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A New Species of *Fasciolaria* (Gastropoda: Fasciolariidae) from Northern South America

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ABSTRACT A new species in the gastropod genus *Fasciolaria* Lamarck, 1799 is described from Venezuela, where it is known to range from the Monges Islands and Gulf of Venezuela eastward to the mouth of the Orinoco River. The new taxon, *Fasciolaria petuchi* n. sp., was previously referred to as the taxon *F. hollisteri* Weisbord, 1962, which is a fossil species from the Pliocene Mare Formation and is not applicable to the living Venezuelan shell. *Fasciolaria petuchi* is the fourth known member of a species complex that ranges from Honduras to the mouth of the Amazon River.

KEY WORDS Fasciolariidae, *Fasciolaria*, Venezuela, Isla Margarita

INTRODUCTION

Along northern South America, from the Panama-Colombia border (Golfo de Uraba) to the mouth of the Amazon River, the gastropod genus *Fasciolaria* Lamarck, 1799 has evolved a complex of at least four distinct, bathymetrically and geographically-isolated species. These include: the widespread Caribbean *Fasciolaria tulipa* (Linnaeus, 1758), which is found only sporadically along northern South America, primarily on offshore islands; *Fasciolaria tephrina* Sousa, 2002, which occurs in deep water from Honduras to the Goajira Peninsula of Colombia; *Fasciolaria guyanensis* Lyons and Snyder, 2016, which ranges from the Orinoco River mouth eastward to the mouth of the Amazon River, Amapa State, Brazil; and a distinctive species that has been incorrectly referred to as "*Fasciolaria hollisteri* Weisbord, 1962", which ranges from the Gulf of Venezuela to the Orinoco River mouth.

In his study of the fossil beds near Cabo Blanco, Venezuela, Weisbord (1962: 353-354) described a new *Fasciolaria* species from the late Pliocene (late Piacenzian Age) Mare Formation (holotype shown here on Plate 1, Figures A-B). Named *Fasciolaria hollisteri*, this distinctive fossil species was found to belong to a Caribbean Pliocene species complex that also included similar taxa such as *F. semistriata* (Sowerby I, 1849) from the Dominican Republic and *F. leura* Woodring, 1928 from Panama. In 1987, Petuch (plate 20, figure 6) illustrated a living *Fasciolaria* specimen from Amuay Bay in the Gulf of Venezuela but referred it to the fossil taxon *F. hollisteri*, as it occurred along with many other relictual and archaic species with late Neogene affinities. Subsequent workers have perpetuated this misidentification, consistently referring to the living species as "*F. hollisteri*". A comparison of the holotype of the Pliocene fossil *F. hollisteri* (shown here on Plate 2, Figure 3) with living specimens from Amauay Bay and Isla Margarita, shows many consistent differences between them, demonstrating that the living species is actually not referable to *F. hollisteri* but represents a new and previously undescribed

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species. This new addition to the Venezuelan molluscan fauna is described here. The holotype is deposited in the molluscan collections of the Museu Nacional do Rio de Janeiro, Rio de Janeiro, Brazil and bears an MNRJ catalog number.

SYSTEMATICS
Class Gastropoda
Subclass Caenogastropoda
Order Neogastropoda
Superfamily Buccinoidea
Family Fasciolariidae
Subfamily Fasciolariinae
Genus *Fasciolaria* Lamarck, 1799

Fasciolaria petuchi Crabos and Queiroz, new species
(Plate 1, Figures A-D; Plate 2, Figures A, B)

Description. Shell of average size for genus, thin, fusiform, elevated, with subscalariform spire whorls; body whorl greatly inflated, globose, with rounded shoulder and sides; body whorl smooth, devoid of any spiral sculpture; suture of spire whorls and body whorl marked with one or two wide, strong, spiral cords; smaller secondary cord sometimes present anterior to the main sutural cord, producing a distinctive sutural collar; aperture wide, flaring, oval in shape; curved columella ornamented with two proportionally large, porcellaneous white, fold-like plicae, with the anterior plication very well developed, roughly 4 times the length of smaller posterior columellar plication; siphonal canal proportionally large, narrow, roughly 1/3 of shell length; protoconch proportionally large, rounded, dome-like, composed of 1 ½ whorls; shell base color variable, ranging from pale blue-gray to pale tan to deep orange (as in holotype); base color overlaid with variable number of thin, evenly-spaced spiral brown lines, varying in number from 16 to 20; siphonal canal devoid of spiral lines; interior of lip ornamented with numerous very fine, closely-packed raised cords; fine cords extend into interior of aperture, becoming obsolete deeper within aperture.

Type Material. HOLOTYPE - length 106.5 mm, width 49 mm, Margarita Island, Venezuela, MNRJ 24487; PARATYPES - length 111.8 mm, width 51.5 mm, same locality as the holotype, in the Crabos collection; 5 specimens, length 109 mm, width 55 mm; length 114 mm, width 99 mm; length 81 mm, width 41 mm; length 113 mm, width 59 mm; length 96 mm, width 49 mm, all from the same locality as the holotype, in the Queiroz collection.

Type Locality. Off Punta de Piedras, Margarita Island, Nueva Esparta State, Venezuela, at 5 meters depth.

Distribution. The new species ranges from the Gulf of Venezuela eastward to the mouth of the Orinoco River, where it prefers depths of 1-40 m.

Etymology. The new taxon honors Dr. Edward J. Petuch, Professor Emeritus in the Department of Geosciences at Florida Atlantic University, in recognition of his numerous important contributions to the malacology of the Caribbean Sea and Brazil. Professor Petuch has also been a mentor to us, and other students of Brazilian malacology, helping us with our scientific writing and offering encouragement with our field work.

Discussion. For the past 46 years, this brightly colored and distinctive Venezuelan fasciolariid has been referred to as "*Fasciolaria hollisteri*" by collectors and specialists in the Fasciolariidae. Petuch (1987) was the first person to illustrate this species, but he used the name for a Venezuelan Pliocene fossil described

by Weisbord (1962) for this shell instead of giving it a new name. This erroneous assignment of a fossil name for a different living species has persisted up to now. When the fossil *F. hollisteri* and the living *F. petuchi* are compared, as shown here on Plate 2, *Fasciolaria petuchi* can be seen to be a more inflated shell with a more rotund body whorl and a proportionally-lower and less protracted spire. The principal difference between the two species is seen in the structure and form of the columellar plications, which are much larger and better-developed on the living *F. petuchi* than they are on the fossil *F. hollisteri* (Plate 2, Figure C; holotype of *F. hollisteri*).

Although the base color of *F. petuchi* varies from red to orange to blue-gray, the western population from the Gulf of Venezuela contains mostly blue-gray individuals, with red and orange shells being relatively uncommon. Just the opposite occurs in the eastern population, where most individuals are orange or red and blue-gray shells are uncommon. This extreme color difference between populations most probably results from different dietary preferences; with the western populations feeding on bivalves in a muddy quartz sand environment and the eastern populations feeding on bivalves that live in cleaner carbonate sand environments. Orange and tan specimens of *Fasciolaria petuchi* could also be confused with the closely-related *F. guyanensis* Lyons and Snyder, 2016 (Plate 2, Figures D, E) from farther east along the coasts of Guyana, Suriname, French Guiana, and Amapa State, Brazil. That species differs from *F. petuchi* in being a more slender and elongated shell with a higher, more protracted spire and proportionally-longer siphonal canal. Of the living and fossil species, *F. guyanensis* most closely resembles the Pliocene *F. hollisteri* in having a similar long siphonal canal and high spire and the same slender body whorl proportions. The Pliocene *F. hollisteri* is now known to be the common ancestor of the living *F. petuchi* and *F. guyanensis*.

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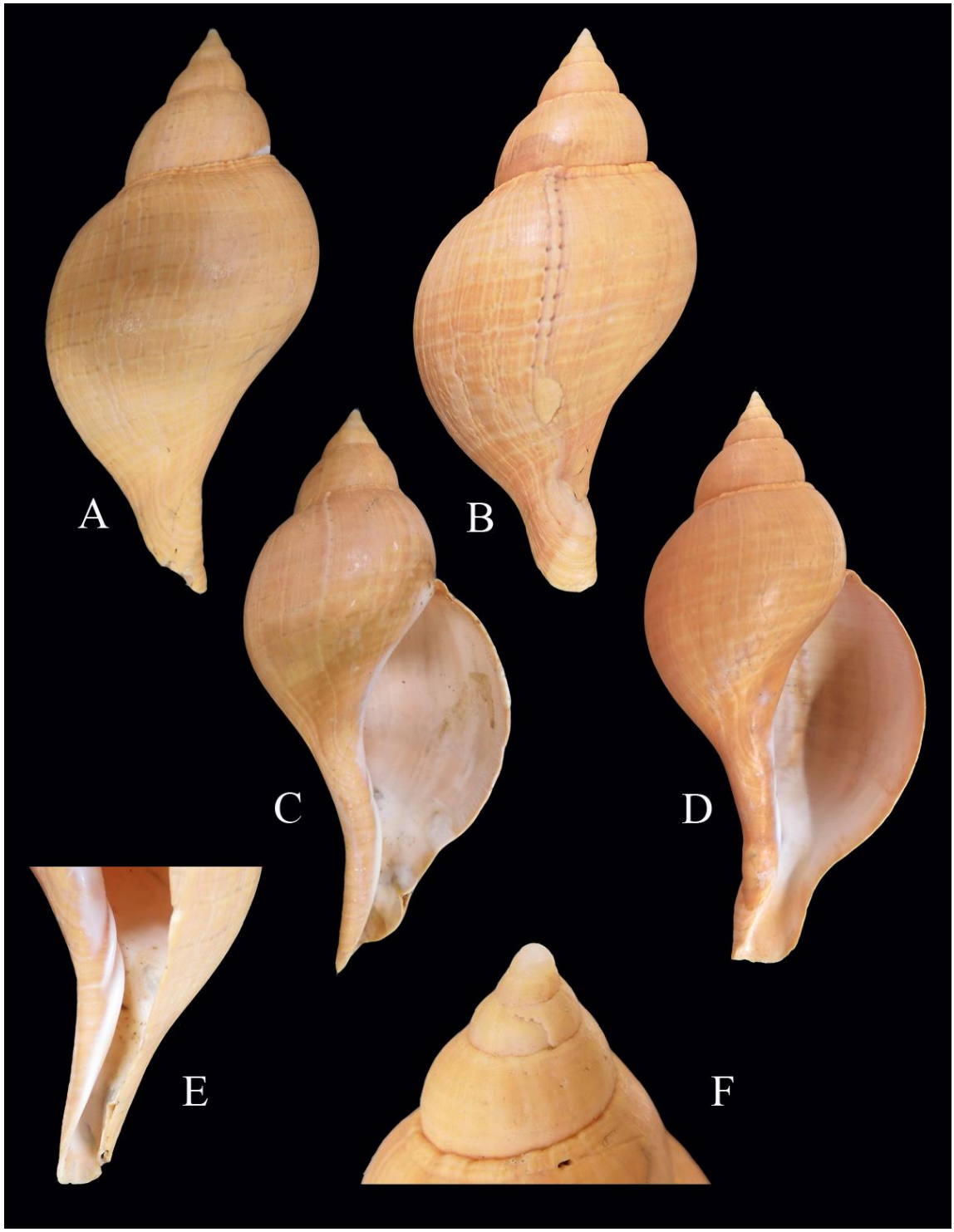

Plate 1. ***Fasciolaria petuchi*** **Crabos and Queiroz, new species.**
A, C= dorsal and ventral views of the holotype, length 106.5 mm, from Isla Margarita, Venezuela; **B, D=** dorsal and ventral views of Paratype 1, length 111.8 mm**,** from Isla Margarita, Venezuela (in the Crabos Collection); **E=** close-up view of the strong columellar plicae of the holotype, which are characteristic of the new species; **F=** close-up view of the protoconch and early whorls of the holotype.

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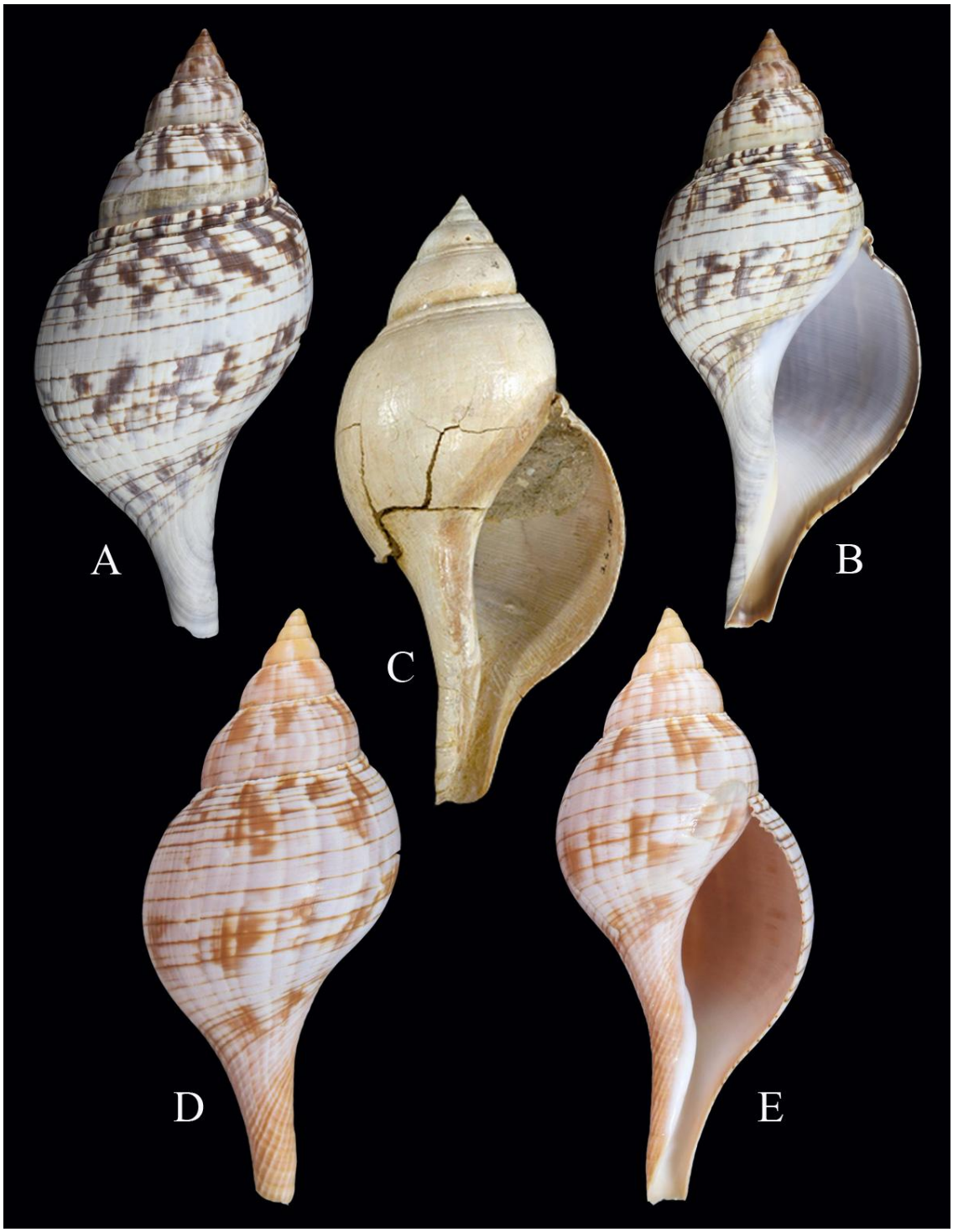

Plate 2. Living and fossil *Fasciolaria* species from northern South America.
A, B= *Fasciolaria petuchi* Crabos and Queiroz, new species, 173.0 mm in length, specimen of the blue-gray color form from the Gulf of Venezuela (in the Berschauer Collection); **C=** *Fasciolaria hollisteri* Weisbord, 1962, holotype (PRI 26255), length 158.0 mm, from the Mare Formation, late Pliocene (Piacenzian Age), west of Quebrada Mare Abajo,Venezuela (note the lack of prominent columellar plicae on the unique holotype, as opposed to the well-developed plicae on *F. petuchi*); **D, E=** *Fasciolaria guyanensis* Lyons and Snyder, 2016, length 105.0 mm, trawled by shrimpers from 35 m depth off Cayenne, French Guiana (in the Crabos Collection).