

A new *Helicella* (Helicidae, Helicellinae) from Navarra, Spain

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While describing some new *Helicella* species from the province of León, Spain, Gittenberger & Manga (1977: 179) mentioned *Helicella (Xeroplexa) setubalensis* sensu Ortiz de Zárate López & Ortiz de Zárate Rocandio, 1950, indicating that this is not the species from Setubal, Portugal, called *Helix setubalensis* by L. Pfeiffer (1850: 88). This statement was based on shells belonging to both taxa, present in the Rijksmuseum van Natuurlijke Historie, Leiden. Afterwards the junior author could study the anatomy of the former species using material collected by the late Adolfo Ortiz de Zárate López on the mountain called 'San Miguel in excelsis', in the Sierra de Aralar, Navarra, Spain. In addition she studied unpublished notes made by this well-known founder of anatomical systematical research on Iberian terrestrial molluscs, to whom we dedicate the new *Helicella* species described below.

We are deeply indebted to Adolfo Ortiz de Zárate López's relatives, who repeatedly gave us access to the notes and material belonging to their late father, and subsequently donated this material most kindly to the laboratory in León. We also owe a debt of gratitude to Dr. C.E. Prieto, who generously allowed us to study his material.

For collections the following abbreviations are used: LZB, Laboratorio de Zoología, Departamento de Biología, Facultad de Ciencias, Universidad del País Vasco, Bilbao, Spain; PEAEL, Laboratorio de Parasitología, Estacion Agrícola Experimental de León, León, Spain; RMNH, Rijksmuseum van Natuurlijke Historie, Leiden, The Netherlands.

*Helicella orzai* spec. nov.  
(figs. 1-6)

*Helicella (Xeroplexa) setubalensis* - Ortiz de Zárate López & Ortiz de Zárate Rocandio, 1950: 406, 428 ('Montaña de San Miguel in excelsis'). Not *Helix setubalensis* L. Pfeiffer, 1850.  
*Xeroplexa* sp. - Prieto, 1980: 66, 67, distribution map, figs. of shell.

Diagnosis. - Shell depressed, with conspicuous irregular transverse riblets and a distinct knobbed keel along the periphery.

The flagellum is clearly longer than the penis.

Shell. - The shell is more or less conically depressed and has 4½ - 6 moderately inflated whorls. The initial ca. 1 1/4 whorls are smooth; the following are conspicuously sculptured with irregular transverse riblets above and below the periphery. A microsculpture of spiral striae is not discernible. There is a broad, strongly knobbed keel along the periphery,

accentuated by rows of very small irregular indentations, which make easy recognition at the spire possible; in front view the thickness of the keel is (almost) the distance between the keel and the suture. The umbilicus is rounded or slightly oval; its width is  $1/5$ - $1/6$  of that of the shell. Because the umbilicus slowly narrows towards the apex, even the first whorl is easily observed from the inside. The aperture is oval, apart from the interruption by the penultimate whorl and a U-shaped sinus corresponding with the peripheral keel; along the lower part of the aperture there may be a weak white apertural barrier. The shell is rather vaguely banded; usually there is a brown band just below the keel and one or two additional basal bands, standing out against the whitish background. The keel is whitish, as are most of the transverse riblets.

Breadth, 8.0-12.2 mm; height, 3.5-5.5 mm. The largest specimens are from Aitz-Ondo (ca. 12 mm broad); at the other localities from which we saw material the shells are less than 10 mm broad.

Genitalia. - The flagellum measures about  $4/3$  the length of the penis, the latter being slightly longer (ca.  $7/6$ ) than the epiphallus. The length of the flagellum is  $4/5$  of that of penis and epiphallus together. The proximal part of the penis is somewhat shorter than the distal part. The slender dart-sacs are ca.  $4/7$  as long as penis and epiphallus together; the tips of the darts (in situ) are clearly separated. There are 8 extremities of the glandulae mucosae. The very long spermathecal duct leads to a shoe-shaped spermatheca, which is somewhat more than  $1/4$  the duct's length; together they are twice as long as penis and epiphallus together.

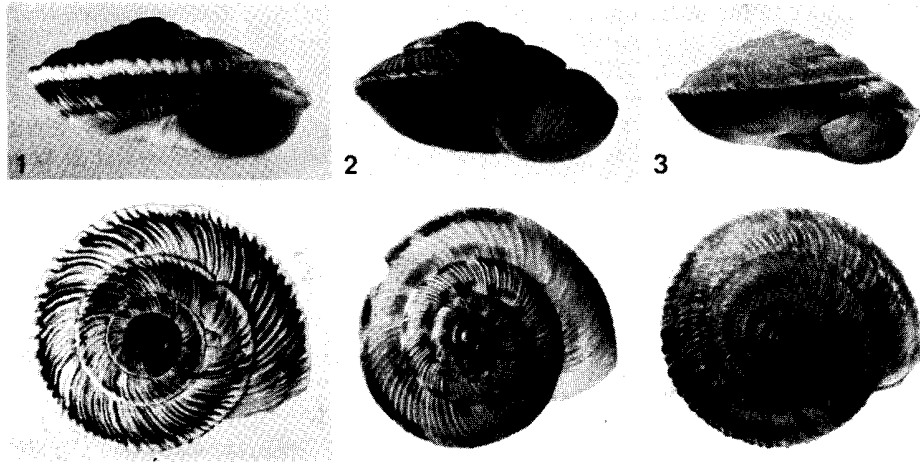
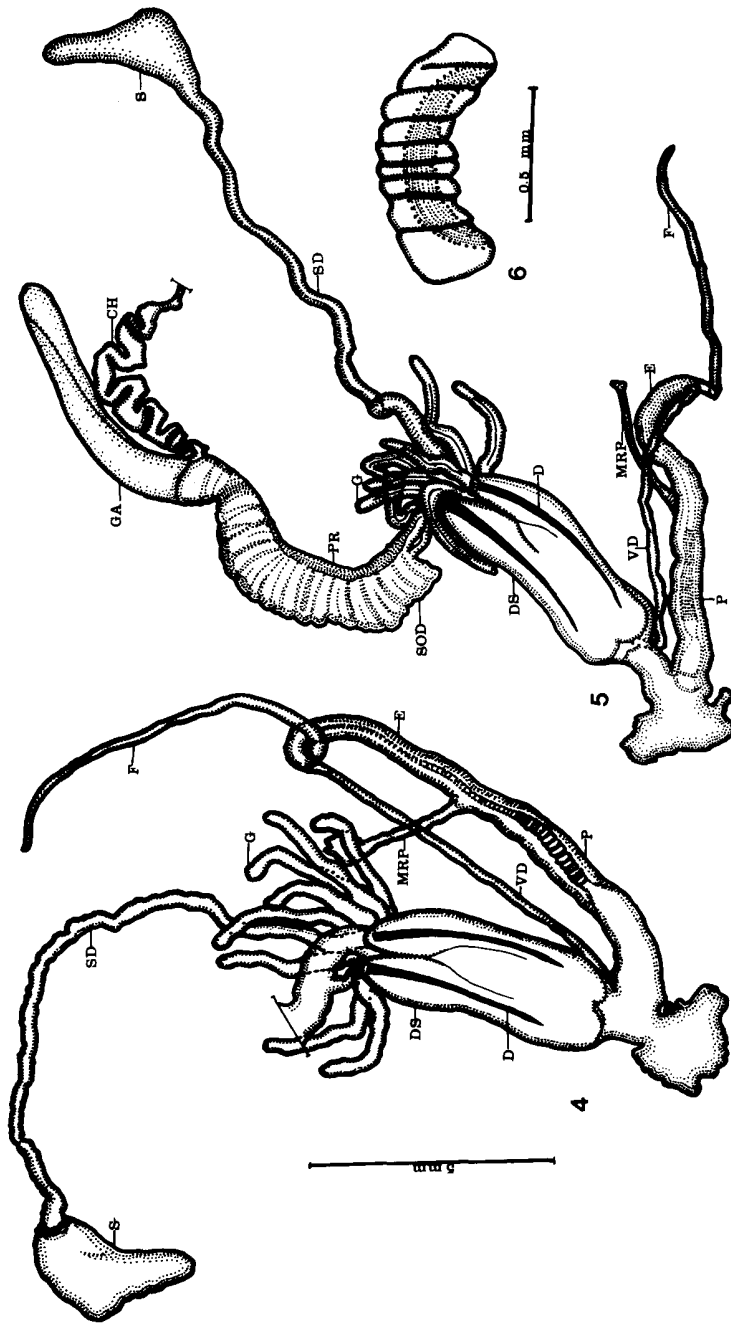


Fig. 1. *Helicella orzai* spec. nov., paratype from the type locality, Montaña de San Miguel in excelsis, Sierra de Aralar, Navarra, Spain (RMNH 55484); actual breadth, 9.2 mm. Fig. 2. *Helicella bierzona* Gittenberger & Manga, 1977, holotype, embalse de Peñarrubia, 12 km NNE of Vega de Valcarce, León, Spain (RMNH 55138); actual breadth, 7.7 mm. Fig. 3. *Helicella* (?) *setubalensis* (L. Pfeiffer, 1850), Portugal (RMNH); actual breadth, 10.1 mm. Photographs Chr. Hoorn.



Figs. 4-6. *Helicella orzai* spec. nov., holotype (PEAEL 1380/1). 4, 5, genitalia (abbreviations: CH, ductus hermaphroditicus; D, dart; DS, dart-sac; E, epiphallus; F, flagellum; G, glandula mucosa; MRP, musculus retractor penis; P, penis; PR, prostata; S, spermatheca; SD, spermoviductus; SOD, spermoviductus); 6, mandibula. M.Y. Manga del.

Radula and mandibula. - The radula formula is C + (23-26). The mandibula has 6-8 ribs.

Differentiation. - *Helicella bierzona* Gittenberger & Manga, 1977, which has a depressed shell with a very conspicuous keel and about the same dimensions as *H. orzai*, differs by less prominent transverse riblets (especially on the basal part of the shell) and a keel which is less strongly sculptured and cannot be followed on the spire of the shell. Apart from that, *H. bierzona* has a very short flagellum, measuring ca. 1/4 of the penial length, whereas the spermathecal duct approximately equals the spermatheca in length.

*Helicella* (?) *setubalensis* (L. Pfeiffer, 1850) has a shell with a conspicuous keel too; the keel is much narrower than in *H. orzai* however. The former species differs additionally by more narrowly coiled whorls (equally sized shells have ca. 1/2 whorl more), and an umbilicus which more quickly narrows towards the apex. Unfortunately the anatomy of *H. setubalensis* is still unknown and, consequently, also its certain generic position.

From eastern Spain and the Balearic Islands we know some *Trochoidea* species with keeled shells very similar to that of *H. orzai*, e.g. *Trochoidea (Xerocrassa) barceloi* (Hidalgo, 1878), *Trochoidea (Xerocrassa) nyeli* (Mittre, 1842), etc. We consider this convergent evolution, a well-known phenomenon in Helicellinae shells.

Distribution. - *H. orzai* is only known from the Sierra de Aralar in Navarra, Spain. See 'Material' for detailed localities.

Material. - Holotype: Montaña de San Miguel in excelsis, 1300 m alt., UTM WN85; A. Ortiz de Zárate López leg. (PEAEL 1380-1/soft parts and shell).

Paratypes: Type locality; A. Ortiz de Zárate López leg. [PEAEL 1380-2, 3/two shells and soft parts; PEAEL 1380-4-9/six shells; RMNH 55484/seven shells, ex coll. C. Altimira, '*Helicella* s.s. *eremia* (West.)']. Aitz-Ondo, UTM WN8454; B.J. Gómez & C.E. Prieto leg. (LZB/three shells). Aralar, San Miguel; UTM WN8455; B.J. Gómez & C.E. Prieto leg. (LZB/seven shells). Huarte-Araquil, UTM WN85; F.J. Ciria leg. (RMNH 55485/one shell, ex coll. L.A.W.C. Venmans, '*Helicella (Xerophila) setubalensis* Pfeiffer').

Prieto (1980: 66) mentions two additional samples, from Madoz (UTM WN9254) and Eguiarreta (UTM WN9253), respectively. Because we did not study these shells, they cannot be considered paratypes.

Note. - *Helix eremia* was described by Westerlund (1876: 103) from 'Pyrenaeae altiores'. Later on Westerlund (1889: 333) emphasized that '*H. cardonae* Hid.' 'Forma 1) *eremia* West.' has its type locality on 'Menorca!'. We therefore consider this nominal taxon a *Trochoidea* form from Menorca.

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