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A new species of *Falsimargarita* (Vetigastropoda, Trochidae) from southern Brazil

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Abstract

A new trochid species, *Falsimargarita terespira* n. sp., is described from off the coast of Santa Catarina, southern Brazil. It was collected at a depth between 200 and 400 meters. This is the northern-most and the shallowest report of the genus. A discussion on similarities with congeners is given, showing that the shell of the new species differs mainly by the uniformity of its delicate sculpture and the rounded profile of its whorls. Most of the examined specimens were collected dead inside deep-sea corals.

Key words: *Falsimargarita telespira* n. sp., Santa Catarina, conchology, deep water.

Resumo

Um nova espécie de Trochidae, *Falsimargarita terespira*, é descrita para Santa Catarina, sul do Brasil, coletada entre 200 e 400 m de profundidade. Esta é o registro mais norte e mais raso de gênero. Uma discussão sobre similaridades com espécies congêneres é incluída. Mostrando que a concha da espécie nova difere principalmente pela uniformidade da escultura delicada e pelo perfil arredondado das voltas. A maior parte dos espécimes examinados foi coletada em corais de águas profundas.

Palavras-chave: *Falsimargarita telespira* sp. nov., Santa Catarina, conquiliologia, águas-profundas.

Introduction

Fishery activities along the Brazilian coast have been conducted at ever greater depths, collecting new and little known species, for instance the iridescent trochids. They are relatively diverse in Antarctic and sub-Antarctic waters, and recent findings have demonstrated the occurrence of some species along the south Brazilian coast (Rios & Simone, 2005; Simone & Cunha, 2006).

The genus *Falsimargarita* Powell, 1951 (type species *Margarites gemma* Smith, 1915, original designation, from Antarctica) has as main shell characters external iridescence, easily discernible spiral whorls, strong spiral sculpture, an open umbilicus and thin walls. The genus encompasses six species occurring in cold, deep waters of the Antarctic and Magellanic regions of South America. This genus was most recently revised by Dell (1990), who provided the diagnostic characters of the genus and described two species. Currently the genus belongs to Calliostomatinae, which has status of family (Calliostomatidae) according to some authors (e.g., Bouchet & Rocroi, 2005).

Analysis of specimens collected by fishing boats, working in relative deep waters, revealed a new species herein described. This paper is part of a larger project encompassing the revision of western Atlantic mollusk species, which currently is focusing on deep-water trochids.

Abbreviations of institutions: **MZSP**, Museu de Zoologia da Universidade de São Paulo, São Paulo, Brazil.

Systematics

Falsimargarita terespira new species
(Figs. 1-7)

Types: Holotype: MZSP 86789. **Paratypes:** BRAZIL, Santa Catarina, off Itajai (26º53'S 48º24'W), 400 m depth, MZSP 86784, 4 shells [otter trawl (o.t.), fishing boat col., i/2006, inside deep sea coral *Lophelia*

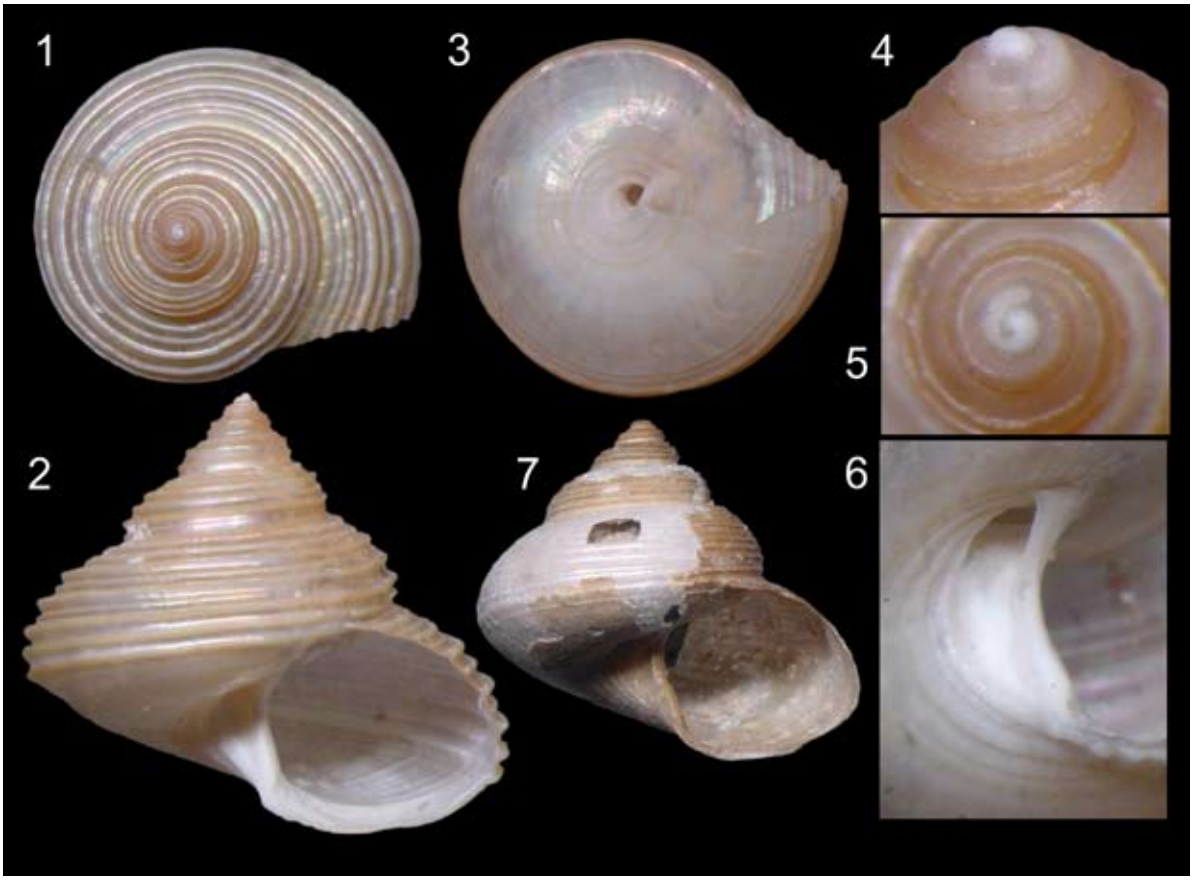
cf *pertusa* (Linné, 1758)]; MZSP 86786, 1 shell from type locality.

Type locality: BRAZIL, Santa Catarina, off Santa Marta cape (28º37'S 48º43'W), 200 m depth (o.t., fishing boat col., ix/2006, stomach content of bat-fish *Lophius* sp.).

Diagnosis: Shell with spire angle approximately 90°, sculptured by 6-10 uniformly-sized and distributed spiral cords; umbilicus deep.

Description

Shell: Of medium size (up to 18 mm), trochoid, yellow-orange iridescent; wall relatively thin, light. Protoconch of 1 smooth, white, glossy whorl. Separation protoconch-teleoconch unclear. Spire up to 6 teleoconch whorls; about as tall as body whorl; each whorl convex, profile rounded; sculptured by 6-10 low and narrow spiral cords, more or less uniform in size and distribution; space between cords twice as wide as cords, cords and space between cords bearing only growth lines. Body whorl about 1.5 times as wide as spire; sculptured by 10-12 spiral cords continuing from, and similar to, those of spire, restricted to periphery and dorsal surface; base almost smooth. Umbilicus open, deep, only growth lines on inner surface; partially covered by strong but short plate of inner apertural lip. Border between umbilicus and body whorl well marked by 3-4 low, larger spiral cord. Aperture rounded, relatively wide. Inner lip slightly deflected in lower half, moderately thickened; upper half thin, covering adjacent body whorl; no callus. Outer lip rounded, thin, prosocline.



Figs 1-7 Shells of *Falsimargarita terespira*, n. sp.: 1-6, Holotype; 1-3, Apical, frontal, and umbilical views (maximum diameter = 14.6 mm); 4, Detail of apex in profile; 5, same, apical view; 6, detail of umbilical region, frontal-slightly inferior view; 7, Paratype MZSP 86784, frontal view, specimen collected dead inside deep sea corals (the commonest occurrence) (maximum diameter = 15.7 mm).

Measurements: largest diameter: 14.6 mm; height: 13.4 mm.

Distribution: Off Santa Catarina coast.

Habitat: From 200 to 400 m depth; sometimes found dead (only shells) inside deep sea coral *Lophelia* cf *pertusa* (Linné, 1758).

Material examined: Types.

Etymology: The specific epithet is a combination of the Latin words *teres*, meaning rounded, and *spira*, meaning spire; an allusion to the rounded profile of the whorls on the spire.

Discussion

The generic attribution of the species described here is relatively convincing, due to the features of the shell reported in the Introduction. Despite the fact that practically no trochid genus is well-defined enough to be certain its attribution is correct, I believe this one is the most accurate. The main revisionary paper on trochids, Hickman & McLean (1990), did not emphasize the genus *Falsimargarita*, which precludes additional analysis. The other two genera in the south Atlantic Ocean with an iridescent outer shell, due to thin outer shell layers, are (1) *Margarella* Thiele, 1893 (see Zelaya, 2004) - The shell of the present species is larger (*Margarella* is smaller than 10 mm), lighter, lacks a callus, has a paler color (*Margarella* has a darker color) and has taller spire. (2) Gaza Watson, 1879 (See Simone & Cunha, 2006) – *F . terespira* differs in having taller shell, more rounded spiral whorls, and by lacking a flap covering the umbilicus. However, it is acknowledged that the definition of genera in trochids merits further revision. Additional comparison and discussion of *Falsimargarita* was provided by Dell (1990: 93). The new species could also be attributed to the Indo-Pacific genus *Otukaia* Ikebe, 1942, which shares a similar spire angle, an open umbilicus, and iridescence. However, the species described here has a lower shell, is more richly sculptured, has a wider open umbilicus, and has a protoconch with fewer whorls.

Falsimargarita terespira differs from the congeneric species [*F. iris* (Smith, 1915); *F. gemma* (Smith, 1915); *F. thielei* (Hedley, 1916); *F. georgiana* Dell, 1990; *F. benticola* Dell, 1990; and *F. stephaniae* Rios & Simone, 2005] by having more rounded whorls, and by relatively uniform-sized and distributed spiral cords. Only *F. iris* has an arrangement of spiral cords resembling those of *F. terespira*. However, *F. terespira* differs by lacking a low carina forming shouldered whorls, which characterizes *F. iris*.

The bathymetry is also a differentiable feature in *Falsimargarita* species. In the depths up to 400 meters occur *F. gemma*, *F. iris* and *F. thielei*. In very deep waters, i.e, about 3,000 meters, occur *F. benthicula* and *F. georgiana*. *Falsimargarita stephanie* occurs at intermediary depths of about 1,200 meters. *Falsimargarita terespira* is the species, by the present data, that occurs at the shallowest depth of the genus, from 200 to 400 meters.

Falsimargarita terespira is now the northernmost species of the genus, reaching the latitude of the 26°S. The previous northernmost record of the genus was F. iris, reaching 35°S (Rosenberg, 2007).

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