



A NEW SPECIES OF THE GENUS *VITREA* FITZINGER, 1833 FROM BULGARIA (GASTROPODA: PULMONATA: ZONITIDAE)

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ABSTRACT: *Vitrea vereae* n. sp. is described from Bulgaria. It was found in the town of Stara Zagora and in the massif of Sarnena Sredna Gora. Habitat data are provided.

KEY WORDS: terrestrial snails, Zonitidae, Bulgaria, new species

INTRODUCTION

The land gastropod fauna of various regions of Bulgaria is still insufficiently studied. There are small mountain massifs, like Sredna Gora, on which there is almost no data. Likewise, there is little information on urban terrestrial malacofauna of the country. In soil samples taken during investigations of land gastro-

pods of the town of Stara Zagora we found a new species of *Vitrea*. Additional collecting provided more records, from the nearby massif of Sarnena Sredna Gora. The description of the new species given below supplements the existing information on the composition of the zonitid fauna of Bulgaria.

Vitrea vereae n. sp.

Type locality: South-Eastern Bulgaria, town of Stara Zagora, 188 m a.s.l., in crevices of a stone wall, near the bank of the Bedechka River.

Material: Holotype and 16 paratype shells from the type locality: 15.07.2001, leg. D. GEORGIEV; 1 paratype shell: Stara Zagora, "Ajazmoto" park, 20.07.2001, leg. D. GEORGIEV; 2 paratype shells and 5 alcohol-preserved specimens: Sarnena Sredna Gora massif, around Baritna Mina area, 25.10.2003, leg. D. GEORGIEV; 1 paratype shell: Sarnena Sredna Gora massif, Dvata Brata peak, 18.10.2003, leg. D. GEORGIEV; 5 paratype shells: Sarnena Sredna Gora massif, Cherna Most area, 11.07.2003, leg. D. GEORGIEV. Holotype and 5 paratypes: Museum and Institute of Zoology, Polish Academy of Sciences, Warsaw, accession number 1/2004; other material: collection of A. IRIKOV and D. GEORGIEV, Plovdiv.

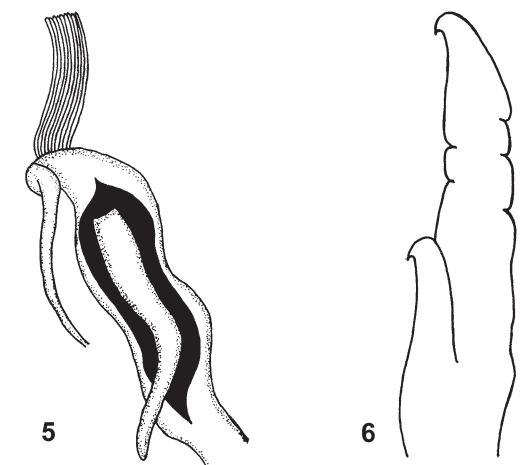
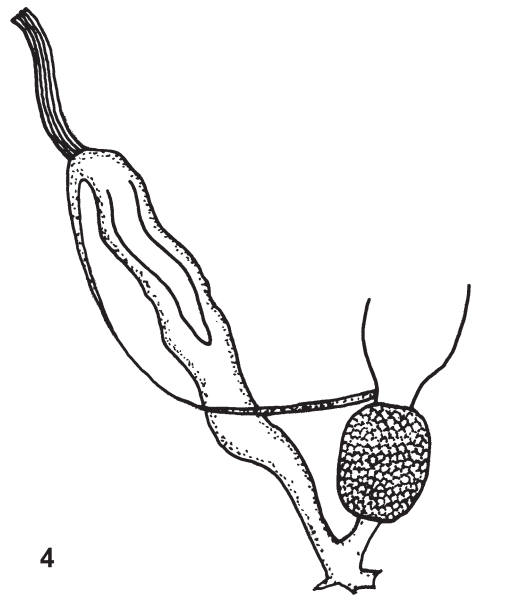
Differential diagnosis: *Vitrea vereae* n. sp. has a very wide umbilicus (the widest off all species of *Vitrea*; cf. RIEDEL 2000: 43), which resembles that of *Vitrea hattiana* (Riedel, 1970) from Asia Minor (Turkey). The shell of the new species differs from that of *hattiana* in its larger size, wider whorls and wider umbilicus. Anatomically, the new species differs in its longer penial retractor, the presence of a sarcobellum of a characteristic structure, and in its shorter vagina.

Description: Shell (Figs 1–3). The shell has a slightly elevated spire, which in live specimens is pellucid, with a smooth, shiny surface, with narrow, broken growth lines, but without any particular radial microsculpture. The number of whorls is 4–4.5; they are quite wide, flattish but separated by a remarkably deep suture, and increase regularly in width. In profile the whorls are regularly rounded, without a lateral



Figs 1–3. *Vitrea vereae* n. sp., holotype: 1 – top view (23×), 2 – umbilical view (23×), 3 – front view (22.5×); photo J. STOILOV

angle. The aperture is crescentic and flattened from below. The underside of the shell is slightly convex. The umbilicus is wide and perspective, of ca. 1/3 shell width, with all the whorls visible inside.



Figs 4–6. *Vitrea vereae* n. sp., paratype from Baritna Mina: 4 – entire genital system (scale bar 1 mm), 5 – internal structure of the distal penis section, with sarcobellum exposed, 6 – apical part of sarcobellum magnified

Measurements: shell width 2.8 mm (paratypes 1.3–2.4), shell height 1.15 mm (paratypes 0.7–1.0), umbilicus width at 4.5 whorls 1 mm, width of penultimate whorl 0.8 mm, width of body whorl 1.05 mm.

Genitalia (Fig. 4). Five specimens were anatomically examined. The genital system is typical of the genus *Vitrea* Fitzinger. The penis is long, spindle-shaped, more rapidly narrowing apically. The apically inserted penial retractor muscle is fairly long, almost 1/3 penis length. The atrium is poorly developed. The vagina is very short, compared to the other species of *Vitrea*. The perivaginal gland is well-developed. No seminal receptacle was found upon dissection.

Internal structure of the penis (Figs 5, 6). There are no penial papillae. One sarcobellum is present in the distal part of the penis; it is dagger-shaped, almost 1/2



penis length (Fig. 5). In all the specimens the sarco-bellum had identical morphology: it was composed of the main part, and one rather short branch. The apical sections of both parts were hook-like (Fig. 6).

Etymology. The species name is derived from one of the ancient names of Stara Zagora – Vereia, where the newly described species was found for the first time.

Discussion: *Vitrea vereae* n. sp. differs from its congeners in the very wide umbilicus. The structure of the reproductive system is typical of the genus (PINTÉR 1972, RIEDEL 1980), except for the very short vagina (not found in other members of *Vitrea*). This combination of characters places the species apart from its congeners, and it may represent a different subgenus.

This is the first record of *Vitrea* from the low and rather small Sarnena Sredna Gora massif. Another member of the genus, sympatric with the new species, is *Vitrea pygmaea* (O. Boettger, 1880), found in the south-eastern part of the massif.

Vitrea vereae n. sp. is the first recorded Bulgarian endemic of the genus *Vitrea*; its record increases the number of endemic zonitids from Bulgaria to three – the other two are *Spinophallus uminskii* (Riedel, 1960) and *Carpathica bielawskii* Riedel, 1963.

Distribution/Ecology: *Vitrea vereae* n. sp. occurs in Sarnena Sredna Gora (south-eastern part of the massif) and in the nearby town of Stara Zagora. In Sarnena Sredna Gora, the new species was recorded from Chernia Most and Baritna Mina, and near Dvata Brata peak, in Stara Zagora it was found in “Ajazmoto” park, and near the bank of the river Bedechka. The species was found in moss growing on rocks, in rock crevices, on the ground, in soil and leaf litter, under stones in a forest, in a sward, and in xeric anthropogenic habitats. It is noteworthy that, contrary to most land gastropods which avoid coniferous forests, *Vitrea vereae* n. sp. inhabits stands of *Pinus nigra* Arn.

Zoogeography: Bulgarian endemic species.

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