

A new *Helicella* (Helicidae, Helicellinae) from the
Cantabrian Mountains, Spain

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While investigating the malacofauna of the Cantabrian Mountains, Spain, the junior author discovered a small, hairy *Helicella* species, which proved to be new to science. This species is described below. It has also been collected, independently, by Ph. Pronk (Leiden), who kindly donated his material to the Rijksmuseum van Natuurlijke Historie, and J. J. Vermeulen (Leiden), to whom we are indebted for allowing us to study his material.

For collections the following abbreviations are used: E, J. C. A. Eikenboom, Hellevoetsluis; M, H. P. M. G. Menkhorst, Krimpen aan de IJssel; MNCN, Museo Nacional de Ciencias Naturales, Madrid; PEAL, Laboratorio de Parasitología, Estación Agrícola Experimental de León, León; R, J. G. M. Raven, Leidschendam; RMNH, Rijksmuseum van Natuurlijke Historie, Leiden; SMF, Senckenberg Museum, Frankfurt am Main; V, J. J. Vermeulen, Leiden. The number of specimens is given after an oblique bar; if not indicated otherwise, empty shells are meant.

Helicella mangae spec. nov.
(figs. 1-4)

Diagnosis. — *H. mangae* has a comparatively small, depressed shell with strongly inflated whorls covered by numerous persistent hairs, a wide umbilicus, and an aperture without an internal rib.

The flagellum is about as long as the epiphallus and clearly longer than the penis.

Shell. — The shell is strongly depressed and has 3 3/4-5 strongly inflated whorls, separated by indented sutures. Apart from the initial 1-1 1/4 whorls, the shell is closely sculptured with equally sized, irregular, transverse riblets. The postembryonal whorls are covered with numerous short hairs. The hairs have curved tips and are at most 0.1 mm long; if worn off, conspicuous hair-pits are seen. A vague microsculpture of spiral striae is discernible on the basal part of the shell. The body-whorl is slightly angulate at the periphery and basally somewhat flattened obliquely; usually it is somewhat descending in front. The umbilicus is circular; its width is between 1/3 and 1/4 of that of the shell. Because the umbilicus only slowly narrows towards the apex, the first whorl is easily observed from the inside. The aperture is oval, apart from the interruption by the penultimate whorl; an apertural rib is not formed. The shell is corneous brown, with irregular whitish blotches; some more or less frequently interrupted spiral bands are usually present below the periphery.

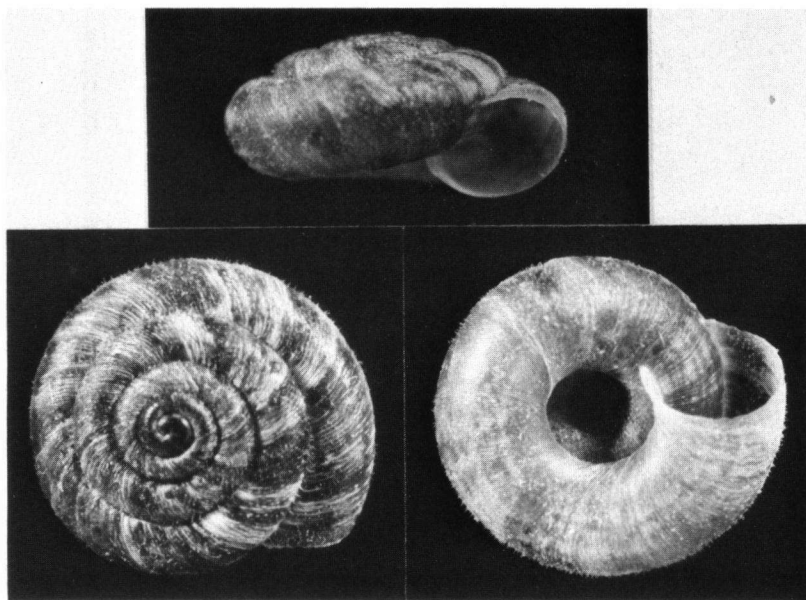


Fig. 1. *Helicella mangae* spec. nov., holotype, W. of the Pico Aguasalio, 9 km N. of Cistierna, 1500-1700 m alt., León, Spain (RMNH 55526); actual breadth, 4.7 mm. Photographs E. L. M. van Esch.

Breadth, 3.4-5.2 mm; height, 1.9-2.8 mm.

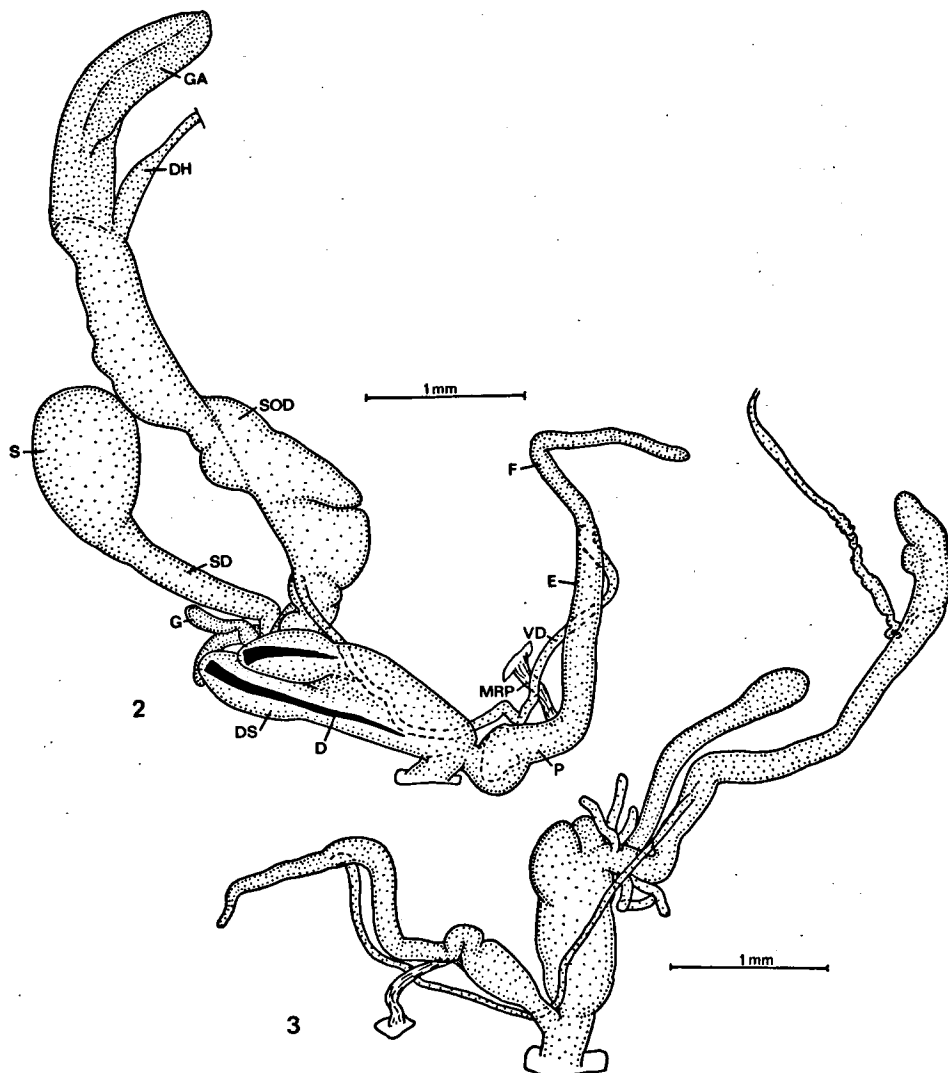
Genitalia. — The flagellum is slightly longer than the epiphallus, which is nearly twice as long as the penis. The proximal part of the penis is somewhat longer than the distal part. The slender dart-sacs are ca. $3/4$ as long as penis and epiphallus together; the tips of the darts (in situ) are clearly separated. There are five extremities of the glandulae mucosae. The longest diameter of the oval spermatheca is $5/7$ of the length of the spermathecal duct; together they are about as long as penis and epiphallus combined. See also the remarks below.

Radula. — The radula formula is $C + 14-15$ (after four specimens from the type locality).

Differentiation. — *H. mangae* differs conchologically from both *H. conspurcata* (Draparnaud, 1801) and *H. mariae* Gasull, 1974, by its wider umbilicus; apart from that, *H. conspurcata* has hairs which are twice as long as those of *H. mangae*, whereas the shell in *H. mariae* has a more angulate periphery. There is one more small, hairy *Helicella*, without a rib in the aperture, viz. *H. gonzalezi* (Azpeitia, 1924), which differs from *H. mangae* by shorter, conical 'hairs', and an angulate periphery. *Cernuella (Microxeromagna) vestita* (Rambur, 1868) also has a shell which is somewhat similar to that of *H. mangae*, differing, however, by a narrower umbilicus. See also the remarks below.

Distribution. — *H. mangae* is known with certainty only from 14 localities N. and W. of Cistierna, León, Spain. Occurrence in Palencia and Burgos is uncertain. See fig. 4.

Ecology. — The species has been found between 900 and 1700 m altitude, being most common between 1000 and 1200 m. The animals live under limestone rocks in dry, uncultivated, mountaineous areas with only a poor vegetation. The species has probably



Figs. 2-3. *Helicella mangae* spec. nov., genitalia. 2, adult specimen, 1.5 km NW. of Cistierna; 3, subadult specimen, W. of the Pico Aguasalio. Abbreviations: D, dart; DH, ductus hermaphroditicus; DS, dart-sac; E, epiphallus; F, flagellum; G, glandula mucosa; GA, glandula albuminifera; MRP, musculus retractor penis; P, penis; PR, prostata; S, spermatheca; SD, spermathecal duct; SOD, spermoviductus; VD, vas deferens.

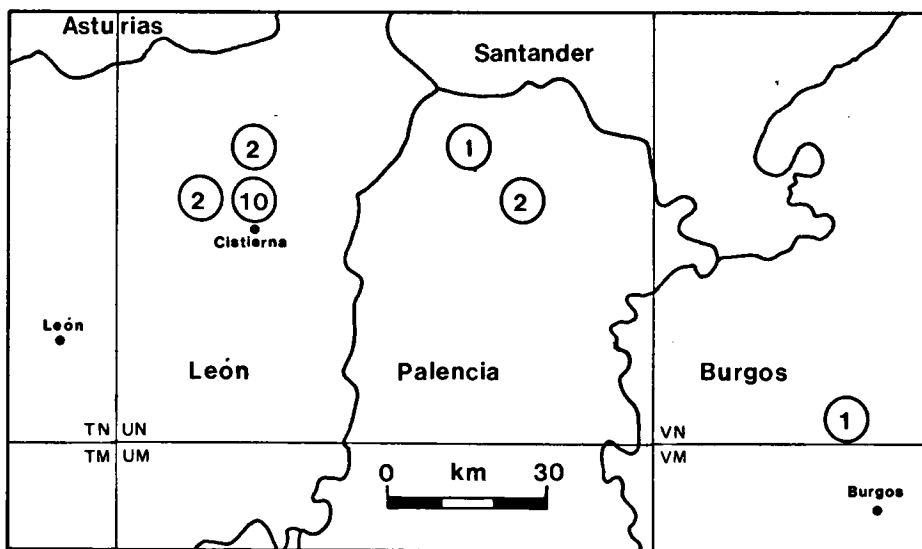


Fig. 4. UTM-gridded map showing the location of the various localities mentioned in the text. The encircled figures indicate the number of samples taken in the 10-kilometre squares in question.

been overlooked because of its particular habitat, the colour of the shell which agrees well with the rocks on which it lives, and its small size. At one site the snails have been found under limestone blocks in a pine forest (E. of Cistierna), but this is an unnatural situation because the trees were planted only a few years ago. In Aleje a specimen has been found in a small wall of loose limestone rocks surrounding a field. Obviously the species prefers dry habitats, which is also apparent from the accompanying malacofauna, viz. *Lauria cylindracea* (Da Costa, 1778), *Jaminia quadridens* (Müller, 1774), *Vitrea contracta* (Westerlund, 1871), *Phenacolimax annularis* (Studer, 1820), *Candidula rocandioi* (Ortiz de Zárate, 1950), *Oestophorella buvinieri* (Michaud, 1841). Between the vegetation *Helicella itala nubigena* (De Saulcy, 1852) is found, whereas *Cochlostoma (Obscurella) hidalgoi* (Crosse, 1864), *Pyramidula rupestris* (Draparnaud, 1801) and *Chondrina kobelti cliendentata* Gittenberger, 1973, live on the bare rocks.

Notes. — Judging after conchological characters only, *H. mangae* seems to occur in the provinces of Palencia and of Burgos as well, i.e. shells are known from there, which we could not distinguish from those found in León. Quite unexpected, routine dissection of the available material disturbed the simple picture.

Our description of the genitalia of *H. mangae* is based on one fully adult specimen (fig. 2) and seven subadult animals, in which the female parts are clearly immature. All these specimens have a long flagellum. A subadult and an adult animal collected 0.6 km N. of Huermeces, Burgos province, cannot be separated from the specimens from León; unfortunately, only the male part of the genitalia is available of the latter animal.

A subadult and two adult specimens found 0.2 km W. of Vado de Cervera, Palencia province, i.e. just between León and Burgos, are quite different anatomically. These three animals have a very short conical 'flagellum'. Usually the relative length of the flagellum

is a character of specific value in *Helicellinae*, i.e. the specimens from Palencia, which cannot be distinguished from those from León conchologically, should not be considered to belong to *H. mangae*.

The discrepancy between anatomical differences and conchological similarity, and the obscure zoogeographical relations cannot be dealt with more satisfactory at present because of lack of sufficient material. Consequently we prefer to restrict the name *H. mangae* to the populations known from León.

Derivatio nominis. — *H. mangae* is named in honour of Dra. M. Yolanda Manga, León, who has contributed substantially to our knowledge of the *Helicellinae* in the province of León.

Material. — Holotype: W. of the Pico Aguasalio, 9 km N. of Cistierna, 1500-1700 m alt., UTM UN2149; J. G. M. Raven leg., VI-VII.1977 (RMNH 55526). Paratypes: Same data as holotype (R/17; RMNH 55527/4; RMNH alc. 9084/7 animals). Type locality; J. G. M. Raven leg., 22.VI.1978 (MNCN/6; R/19; SMF/6). E. of San Adrián, 1150 m alt., UTM UN1145; J. G. M. Raven leg., VI-VII.1977 (R/3). 1.5 km SW. of Veneros, 1200 m alt., UTM UN1544; J. G. M. Raven leg., 6.VI.1981 (R/8). 0.5 km S. of La Herrera, 1100-1200 m alt., UTM UN2344; J. J. Vermeulen & J. G. M. Raven leg., 15.VII.1978 (R/12; V/20). Alejico, 1000 m alt., UTM UN2645; J. G. M. Raven leg., 27.VI.1978 (R/3; RMNH alc. 9085/3 animals). Vegamediana de Esla, 6 km NNE. of Cistierna, UTM UN24; Ph. Pronk leg., 20.VII.1977 (RMNH 55531/8). 1.5 km NW. of Cistierna, 1000 m alt., UTM UN2542; J. G. M. Raven leg., 14.VI.1978 (PEAEL/6; R/48; RMNH 55530/4; RMNH alc. 9086/2 animals). 2 km NW. of Cistierna, 1000 m alt., UTM UN2442; J. G. M. Raven leg., 1.VII.1978 (R/2). 0.5 km E. of Cistierna, 1000 m alt., UTM UN2641; J. G. M. Raven leg., VI-VII.1977 (R/3). Aleje, 1000 m alt., UTM UN2646; J. J. Vermeulen leg., 15.VII.1978 (V/1). 1 km NE. of Aleje, 1100 m alt., UTM UN2747; J. G. M. Raven leg., VI-VII.1977 (R/1). 1.5 km N. of Crémenes, 1000 m alt., UTM UN2553; J. G. M. Raven leg., VI-VII.1977 (R/1). 1 km SW. of Las Salas, 1000 m alt., UTM UN2755; J. G. M. Raven leg., 28.VI.1978 (R/38; RMNH 55529/10; RMNH alc. 9087/7 animals).

Shells like *H. mangae*, but not considered paratypes (see text):

Province of Burgos: 0.6 km N. of Huermeces, 900 m alt., UTM VN3708; J. J. Vermeulen leg., 11.VI.1979 (R/6; RMNH/1; RMNH alc./3 animals; V/26).

Province of Palencia: 0.2 km W. of Vado de Cervera, 1000 m alt., UTM UN7845; J. J. Vermeulen leg., 26.VII.1978 (E/5; M/5; R/26; RMNH/5; RMNH alc./4 animals; V/110). 3 km SW. of Cervera de Pisuegra, 1600 m alt., UTM UN7445; J. J. Vermeulen leg., 23.VI.1978 (V/3). 2 km NW. of Triollo, 1400 m alt., UTM UN6155; J. J. Vermeulen leg., 25.VII.1978 (R/5; V/14).

SAMENVATTING

Tijdens malacologisch onderzoek in het Cantabrisch Gebergte, Spanje, werd door de tweede auteur een nog onbeschreven *Helicella* soort ontdekt, gekarakteriseerd door kleine harige huisjes met een wijde navel en zonder een opvallend verdikte mondlip. De soort leek aanvankelijk niet alleen in de provincie León voor te komen, maar ook in Palencia en Burgos. Het materiaal uit Palencia bleek evenwel anatomisch sterk van dat uit León en Burgos te verschillen, met name wat betreft het flagellum, dat bij de eerstgenoemde groep niet naar verhouding lang, maar juist zeer kort bleek te zijn. In afwachting van nader onderzoek aan meer materiaal, wordt de naam *Helicella mangae* uitsluitend gebruikt voor dieren uit de provincie León.