

A New *Fasciolaria* (Fascioliidae: Fascioliinae) from the Yucatan Peninsula of Mexico

David P. Berschauer¹ and Edward J. Petuch²

¹Museum Associate, Natural History Museum of Los Angeles County
Collection Associate, Santa Barbara Museum of Natural History, Department of Invertebrate Zoology
shellcollection@hotmail.com

²Department of Geosciences, Florida Atlantic University, Boca Raton, Florida
ecphora3@outlook.com

ABSTRACT A new species of True Tulip Shell in the genus *Fasciolaria* has been discovered in coral reef areas along the eastern coast of the Yucatan Peninsula of Mexico. This new Mexican fascioliid, here named *Fasciolaria haleyi* new species Berschauer & Petuch 2023, has the most inflated and rotund shell of any member of its genus and can be distinguished by its polished and highly-colorful shell. This new Yucatan endemic is morphologically closest only to the newly-described *Fasciolaria bittneri* Petuch and Berschauer, 2023 from the Dry Tortugas of Florida and represents the fourth-known *Fasciolaria* species to occur in the Gulf of Mexico.

KEY WORDS *Fasciolaria*, *Fasciolaria haleyi*, Fascioliidae, Yucatan Peninsula, Mexico

INTRODUCTION

While gathering data and specimens for our research on the mollusks of the Yucatan Peninsula, we became aware of a large, highly-inflated and globose Tulip Shell in the genus *Fasciolaria* which has remained overlooked and undescribed until present time. This unusual fascioliid is most similar to the recently-described *Fasciolaria bittneri* Petuch & Berschauer, 2023 (Plate 2 C, D) from the Dry Tortugas, western Florida Keys but can be separated from that species by possessing several significant differences in shell characters. These are discussed in the following sections of this paper. The new Yucatan species is part of a previously-unrecognized Gulf of Mexico species complex, which also includes the wide-ranging western Atlantic *Fasciolaria tulipa* (Linnaeus, 1758) (Plate 2 E, F) and the deep-water Gulf endemic *Fasciolaria bullisi* Lyons, 1972, demonstrating that there are actually four different *Fasciolaria s.s.* species

residing in the Gulf of Mexico (Petuch & Berschauer, 2023 for a review of all known living and fossil *Fasciolaria* species).

This distinctive new species has been collected in large numbers by Mexican shrimpers who trawl the shrimping grounds along the eastern coast of the Yucatan Peninsula, particularly in the area between Isla Contoy and Cabo Catoche to Playa del Carmen. The new Tulip Shell, and many other rarely-seen Yucatan endemic species, are collected as by-catch in the shrimp nets and are sold to local craftsmen who use them to make curios for the tourist trade. Indeed, several specimens in the type lot of this new species had been filled with wax and wicks and made into candles for sale in local gift shops. These large and colorful candle holders caught the attention of a Playa del Carmen businessman and inspired amateur malacologist, Kevin Haley, who conveyed the information to us and later generously donated research specimens.

SYSTEMATICS

Phylum	Mollusca Linnaeus, 1758
Class	Gastropoda Cuvier, 1795
Order	Neogastropoda Wenz, 1938
Superfamily	Buccinoidea Rafinesque, 1815
Family	Fascioliidae Gray, 1853
Subfamily	Fascioliinae Gray, 1853
Genus	<i>Fasciolaria</i> Lamarck, 1799

Fasciolaria haleyi Berschauer & Petuch,
new species

(Plate 1, Figures A-G; Plate 2 Figures A, B)

Description. Shell large for genus, averaging 145 mm in length as adults, thick and heavy, broadly fusiform and ovate, with high elevated spire; body whorl greatly inflated, rotund, with distinctly angled shoulder; spire whorls with more prominently-angled shoulders, becoming more obviously acute on earlier whorls; protoconch rounded and dome-like, orange-brown or reddish-brown in color, with postnuclear and early whorls being ornamented with 10-12 low, elongated ribs; ribs of early whorls crossed by 5 thin spiral cords, producing faint cancellate appearance; siphonal canal proportionally short and stubby, only two-thirds length of spire; body whorl smooth and polished, without raised cords; siphonal canal ornamented with 12-15 large, prominent, rounded cords; sutures of spire whorls indented and minutely canaliculate; subsutural area of body whorl and spire whorls distinctly sloping, producing wide adherent band or subsutural collar; entire subsutural band sculpted with 3 shallowly-incised spiral grooves; shell base color white or white with pale blue infusions, overlaid with 3 wide bands of amorphous and widely-scattered patches of dark brown, reddish-brown, or bright orange-red; color patches, in turn, overlaid with 20-25 thin, evenly-separated dark chocolate-brown spiral bands; smaller, thinner subsidiary bands sometimes present between pair of

primary bands; dark bands variable in thickness, being thicker in some areas and thinner in others and often breaking apart to form elongated dashes; dark bands terminating in small denticals at edge of lip forming serrated appearance; siphonal canal dark red or brown, overlaid with white cords; aperture wide and flaring, broadly oval, corresponding to inflated body whorl; columella pale orange in color, with 2 large, prominent recurved plicae; interior of aperture color varying from white to pale orange; inner edge of lip ornamented with numerous very fine, thread-like ridges.

Type Material. Holotype - length 145.6 mm, width 73.9 mm, off Cabo Catoche, Quintana Roo, Mexico, SBMNH 183616; Paratypes – four specimens from the same locality and depth as the holotype: lengths 139.7 mm and 148.9 mm in the research collection of the senior author; lengths 144.0 mm and 147.9 mm in the research collection of the junior author.

Type Locality. Trawled from 20 m depth, in sand and coral rubble, off Cabo Catoche, Quintana Roo State, Yucatan Peninsula, Mexico.

Distribution. Restricted to the eastern coast of the Yucatan Peninsula and is most often collected in an area extending from Cabo Catoche to Isla del Carmen. *Fasciolaria haleyi* inhabits carbonate sand sea floors near living coral reefs, in depths varying from 1 to 25 m.

Etymology. Named for Kevin Haley of Playa del Carmen, Quintana Roo, Mexico who discovered the new species and who kindly donated the type lot.

Discussion. Of the four known species of *Fasciolaria* (*sensu stricto*) living in the Gulf of Mexico, *F. haleyi* most closely resembles the Floridian *F. bittneri* Petuch & Berschauer, 2023 (Plate 2 C, D) but differs in having a much larger and more inflated shell, with the Yucatan species being roughly one-third wider across the mid-body than its Floridian congener. The siphonal canal of *F. haleyi* is also proportionally

much shorter and truncated, being only one-half the length of *F. bittneri*, a character difference that shows up well when comparing the specimens illustrated here on Plate 2. The sloping band of the subsutural collar on *F. haleyi* is also proportionally much wider and more prominent than that of *F. bittneri*, as well as being much more indented at the shoulder-collar juncture. Both shells are smooth and polished, lacking any strong cords on the body whorl, a shell character that is prominent on the closely-related *F. tulipa* (Linnaeus, 1758) (Plate 2 E, F). The dark color bands on *F. haleyi* are also proportionally thicker and less discretely-defined than those on *F. bittneri* and *F. tulipa*, and have a smeared appearance. *F. haleyi* has three known color forms: solid red, red with ivory markings, and dark brown with ivory markings.

As seen here on Plate 2 (Figures B, D, & F), the early whorls of the three shallow water Gulf of Mexico species differ substantially and can be used to differentiate the individual taxa. Both *F. bittneri* and *F. haleyi* have distinctive angled early whorls, while those of *F. tulipa* are rounded. The most striking shell character seen on the Yucatan and Florida endemic species is seen in the very sharply-angled postnuclear whorls, which are heavily ornamented with prominent knobs and ribs. On *F. bittneri*, the knobs of the early whorls are the best-developed of the two species (Plate 2 D), resembling those seen on peristerniine fascioliids such as *Leucozonia* or *Polygona*. The postnuclear knobs of *F. haleyi* are not as well-developed as those of its Floridian congener and are lower and more rounded and are overlaid with numerous small spiral cords, producing a cancellate appearance. The prominent sutural collar of spiral cords that is so prominent on *F. tulipa* is completely absent on both *F. bittneri* and *F. haleyi*. This absence of strong subsutural cords

is also seen in the deep-water *F. bullisi*. In an interesting taxonomic note, *F. haleyi* has recently become available on worldwide shell dealer's lists, but has been misidentified as "*Fasciolaria hollisteri* Weisbord, 1962". That taxon, however, is referable only to a Pliocene fossil species from the Mare Formation of Venezuela and is known from a single specimen (Crabos & Queiroz, 2023 for illustrations of the holotype of the fossil *hollisteri* and for a comparison of the fossil with other living western Atlantic *Fasciolaria* species).

ACKNOWLEDGMENTS

We thank Kevin Haley, Playa del Carmen, Mexico for bringing this important new endemic species to our attention and for generously donating specimens for our research on Yucatan mollusks.

LITERATURE CITED

- Crabos, O. & G.P. de Queiroz. 2023.** A New Species of *Fasciolaria* (Gastropoda: Fascioliidae) From Northern South America. *The Festivus* 55(1):71-75. <http://doi.org/10.54173/F55171>
- Petuch, E.J. & D.P. Berschauer. 2023.** A New Deep Water *Fasciolaria* (Fascioliidae: Fascioliinae) Tulip Shell from the Dry Tortugas, Western Florida Keys, Florida. *The Festivus* 55(2):92-99. <http://doi.org/10.54173/F55292>

Cite as:

- Berschauer, D.P. & E.J. Petuch, 2023.** A New *Fasciolaria* (Fascioliidae: Fascioliinae) from the Yucatan Peninsula of Mexico. *The Festivus* 55(3):165-169. <http://doi:10.54173/F553165>

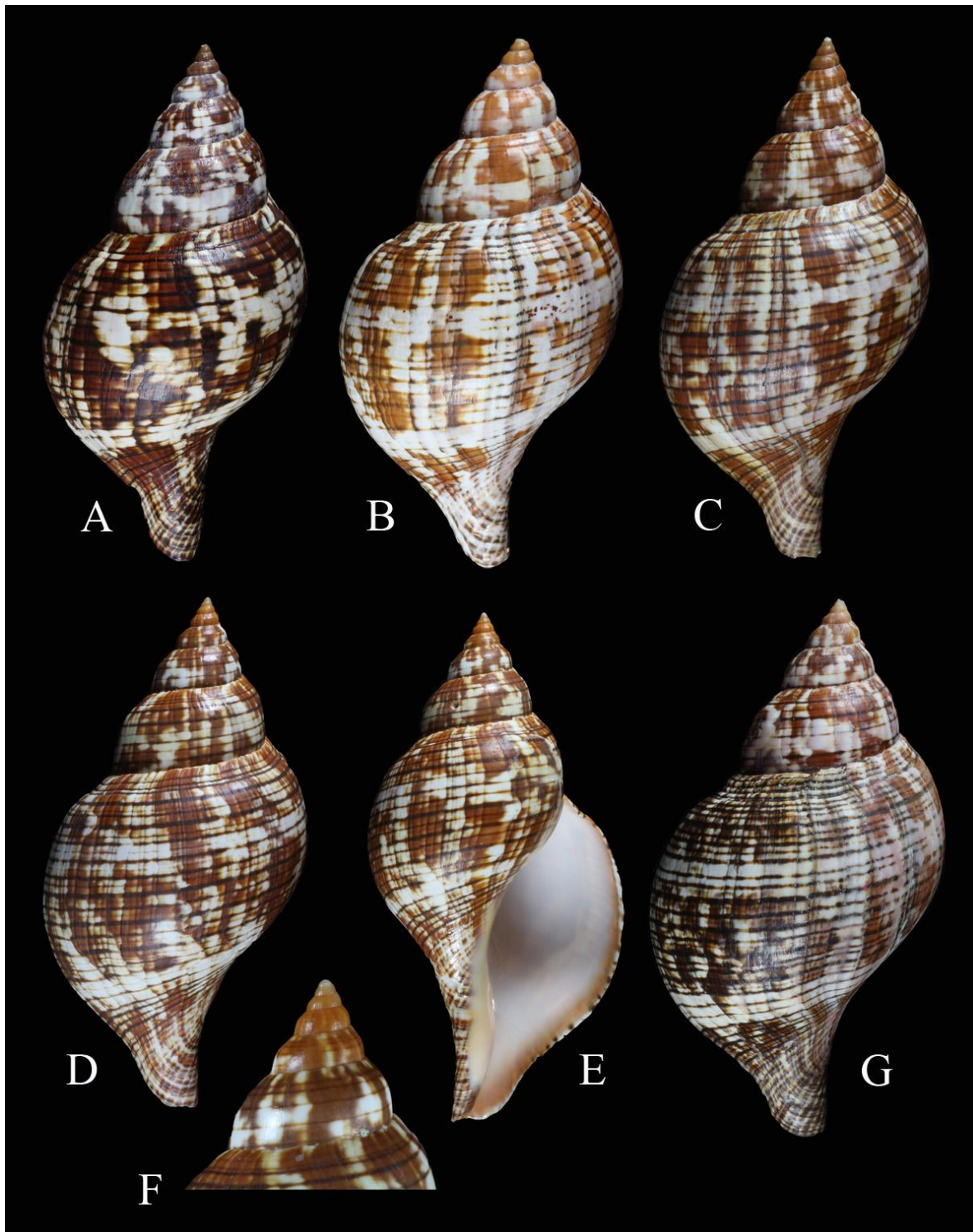


Plate 1. *Fasciolaria haleyi* Berschauer & Petuch, n. sp. from off Cabo Catoche, Quintana Roo, Yucatan Peninsula, Mexico.
C= *Fasciolaria haleyi* new species, SBMNH 183616, holotype, length 145.6 mm; Paratypes: A= length 144.0 mm, in the Petuch research collection; B= length 147.9 mm, in the Petuch research collection; Paratypes: D, E, F= length 139.7 mm, in the Berschauer research collection; G= length 148.9 mm, in the Berschauer research collection.

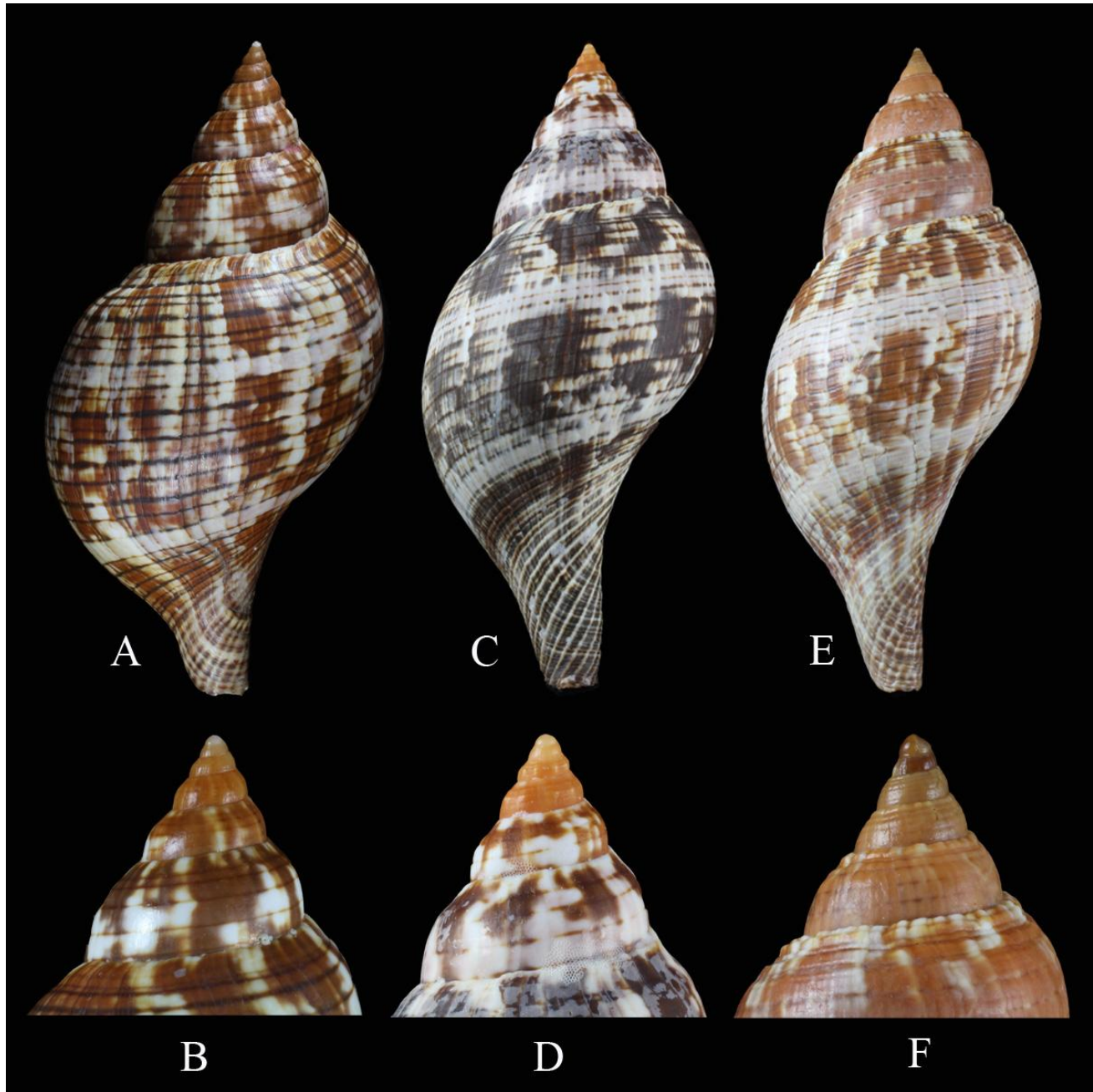


Plate 2. Comparison of *Fasciolaria* species from the Gulf of Mexico.

A= *Fasciolaria haley* new species, holotype, length 145.6 mm, from off Cabo Catoche, Mexico; **B**= detail of the spire whorls of *Fasciolaria haley*; **C**= *Fasciolaria bittneri* Petuch & Berschauer, 2023, holotype, length 115.1 mm, from off the Dry Tortugas, Florida; **D**= detail of the spire whorls of *Fasciolaria bittneri*; **E**= *Fasciolaria tulipa* (Linnaeus, 1758), length 124.4 mm, from Sanibel Island, Florida; **F**= detail of the spire whorls of a different specimen of *Fasciolaria tulipa* with a fully intact protoconch.