

**New land snails (Gastropoda Pulmonata) from the Iberian peninsula**

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Two new stylommatophoran land snails are described from Spain, viz., *Oestophora (O.) ortizi* nov. spec. from the province of Malaga, and *Vitrea inae* nov. spec. from the province of Teruel. Topotypic shells of *V. pygmaea* (O. Boettger) and shells from the Algerian province of Mostaganem resembling this species are described and figured for comparison. *Vitrea cf. pygmaea* is an addition to the Algerian faunal list.

Key words: Gastropoda, Pulmonata, Helicidae, Zonitidae, *Oestophora*, *Vitrea*, taxonomy, faunistics, Spain, Algeria.

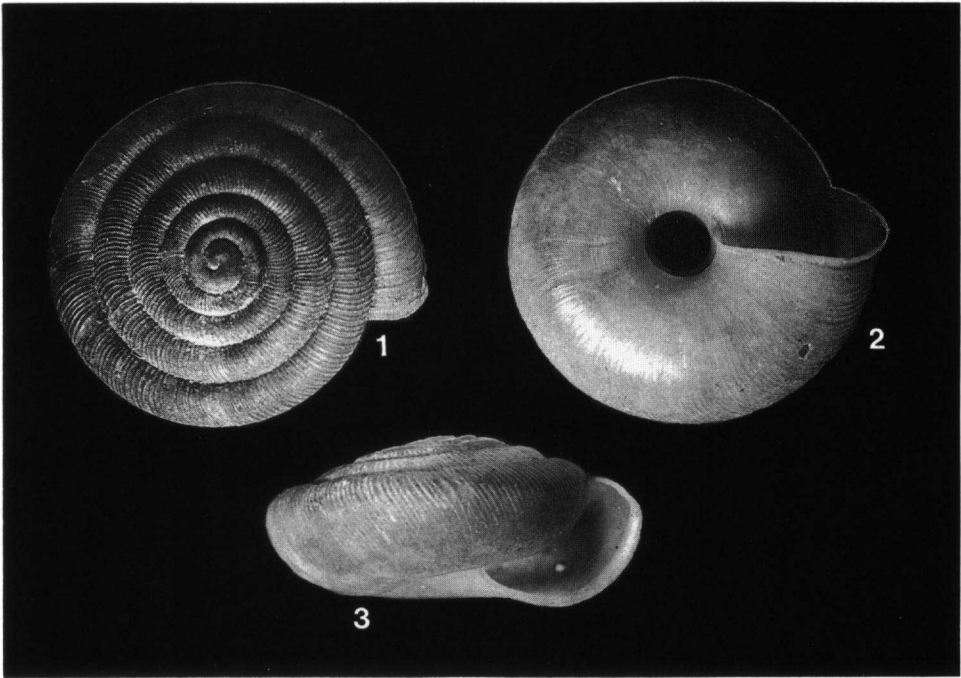
Below two new species of stylommatophoran snails are described from Spain. The following abbreviations have been used: IZPAN for Instytut Zoologiczny Polska Akademia Nauk, Warsaw (Poland); NNM for Nationaal Natuurhistorisch Museum, formerly Rijksmuseum van Natuurlijke Historie (RMNH), Leiden.

**(1) *Oestophora (Oestophora) ortizi* nov. spec. (figs. 1-3)**

Material. — Spain, prov. Malaga, just W. of Torremolinos, from rock crevice in dry calcareous slope (holotype RMNH 56490, paratypes RMNH 56491/5 ad. + 4 juv.), and in humid sites along brook, under stones (paratypes RMNH alc. 9238/5); UTM UF65; Januari 1, 1983; A.J. de Winter leg.

Description. — Shell roughly circular in outline. Spire somewhat elevated. Periphery vaguely angulated. Umbilicus round, very deep, cylindrical, taking up one fifth to one sixth of the shell diameter. Aperture without barriers. Outer lip reflexed, but thin, without undulations. Shell colour pale brown. Adult shells measure between 8.3 and 9.2 mm maximum width, with 5.5-5.8 whorls. Holotype measurements: width, max. 8.5, min. 7.7 mm; height 4.3 mm; number of whorls 5.5. Approximately the first 1 1/4 whorls smooth. Postembryonic whorls on upper side with close-set, low ribs, about 7-8 per mm on the penultimate whorl. The ribs extend just beyond the periphery of the body whorl, and become much less conspicuous on the ventral side of the shell, which on superficial inspection may even appear to be smooth.

An attempt to extract one animal from its shell resulted in severe damage to part



Figs. 1-3. *Oestophora (O.) ortizi* nov. spec., different views of holotype shell. Actual width 8.5 mm. Photographs by Th. Heijerman.

of the genital system. The penis is relatively wide and short, without a flagellum. Dart sac muscular and shining, elongate cylindrical in shape. Mucus glands appear to originate next to the swollen basal part of the bursal duct. We prefer to leave the remaining spirit specimens undamaged for use in a comparative anatomical revision of the whole genus. The dissection served to confirm that *O. ortizi* belongs to *Oestophora* s.s., and not to e.g. *Suboestophora* Ortiz & Ortiz, 1961, because it lacks the short flagellum characteristic for the latter group (Ortiz & Ortiz, 1961; Ortiz, 1962).

**Etymology.** — The species is named after the Spanish malacologist Adolfo Ortiz de Zárate y López, who published the first comprehensive revision of *Oestophora* s.l. based on both conchological and anatomical characters, thereby providing a thorough basis for future work in this group.

**Remarks.** *O. ortizi* differs from all other described edentate congeners by its relatively small size and fine axial sculpture. It resembles *O. silvae* Ortiz, 1962, somewhat in its cylindrical umbilicus. However, this species has more widely spaced and prominent ribs on both sides of the shell, and a more strongly reflexed, thicker and more sinuous outer lip. *O. tarnieri* (Morelet, 1854) differs by the more raised spire, by its strongly angulate periphery, as well as by its perspective umbilicus.

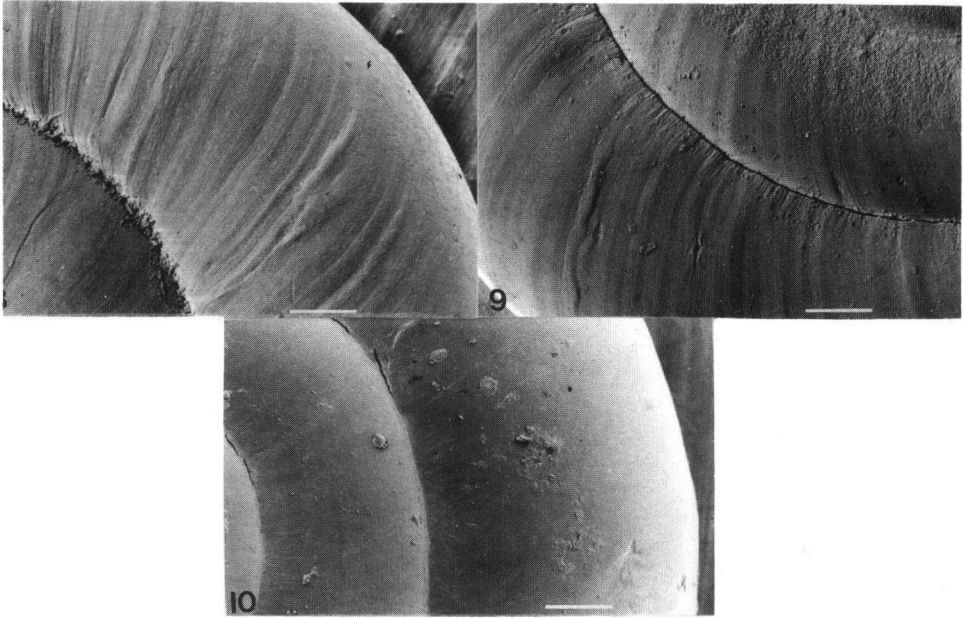


Figs. 4-7. Shells of *Vitrea* species. 4, *V. inae* nov. spec., holotype; 5, *V. inae*, paratype; 6, *V. cf. pygmaea* (Boettger), Algeria, Mostaganem, river debris of Oued Chélif (RMNH); 7, *V. pygmaea* (Boettger), USSR, Gruzija, Siraki, Savi Mountain (IZPAN, Warsaw). Scale 1 mm. SEM-photographs by J. Goud.

(2) *Vitrea inae* nov. spec. (figs. 4-5, 8)

**Material.** — Spain, prov. Teruel, La Fresneda, Torre del Compte, pumped up from sediment of Rio Matarrana; UTM BF5635, alt. 420 m; May 4, 1984; J. Notenboom & I. Meijers leg. (holotype RMNH 56492; paratypes RMNH 56493/2 adult + 3 juv., IZPAN, Warsaw/1 ad. + 1 juv.).

**Description.** — Shell minute, whitish, partly transparent, less than 2 mm (1.8-1.9 mm) in diameter, with slightly over 3 whorls. Height about 0.8 mm. Umbilicus rather



Figs. 8-10. Sculpture on last whorl of *Vitrea* species; specimens are the same as those in 4-7. 8, *V. inae* nov. spec., holotype; 9, *V. cf. pygmaea* (Boettger); 10, *V. pygmaea* (Boettger). Scale 100  $\mu\text{m}$ . SEM-photographs by J. Goud.

wide and shallow. Spire little elevated. Whorls, especially the last one, rather broad, separated by relatively deeply incised sutures. Postembryonic whorls with fine and irregular, but distinct axial ridges, and very fine spiral striae, especially near the sutures.

**Etymology.** — The new species is named after one of the collectors, Mrs. Ine Meijers.

**Remarks.** — *V. inae* resembles both *V. pygmaea* (O. Boettger, 1880) and *V. etrusca* (Paulucci, 1878) by its minute size and relatively wide umbilicus. *V. pygmaea* has been well characterized by Riedel (1966) and Pintér (1972). Through the kindness of Dr. Riedel (IZPAN, Warsaw) some topotypic specimens of *V. pygmaea* could be studied (figs. 7, 10). These differ clearly from *V. inae* by their more rapidly increasing and narrow whorls (*V. pygmaea* has one third of a whorl more at an even smaller size), by the virtual absence of axial ridges, the deeper umbilicus, and the more shallow sutures. SEM-photographs revealed the presence of very fine spiral sculpture on the post-embryonic whorls in both species.

The status of *V. etrusca* is still unclear. According to Pintér (1972) it may be identical with *V. pygmaea*. Riedel (1980) lists both species, but expressed (in litt.) the possibility that they are actually conspecific. Dr. Riedel examined syntypes of *V. etrusca* in the Paulucci collection around 1970, and according to his notes they clearly differ from *V. inae* (Riedel, in litt.), Mr. R. Bank has made an unsuccessful attempt to locate the

syntypes of *V. etrusca* while visiting the Firenze museum. Although we cannot make definitive statements about the identity of *V. etrusca*, we assume that it is very similar to *V. pygmaea*, and thus not conspecific with the species here described.

Recently one of us (AJW) found specimens possibly belonging to *V. pygmaea* in Algeria (Wilaya Mostaganem, river debris near mouth of the Oued Chélif, figs. 6, 9, RMNH). They resemble *V. pygmaea* in the whorl width and the relative increase of whorl number. However, they are somewhat larger, their umbilicus seems even deeper than in *V. pygmaea*, and their axial sculpture is similar to that in *V. inae* (fig. 10). It may be another different species, but in view of the scanty material (three shells), poor locality data, and the uncertain status of *V. etrusca*, we prefer to refer to it as *V. cf. pygmaea*. It seems to be a hitherto unknown element of the Algerian fauna.

*V. pygmaea* seems to have a rather wide range. It has been reported to occur from the Caucasus and Turkey to Bulgaria and Yugoslavia (Riedel, 1966; Pintér, 1972), and, if *V. etrusca* will turn out to be identical, also in Italy (Toscana). In view of other biogeographic links between Toscana and the Maghreb (see Giusti & Manganelli, 1984) the Algerian record may not be too surprising.

In view of the peculiar site from which the shells were obtained, *V. inae* is likely to live in a subterraneous habitat.

We are much indebted to Dr. A. Riedel (IZPAN, Warsaw) for sharing his knowledge on *Vitrea*, and for the loan of specimens of *V. pygmaea*, to R.A. Bank for searching for the syntypes of *V. etrusca*, and to Dr. J. Notenboom for placing the Mollusca from his stygobiontal explorations at our disposal; Th. Heijerman (Wageningen) and J. Goud (NNM, Leiden) made the photographs illustrating this paper.

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