



A new species of *Megalobulimus* from Potosí, Bolivia (Gastropoda, Strophocheilidae)

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Simone L.R.L. (2018) A new species of *Megalobulimus* from Potosi, Bolivia (Pulmonata, Strophocheilidae). *Strombus* 24(1-2): 1-4.

Abstract: *Megalobulimus helicoides* is a new species collected in Sucusuma village, Potosí department, Bolivia (Pulmonata, Acavoidea, Strophocheilidae). The species is mainly characterized by the deep suture, by the triangular open umbilicus, relatively small spire and proportionally narrow aperture. The sculpture of the protoconch and teleoconch, the red peristome and the deciduous periostracum indicate that the new species belong to the “*Megalobulimus oblongus* complex”, which is uncommon in the Andinian region of South America.

Key-Words: Acavoidea; Conchology; *Megalobulimus helicoides* sp. nov.; Pulmonata, taxonomy.

INTRODUCTION

The acavoid subfamily Megalobuliminae generally includes snails of large size, which can reach up to 15 cm, living in forests in scanty numbers. They characteristically lay large eggs, which can at first sight be similar to those of birds. Their anatomy is characterized by the absence of a ureter, which is replaced by a pulmonary septum, the presence of a pre-rectal valve in the intestine, and a buccal fringe on the head (LEME 1973; SIMONE & LEME 1998). A total of 64 valid species is known for this taxon, which is practically endemic to South America. As the group was revised and catalogued (BEQUAERT 1948; SIMONE 2006; BIRCKOLZ *et al.* 2016), the detection of new species is greatly facilitated.

Samples of shells belonging to an odd *Megalobulimus* Miller, 1878 were recently collected in the heart of Bolivia by the team of naturalist José Coltro Jr. The analysis of their conchological characters clearly shows that the samples belong to a new species, formally described herein.

MATERIAL AND METHODS

The material is deposited in the malacological collection of the *Museu de Zoologia da Universidade de São Paulo* (MZSP, São Paulo, Brazil). The quantity of collected specimens was sufficient to analyze the low degree of morphological variation of the new species; photos of further specimens can be found at José Coltro's website: www.femorale.com/shellphotos/detail.asp?url=&species=Megalobulimus+sp%2E+148700&localidade=Bolivia. Additionally, exhaustive comparisons with the vast megalobulimine collection at the MZSP further enhance the present description.

SYSTEMATICS

Megalobulimus helicoides sp. nov.
(Figures 1-7)

<http://zoobank.org/2C2C114D-DBD3-4221-85C4-0BE656FEFA74>

Type material: Holotype MZSP 119115. Paratype MZSP 119116, from type-locality.

Type locality: BOLIVIA: Potosí department, Sucusuma village (on the way to Toro Toro), 18°04'38.65"S 65°44'22.60"W, 1990–2000 m elevation (José Coltro Jr. *et al.* col., x/2014).

Material examined: Types. Photographic samples (see Material and Methods, above).

Etymology: The specific epithet refers to the shell shape, looking like an elongated *Helix* Linnaeus, 1758, where the Latin suffix *-oides* means “likeness, resemblance to”.

Diagnosis: Shell outline slightly conical, width ~70% of length; aperture ~55% of shell length. Suture relatively deep. Protoconch of 3.5 whorls, mainly sculptured by uniform, narrow axial cords. Teleoconch of 1.5 whorl, sculptured by axial, slightly irregular, well-marked cords. Umbilicus narrow.

Description: Shell of about 85 mm, outline slightly conical; apex acuminate; width ~70% of length; dorso-ventral height ~80% of shell width (Figure 5). Color mostly pale beige to creamy, lacking periostracum; peristome red to dark pink (Figures 2, 6). Protoconch of ~3.5 well-convex whorls, width 25 mm, forming somewhat pointed dome of ~80°; first whorl mostly smooth, opaque; remaining whorls bearing very delicate, uniform, narrow axial cords, ~60 in last nepionic whorl (Figures 4, 7); each cord runs from suture to suture starting on second whorl; interval between cords very narrow; limit between protoconch and teleoconch well-marked, orthocline (Figure 7). Teleoconch of 1.5 whorl; profile of each whorl rounded; last whorl more convex than preceding ones. Spire ~45% of shell length. Sculpture similar to that of protoconch, but with cords becoming more robust and irregular as well-marked undulations, ~65 in penultimate whorl. Peristome complete, narrow (Figures 2, 6), orthocline (Figure 3), glossy, lacking teeth or folds; aperture elliptical, ~45% of shell width, ~55% of shell length. Outer lip simple and rounded. Inner lip deeply concave; superior half slightly convex (~60° in relation to longitudinal shell axis), with well-developed straight callus; inferior half almost straight and vertical (Figures 2, 6). Umbilicus narrow but well-developed, partially covered by inferior half of inner lip.

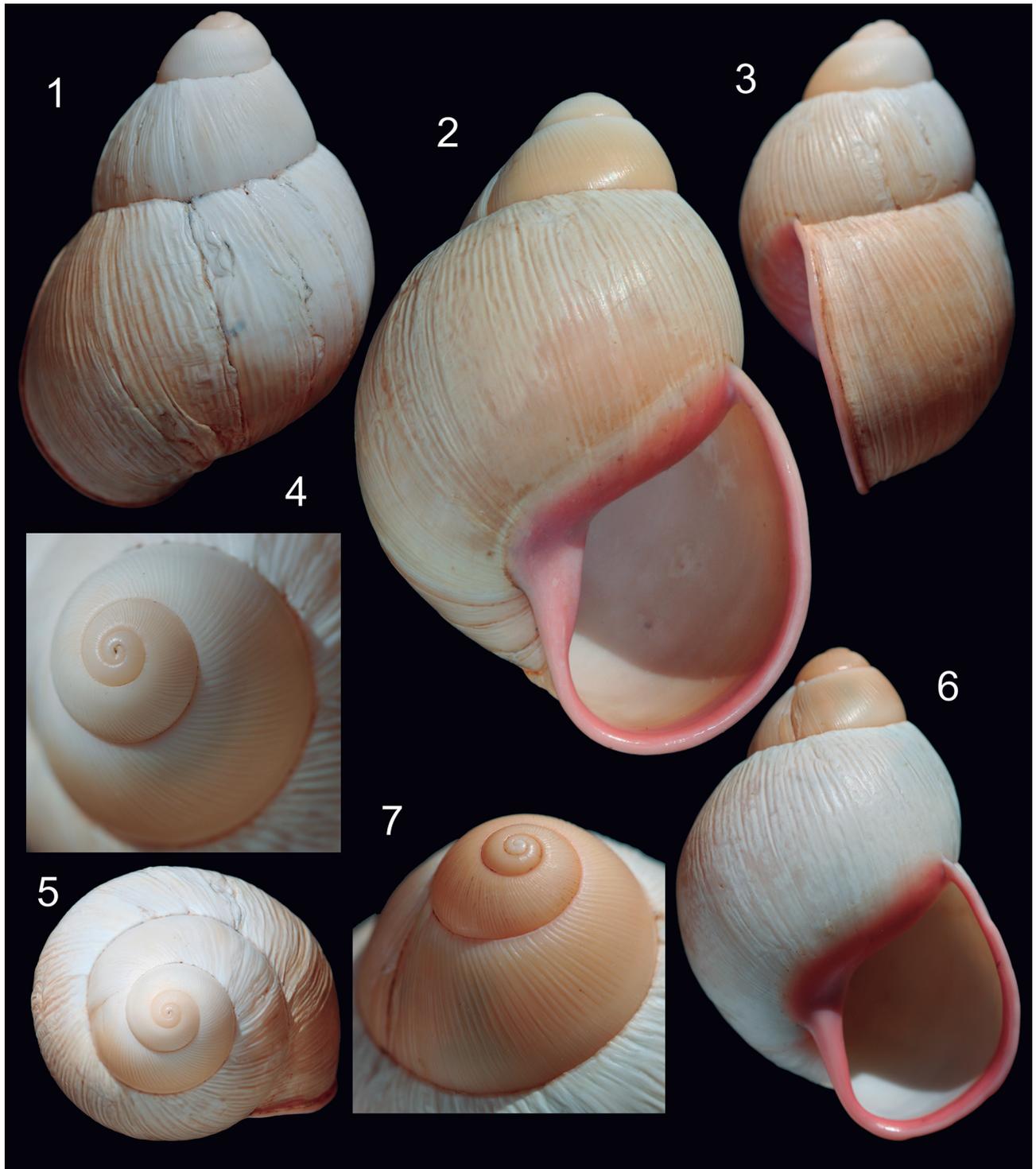
Measurements: Holotype: shell length 83.3 mm, shell width 58.1 mm; paratype: shell length 84.9 mm, shell width 59.0 mm.

Distribution: Known only from type locality.

Habitat: Dry and rocky areas in dry broadleaf forest, 1990–2000 m elevation.

DISCUSSION

The set of characters of the shell of *Megalobulimus helicoides* **sp. nov.** listed in the Diagnosis above is not found in any known species of the genus (BEQUAERT 1948; SIMONE 2006). The main exclusivity is the relatively deep suture (Figures 1–3, 6), forming somewhat free whorls, which is rare in megalobulimines. The protoconch, relatively wide with 3.5 whorls, is also idiosyncratic (Figures 4, 7), as normally it is proportionally smaller, with 2.5 to 3 whorls in other species. The narrow but open umbilicus is another differential feature, as normally the umbilicus is closed, covered by the inner lip in the other megalobulimines. *Megalobulimus helicoides* somewhat resembles *M. abbreviatus* (Bequaert, 1848) and *M. intertextus* (Pilsbry, 1895), differing, beyond the above-mentioned features, in having a more pointed spire, a narrower and smaller aperture and fewer teleoconch whorls. In the region of occurrence, the single species that bears some similarity with *M. helicoides* is *M. capillaceus* (Pfeiffer, 1855) (SIMONE 2006: fig. 787; BORDA *et al.* 2010: fig. 1A), in lacking the periostracum, and by its red peristome and obese outline. However, *M. helicoides* differs in having a deeper suture, a proportionally smaller spire, a wider and ampler body whorl, a relatively smaller aperture and a deeper umbilicus. Besides, *M. helicoides* differs from other species from this Peruvian/Bolivian region, such as *M. lichtensteini* (Albers, 1854), *M. maximus* (Sowerby I, 1878), *M. leucostomus* (Sowerby, 1835), and *M. popelairianus* (Nyst, 1845) (SIMONE 2006; BORDA *et al.* 2010; BORDA & RAMÍREZ 2014), in being smaller, having a reddish peristome (the others are white) and a deciduous periostracum, and in lacking malleated teleoconch sculpture. Furthermore, *M. helicoides* differs from the Colombian *M. perelongatus* (Bequaert, 1948) (HAAS 1952)



Figures 1–7: *Megalobulimus helicoides* sp. nov., types. 1–5. Holotype MZSP 119115 (shell length 83.3 mm); 1. dorsal view; 2. apertural view; 3. lateral view; 4. detail of apex (side of square = 22 mm); 5. apical view. 6–7. Paratype MZSP 119116 (shell length 84.9 mm); 6. apertural view; 7. detail of apex (inferior side = 25 mm).

in having a much shorter outline, an ampler and more inflated body whorl, a more developed umbilicus and a proportionally smaller aperture. From the average *M. oblongus* (Müller, 1774) (BEQUAERT 1948; SIMONE 2006; ROLDÁN *et al.* 2014: fig. 1; BORDA & RAMÍREZ 2014, 2016), *M. helicoides* differs by having a much more obese shape, a smaller size, a blunt apex (that of *M. oblongus* is normally pointed), and by having an umbilicus.

Some characters of *Megalobulimus helicoides*, such as the protoconch sculpture (uniform cords extending from suture to suture in most whorls), teleoconch sculpture (similar to protoconch and lacking hammer-made-like furrows), the red and well-marked peristome, and the lack of dorso-ventral compression and periostracum, indicate that the new species belong to the “*Megalobulimus oblongus*

complex”, as introduced by SIMONE & LEME (1998). *Megalobulimus oblongus* is the type species of the subgenus *Psiloicus* Morretes, 1952, which has been mostly considered synonymous with *Megalobulimus*. However, it might be revalidated in the future after ongoing phylogenetic studies on the group. The classification of *M. helicoides* in the *M. oblongus* complex, or as *Psiloicus*, allows certain predictions on the anatomy, such as the presence of the vaginal appendix in the terminal portion of the genital system, and a wide prostate in its middle region (SIMONE & LEME 1998). Unfortunately, no live specimens were collected. Species of the *M. oblongus* complex are more common in the middle region of South America, and relatively rare in more northern and Andinian areas (BEQUAERT 1948; MORRETES 1952; SIMONE & LEME 1998). This is an indication that the distribution of these organisms is not well understood.

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