical for *G. angeltsekovi*. At the same time on Balkans could exist and a vast variety of species from the *Grossuana/Radomaniola* group which cannot be defined by their morphology and anatomy, and only the molecular studies can provide some useful data on these “twin-species” as it was supposed by Falniowski *et al.* (2012).

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