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New Gastropods from the Gulf of Mexico

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ABSTRACT Twelve new species and subspecies of gastropods are named from three subprovinces of the Carolinian Molluscan Province that occur within the Gulf of Mexico. These include: (from the Floridian Subprovince) *Scaphella junonia glicksteinorum* n. subsp., *Scaphella (Clenchina) carrieae* n. sp., and *Scaphella (Clenchina) rundoi* n. sp. (all Volutidae); (from the Suwannean Subprovince) *Conomodulus lambi* n. sp., *Modulus danielsi* n. sp. (both Modulidae); (from the Yucatanean Subprovince) *Modulus hunahpu* n. sp., *Trochomodulus velai* n. sp. (both Modulidae), *Cinctura salasi* n. sp. (Fasciolariidae), *Lindafulgur camazotz* n. sp. (Busyconidae), *Ventrilia jonathoni* n. sp. and *Ventrilia xbalanque* n. sp. (both Cancellariidae), and *Bulla occidentalis morai* n. subsp. (Bullidae). A new scaphelline volute subgenus, *Garciavoluta* n. subgen. (type species: *Aurinia* (*Garciavoluta*) *mcginnorum*), is also described.

KEY WORDS Gastropods, Gulf of Mexico, Carolinian Molluscan Province, Floridian Subprovince, Suwannean Subprovince, Yucatanean Subprovince, Modulidae, Fasciolariidae, Busyconidae, Volutidae, Cancellariidae, Bullidae, *Conomodulus lambi, Modulus danielsi, Modulus hunahpu*, *Trochomodulus velai*, *Cinctura salasi*, *Lindafulgur camazotz*, *Scaphella (Scaphella) junonia glicksteinorum*, *Scaphella (Clenchina) carrieae*, *Scaphella (Clenchina) rundoi, Garciavoluta, Ventrilia jonathoni, Ventrilia xbalanque, Bulla occidentalis morai*

INTRODUCTION

During our research for an upcoming book on the Mollusca of the Gulf of Mexico, we have discovered that a large number of gastropods were never named or described. Of these, twelve species and subspecies were found to be of specific scientific importance, as they are representative of endemic species radiations or are indicative of new and unusual marine ecosystems that were previously unexplored. Because of their significance, we have decided to describe these new gastropods in a separate paper, as opposed to inserting a systematic appendix at the end of the book. This also allows these taxa to be used by systematic malacologists in advance of the actual publication date of the new text and data base.

The new taxa described here encompass several families in three different subprovinces of the Carolinian Molluscan Province: the Floridian Subprovince in the southeastern Gulf of Mexico (encompassing the entire Florida Coral Reef Tract), the Suwannean Subprovince in the eastern and northeastern Gulf of Mexico (entire western coast of Florida from Cape Sable northward to Pensacola), and the Yucatanean Subprovince in the southwestern Gulf of Mexico (Bay of Campeche and the Yucatan Peninsula). For details on the quantitative biogeographical analyses and spatial configurations of these provincial subunits, (see Petuch, 2013 and Petuch & Berschauer, 2020b.) These new taxa are listed here, and they can be considered index taxa for their respective subprovinces.

Floridian Subprovince
Volutidae
Scaphella junonia glicksteinorum n. subsp.
Scaphella (Clenchina) carrieae n. sp.
Scaphella (Clenchina) rundoi n. sp.
Suwannean Subprovince
Modulidae
Conomodulus lambi n. sp.
Modulus danielsi n. sp.
Yucatanean Subprovince
Modulidae
Modulus hunahpu n. sp.
Trochomodulus velai n. sp.
Fasciolariidae
Cinctura salasi n. sp.
Busyconidae
Lindafulgur camazotz n. sp.
Volutidae
Garciavoluta new subgenus of the genus *Aurinia*
Cancellariidae
Ventrilia jonathoni n. sp.
Ventrilia xbalanque n. sp.
Bullidae
Bulla occidentalis morai n. subsp.

SYSTEMATICS

The holotypes of all twelve species and one subspecies described here are deposited in the molluscan collections of the Santa Barbara Museum of Natural History, Santa Barbara, California.

Class	Gastropoda Cuvier, 1795
Subclass	Caenogastropoda Cox, 1960
Order	Mesogastropoda Thiele, 1921
Superfamily	Cerithioidea Flemming, 1822
Family	Modulidae Fischer, 1884

One of the most dynamic groups of gastropods found within the Gulf of Mexico is the family Modulidae, which has undergone an adaptive radiation that has produced at least eight endemic species. These endemic modulid taxa are restricted to discrete areas around the Gulf, occurring from intertidal to deeper neritic environments. The Floridian Subprovince houses three species in three genera; the Turtle Grass-dwelling *Trochomodulus calusa* (Petuch, 1988) and the deep water *Conomodulus lindae* (Petuch, 1987) and *Modulus kaicherae* (Petuch, 1987), which are both associated with outer neritic red algal beds. The Suwannean Subprovince also houses two endemic modulid taxa; the Turtle Grass-dwelling *Modulus floridanus* (Conrad, 1869) and the deep water *Conomodulus lambi* Petuch & Berschauer, n. sp., which lives on offshore coralline algal beds (see Petuch & Berschauer, 2020b for descriptions of the rhodolith faunas). The most wide-ranging modulid species in the Gulf is *Modulus danielsi* Petuch & Berschauer, n. sp., which lives in shallow sea grass beds along the Florida Panhandle (western edge of the Suwannean Subprovince) and ranges down the entire coast of Texas and eastern Mexico as far as Veracruz (Tunnell *et al.*, 2010: 133). The Family Modulidae in the Yucatanean Subprovince is represented by two endemic species, *Modulus hunahpu* Petuch & Berschauer, n. sp. and *Trochomodulus velai* Petuch & Berschauer, n. sp., both of which live in nearshore sea grass beds. Considering that the entire family only contains around 20 species worldwide, it is noteworthy that almost half of the known species are restricted to the Gulf of Mexico. The Florida fossil record also contains many extinct species in the genera *Modulus*, *Trochomodulus*, and *Conomodulus* (Petuch, 1994), demonstrat-ing that the Gulf of Mexico area has been an evolutionary "hot spot" for modulids during the past 5 million years. The four new modulid species are described here and illustrated on Plates 1 and 2.

Genus *Conomodulus* Landau, Vermeij, and Reich, 2014

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Conomodulus lambi Petuch and Berschauer, new species
(Plate 1 A, B, C)

Description. Shell large for genus from 9 to 12 mm in diameter, turbinate, with high, pyramidal spire; sutures of spire whorls indented, producing rounded stepped appearance; subsutural area sloping; periphery sharply-angled, edged with strong carina; subsutural area smooth, with evenly-spaced low undulations that become stronger and more prominent on spire and early whorls; base of shell ornamented with 10 thin, strong spiral cords; body whorl varying in color from golden-tan (as in holotype) to yellow or pure white, with scattered small brown spots; protoconch and early whorls deep lavender-purple; interior of aperture white; columella with large prominent deep purple tooth.

Type Material. HOLOTYPE - diameter 12.6 mm, height 12.0 mm, north of the Dry Tortugas, SBMNH 235850; PARATYPES - 3 specimens, diameters 9.0, 10.0, and 11.0 mm, from the type locality, in the Petuch collection.

Type Locality. The holotype and the type lot were trawled on a coralline algal nodule (rhodolith) sea floor in 46 m depth, 50 km north of the Dry Tortugas, Florida Keys.

Range. The new species lives on coralline algal sea floors at depths of 40-100 m, along the entire western edge of the Florida Platform, from the Dry Tortugas northward to west of Tampa.

Etymology. Named for Paul Lamb, owner of Sarasota Exotic Shells, of Sarasota, Florida who kindly donated specimens for our research.

Discussion. Although originally thought to contain only a single living and single fossil species, both from the South Pacific (Landau, Vermeij, and Reich, 2014), the genus *Conomodulus* is now known to contain two more living species from the Gulf of Mexico. One of these, *Conomodulus lindae* (Petuch, 1987) (Plate 1 D), is known to be a component of the deep water red algae beds off southeastern Florida and the Florida Keys (Petuch, 2013; Petuch & Myers, 2014; Petuch & Berschauer, 2020b). The other species, *Conomodulus lambi* n. sp., has recently been discovered in the coralline algal rhodolith beds along the outer edge of the Florida Platform off western Florida. This new species differs from its only Atlantic congener in being a much larger, broader, and more inflated shell, with a lower spire. *Conomodulus lambi* also lacks the knobby sculpture and strong spiral cords that are so diagnostic of *C. lindae*. Both species have bright purple protoconchs and early whorls, showing a close relationship.

Genus *Modulus* Gray, 1840

Modulus danielsi Petuch and Berschauer, new species
(Plate 2 A, B, C)

Description. Shell of average size for genus from 9 to 11 mm in diameter, discoidal, with sharply-angled periphery and broad sloping subsutural area; periphery edged with single large, rounded cord; subsutural area of body whorl and spire whorls sculpted with 14-15 thin, elongated, evenly-spaced costae per whorl, arranged in oblique radial pattern; subsutural costae overlaid with 4 large, strong spiral cords, giving the thin costae a beaded appearance; base of shell with 6-7 large, rounded, spiral cords; spire whorls and subsutural area; shell base color pale tan; spiral cords colored with small dark brown, closely-packed spots, creating distinct dashed or checkered pattern; peripheral cord white with widely-separated dark brown spots; brown coloring of subsutural area and spire whorls concentrated within depressions between costae, producing radial pattern; interior of aperture pale tan; columella with single large purple-tan tooth.

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Type Material. HOLOTYPE - diameter 9.5 mm, height 9.3 mm, Panama City, Bay County, Florida, SBMNH 235851; PARATYPE - diameter 11.0 mm, from the type locality, in the Petuch collection.
Type Locality. In Shoal Grass (*Halodule*), in 0.5 m depth, St. Andrew's Bay, Panama City, Bay County, Florida.
Range. The new species ranges from Cedar Key, Levy County, Florida to the Mississippi River Delta, Louisiana, and along the Texas coast at least as far as the Nueces County coastline.
Etymology. Named for Capt. Craig Daniels of Chokoloskee Island, Florida who has aided the authors in their research within the Ten Thousand Islands of southwestern Florida.
Discussion. This new modulid has the widest range of any of the Gulf of Mexico *Modulus* species, being found along the entire northern Gulf coast, from Cedar Key, Florida to central Texas (Tunnell, *et al.*, 2010). Of the known modulids of the Gulf area, *Modulus danielsi* is similar only to *M. floridanus* (Conrad, 1869) (Plate 1 E, F), a species restricted to the southern part of the Suwannean Subprovince, from the Ten Thousand Islands of southwestern Florida northward to Tampa, Florida. The new northern and western Gulf species differs from its southern Florida congener in being a smaller shell with a much more ornate sculptural pattern, having more numerous and stronger spiral cords on the subsutural area of the body whorl and on the spire whorls, and in having more numerous radiating subsutural costae (14-15 on *danielsi* and 11-12 on *floridanus*). The number and thickness of the spiral cords on the base of the shells also differs, with *danielsi* having 6-7 thin cords while *floridanus* has only 4 thick spiral cords. *Modulus danielsi* is also a much less colorful shell than *M. floridanus*, lacking the broad yellow bands on either side of the white peripheral cord, and having, instead a uniformly tan shell that is heavily maculated with numerous closely-packed small brown spots and patches.

Modulus hunahpu Petuch and Berschauer, new species
(Plate 2 D, E, F)

Description. Shell of average size for genus from 10 to 16 mm in diameter, flattened, discoidal, with sharply-angled periphery and broad sloping subsutural area; periphery edged with single large, rounded cord; subsutural area sculpted with 11-12 large, prominent, evenly-spaced undulating costae, arranged in radial pattern; edges of subsutural costae overlap peripheral cord, producing star-shaped pattern when seen from above; base of shell with 3 very large, rounded, spiral cords; spire whorls and subsutural area sculpted with 3 small, thin spiral cords and 1 larger cord adherent to suture; shell base color white; spiral cords colored with large dark brown, evenly-spaced elongated flammules, creating distinct dashed pattern; peripheral cord with largest and most prominent dark brown and white alternating pattern; brown coloring of spire cords concentrated within depressions between undulating costae, with costal ridges being pure white; interior of aperture white; columella with single large tooth.
Type Material. HOLOTYPE - diameter 10.0 mm, height 8.8 mm, from Celestun, Yucatan Peninsula, Mexico, SBMNH 235852; PARATYPES - diameters 15.0 mm and 16.0 mm, from the type locality, in the Petuch collection.
Type Locality. Found on the beach, Celestun Lagoon, Celestun, Yucatan State, Mexico.
Range. Restricted to the Yucatan Peninsula of Mexico, from eastern Tabasco State to Isla Contoy, Quintana Roo State, where it lives in shallow water Turtle Grass (*Thalassia testudinum*) beds within quiet, sheltered coastal lagoons.

Etymology. The taxon honors Hunahpu, one of the Hero Twins described in the Popol Vuh, the Mayan sacred book. Hunahpu's head was torn off by the bat spirit, Camazotz, who then presented it to the Lords of the Underworld, who used it in their sacred ball games.

Discussion. This new Yucatan endemic sea grass species is most similar to the wide-ranging Caribbean *Modulus modulus* (Linnaeus, 1758) (Plate 1 H), but differs in having a more discoidal shell with a noticeably-lower spire, in having proportionally much larger and more prominent subsutural costae, and in having more numerous and finer cords around the base of the shell.

Genus *Trochomodulus* Landau, Vermeij, and Reich, 2014

Trochomodulus velai Petuch and Berschauer, new species
(Plate 2 G, H, I))

Description. Shell of average size for genus from 11 to 12 mm in diameter, trochoidal, broadly biconic; periphery of body whorl sharply-angled, with a single, large, prominent rounded cord, forming peripheral keel; subsutural areas of body whorl and spire whorls sloping at acute angle, with slightly undulating surface; subsutural area sculpted with 4 thin raised cords; base of shell ornamented with 5 large spiral cords, with anteriormost cord being smallest; shell base color white or pale whitish-yellow; all cords on body whorl and peripheral keel marked with large equally-distanced discrete dark brown flammules, producing distinct checkered color pattern; aperture white within interior; columella pale tan, with single large white tooth.

Type Material. HOLOTYPE - diameter 11.7 mm, height 11.3 mm, found on the beach, Celestun Lagoon, Celestun, Yucatan State, Mexico, SBMNH 235853; PARATYPES - 11.0 mm and 12.0 mm, from the type locality, in the Petuch collection.

Type Locality. Celestun Lagoon, Celestun, Yucatan State, Mexico.

Range. Restricted to the Yucatan Peninsula of Mexico, from eastern Tabasco State to Isla Contoy, Quintana Roo State, where it lives in shallow water Turtle Grass (*Thalassia testudinum*) beds within quiet, sheltered coastal lagoons.

Etymology. Named for Luis Vela of Merida, Yucatan, Mexico, who donated the type material for this new species and other smaller Yucatan shells.

Discussion. Of the known modulid species found in the Gulf of Mexico, *Trochomodulus velai* is most similar to *Trochomodulus calusa* (Petuch, 1988) (Plate 2 J, K) from the Florida Keys and Floridian Subprovince. The new Yucatan species differs from its Floridian congener in being a larger, more trochiform species, with a higher spire and more acutely-angled subsutural area. The peripheral keel cord of *T. velai* is proportionally thicker and better-developed than that of *T. calusa* and the cords on the subsutural area are also thicker, better-developed, and more prominent. The surface of the subsutural area of *F. calusa* is also much smoother and unornamented, with only a few faint undulations.

Order Neogastropoda Wenz, 1938
Superfamily Buccinoidea Rafinesque, 1815
Family Fasciolariidae Gray, 1853
Subfamily Fasciolariinae Gray, 1853
Genus *Cinctura* Hollister, 1957

Cinctura salasi Petuch and Berschauer, new species
(Plate 3 C, D)

Description. Shell of average size for genus from 50 to 64 mm in length, highly inflated, roundly fusiform, with proportionally short

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siphonal canal; spire protracted, with deeply-incised sutures, producing rounded spire whorls; protoconch rounded, dome-like; first 3 postnuclear whorls conspicuously sculpted with 8-10 strongly-incised spiral threads and low undulations, producing distinctive grooved appearance; shell base color white, with numerous, evenly-spaced pale orange flammules arranged in zebra pattern; base color overlaid with 7-8 reddish-brown widely-separated spiral bands (7 on holotype), with anteriormost band overlapping onto base of siphonal canal; anterior tip of siphonal canal colored orange-brown; siphonal canal ornamented with 7 large, prominent cords; aperture proportionally large, flaring oval in shape; columella arcuate, with 2 large plicae at anterior end.

Type Material. HOLOTYPE - length 51.6 mm, width 26.5 mm, in Celestun Lagoon, Mexico, in shallow water, SBMNH 235854; PARATYPES - 63.9 mm and 62.7 mm, from the same locality as the holotype, in the Berschauer collection.

Type Locality. Celestun Lagoon, Celestun, Yucatan State, Mexico. The holotype was found washed onto the beach near Turtle Grass beds.

Range. The new species ranges along the northern coast of the Yucatan Peninsula, from Celestun to Isla Holbox. Dead specimens have been observed to have washed onto beaches throughout this area.

Etymology. Named for Felix Salas of San Jose, Costa Rica, who kindly donated the type lot of the new species.

Discussion. Although resembling the widespread Carolinian Province *Cinctura hunteria* (Perry, 1811) (Plate A, B; found in the Georgian and Floridian Subprovinces, and southern part of the Suwannean Subprovince) in general shape and color pattern, the Yucatanean Subprovince endemic *C. salasi* differs primarily in having heavily-ornamented early whorls, sculpted with deeply-incised spiral grooves. In contrast, *C. hunteria* consistently has smooth early whorls and also differs in shell proportions, being a less inflated and rotund shell with a more elevated spire and proportionally-longer siphonal canal. The Yucatan endemic species also differs in having more dark color bands than its eastern Gulf congener; with 7-8 on *salasi* and only 5-6 on *hunteria*. In this respect, *C. salasi* resembles the offshore, deeper water Yucatan species, *C. connori* Petuch & Berschauer, 2020 (Plate 3 E, F; originally described as a subspecies of the Texan Subprovince *C. lilium* but now considered to be a full species), which generally exhibits 8-9 dark bands. (see Petuch & Berschauer, 2020a). *Cinctura salasi* may eventually be shown to represent a shallow-water derivative of the deeper neritic *C. connori*.

Family Busyconidae Wade, 1917
Subfamily Busyconinae Wade, 1917
Genus *Lindafulgur* Petuch, 2004

Lindafulgur camazotz Petuch and Berschauer, new species
(Plate 4 D-F)

Description. Shell of average size for genus from 100 to 210 mm in length, with proportionally very long siphonal canal that comprises one-half of entire shell length; body whorl inflated with rounded sides, distinctly turnip-shaped, with sharply-angled shoulder; spire pyramidal, slightly scalariform, with strongly sloping subsutural areas; shoulder of body whorl and spire whorls carinate, ornamented with 14-18 widely-separated, sharply-pointed spiked knobs along shoulder carina; body whorl ornamented with very numerous fine raised spiral cords, producing rough, file-like texture; thinner and finer spiral cord present between each pair of larger cords; entire siphonal canal, from body whorl juncture to anterior tip, heavily ornamented with very strong, prominent spiral cords with smaller

secondary cords between each pair of main cords; spire whorls (Plate 4 F) heavily ornamented with 10-14 large, evenly-spaced spiral cords; smaller and thinner cords sometimes present between pairs of primary cords; shell color pale orange-yellow with 2 broad bands of dark orange-brown, one below shoulder and one below mid-body of body whorl; mid-body marked with single wide colorless band of pale orange; some specimens with pale violet patches below shoulder area; intersection of color band with shell growth increments producing dark brown longitudinal flammules, creating a "zebra" or checkered color pattern; spire whorls with many dark brown radiating flammules, with each corresponding to a shell growth increment; aperture wide and oval-shaped, containing numerous large, evenly-spaced cords; interior of aperture uniformly bright orange with white edge along lip margin; protoconch proportionally large, bulbous and rounded, composed of 2 whorls, pale yellow in color.

Type Material. HOLOTYPE - length 207.0 mm, width 105.0 mm, 120 m depth off Isla Blanca, Mexico, SBMNH 235855; PARATYPES - lengths 108.0 mm, 109.0 mm, 111.0 mm, and 117.0 mm, from the type locality, in the Petuch collection; lengths 93.4 mm, 93.6 mm, 95.0 mm, 103.0 mm, 104.0 mm, 107.0 mm, and 112.0 mm, from the type locality, in the Berschauer collection; lengths 97.0 mm and 104.0 mm from the type locality, in the Mark Johnson collection.

Type Locality. Trawled by deep water shrimpers from 120 m depth off Isla Blanca, Quintana Roo State, Yucatan Peninsula, Mexico.

Range. At present, only known from 120 m depth off the eastern side of the Yucatan Peninsula, Mexico.

Etymology. "Death Bat" in K'iche Mayan; a bat spirit creature in the service of the Lords of the Underworld, who inhabit Xibalba. According to the text of the Popol Vuh (Mayan scared book), Camazotz tore the head off Hunahpu, one of the Hero Twins, when he entered Xibalba with his brother, Xbalanque. Camazotz then gave the head to his lords, who used it as a ball in their sacred ball games. Camazotz is also the senior author's favorite Mayan demigod.

Discussion. This large busyconid is the third-known species of *Lindafulgur* discovered in the Gulf of Mexico; with the wide-ranging *L. candelabrum* (Lamarck, 1816) (Plate 4 A-C), found from southern Texas to Isla Holbox, Quintana Roo State, Mexico, and the thin and delicate, bright orange *L. lyonsi* (Petuch, 1987) from off the western Florida continental shelf (see Petuch, 1987). Of these two, the only species that is closest to the eastern Yucatan *L. camazotz* is the wide-ranging *L. candelabrum*. The well-known *Lindafulgur candelabrum* differs from *L. camazotz* in the following ways: **1.** by having a flatter spire that is not distinctly stepped or elevated; **2.** by having fewer and proportionally-larger shoulder spines, which are frequently flattened, blade-like, or paddle-shaped (like Lamarck's holotype); **3.** by having a coarser body whorl and spire sculpture, composed of fewer but larger and more widely-spaced spiral cords; **4.** by always having a white or pale yellow-white aperture, as opposed to the bright orange aperture seen on *camazotz*. The new species is most frequently encountered in an area extending from Isla Holbox eastward to Isla Mujeres in Quintana Roo State. *Lindafulgur candelabrum*, on the other hand, is most frequently collected by shrimpers on the Campeche Bank, especially the areas off Progreso, Yucatan State and is also collected, in deeper water, as far north as Port Isabel, Cameron County Texas.

Superfamily	Volutoidea Rafinesque, 1815
Family	Volutidae Rafinesque, 1815
Subfamily	Scaphellinae Gray, 1857
Genus	*Scaphella* Swainson, 1832

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Members of this genus have proportionally-large, rounded and dome-shaped protoconchs, four strong ridge-like columellar plicae, and early whorls that are heavily-sculptured with longitudinal ribs and fine spiral threads. The checkered spots are large and prominent, even on the early whorls of the spire.

Scaphella (Scaphella) junonia glicksteinorum
Petuch and Berschauer, new subspecies
(Plate 5 C-G)

Description. Shell small for species from 60 to 65 mm in length, with adults attaining only one third to one half the length of the nominate subspecies; body whorl inflated, with rounded sides, smooth and polished, with silky texture; spire proportionally very low, subpyramidal; shoulders of body whorl and spire whorls slightly angled, with angulation being most prominent of spire whorls; protoconch covered with large golden-brown calcarella, producing distinct dome-like appearance to apex; first two post-nuclear whorls ornamented with numerous low, faint, rib-like longitudinal costae; body whorl and spire with ivory-white base color, which is overlaid with 7 rows of elongated, rounded, reddish-brown checker-like spots; 7 main rows of spots often with subsidiary or partial rows of smaller spots between them; checkered spots along subsutural area of the shoulder, adjacent to suture, larger and more elongated than spots in adjacent rows; columella straight, ornamented with 4 large folds, with their edges recurved posteriorly, producing distinct indented ramps; anterior end of columella and fasciole pale orange tan in color; aperture uniformly narrow, pale yellow-orange within interior; edge of lip on fully adult specimens (like the holotype) is recurved posteriorward

Type Material. HOLOTYPE - length 61.7 mm, width 26.0 mm, 8 m depth off Looe Key, Florida Keys, SBMNH 235856; PARATYPES - length 62.5 mm, in a sand pocket on a living coral patch reef, 5 m depth, south of Big Munson Island, Big Pine Key, Monroe County, Florida, in the Petuch collection; length 65.0 mm, found freshly-dead on clean carbonate sand, 5 m depth off Pickles Reef, Plantation Key, northern Florida Keys, Monroe County, Florida, in the Berschauer collection.

Type Locality. Collected on clean carbonate sand among living corals, 8 m depth north of Looe Key Reefs, Looe Key, Lower Florida Keys, Monroe County, Florida.

Range. The new subspecies is found in shallow water (2-10 m depths) on the Florida Coral Reef Tract, which extends from Palm Beach County, Florida to the Dry Tortugas, where it is associated with clean carbonate sand among living corals.

Etymology. Named for Dr. Marvin and Patricia Glickstein of North Palm Beach, Florida, in recognition of their years of intensive dredging for deep water shells off the coast of southeastern Florida. Using only a small dredge, pulled up from 70-120 m depths by hand, the Glicksteins discovered many new species from off Palm Beach, and several of them now bear their names.

Discussion. This dwarf shallow water subspecies of *Scaphella junonia* has been collected in the Florida Keys for over 50 years, but was never formally described as a separate genetically-isolated population. Petuch & Myers in their book on the shells of the Florida Keys (2014: 118, figure 6.8 G, H) illustrate a 65 mm specimen (now in the Berschauer collection) from 3 m depth on Pickles Reef, off Plantation Key. This specimen was originally considered to be a paratype of the much larger *S. junonia elizabethae* Petuch & Sargent, 2011 (Plate 5 B), a subspecies that is now known to be confined to deeper water (approximately 50 m depth) areas off the Dry Tortugas and the adjacent Tortugas Shrimping Ground to the north. The new subspecies differs from its deeper-water

western congener in the following shell characters: **1.** being consistently a much smaller shell, only one-half the length of a fully-adult *elizabethae*; **2.** in having a narrower, more fusiform shell with straighter sides; **3.** in having a proportionally much lower spire, with the shoulders of the spire and body whorls being distinctly angled; **4.** in having less-ornamented post-nuclear whorls, with only small, faint ribs present on the first whorl; **5.** in having more numerous and more closely-packed elongated rectangular spots, which vary from dark brown to reddish-brown, with the latter color being the most commonly-encountered; on *elizabethae*, the spots are rounded in shape, are proportionally larger in size, and are widely separated from each other.

True *Scaphella junonia junonia* (Lamarck, 1804) (Plate 5 A) is rarely encountered in the Florida Keys, primarily because it lives in much deeper water along this area and has only been dredged on the deep terraces (100-200 m depths) off the southern side of the Florida Keys Archipelago. It is far more commonly-encountered along eastern Florida, from Palm Beach County northward, and along western Florida, from the Ten Thousand Islands north to Tampa. The new subspecies *glicksteinorum* occupies the shallow coral reef platform ecological niche and all its available food resources that are not being utilized by the deep water nominate subspecies. The subspecies *elizabethae* is confined to the outer edge of the southwestern Florida Continental Shelf and is a faunal component of the highly endemic Tortugas molluscan fauna (Petuch, 2013; Petuch & Berschauer, 2020b). The Florida Coral Reef Tract and the Florida Keys Archipelago are now known to house three subspecies of scaphelline volutes; *Scaphella junonia junonia* along the deep water terraces that border the Straits of Florida; *Scaphella junonia glicksteinorum* on shallow water coral reefs; and *Scaphella junonia elizabethae* from moderate depths around the Dry Tortugas and the southwestern edge of the Florida Continental Shelf.

Subgenus *Clenchina* Pilsbry and Olsson, 1953

Members of this subgenus have smaller, more elongated, and distinctly cylindrical shells, with three-to-four columellar plicae. Protoconchs are proportionally large, rounded and distinctly domelike. On most *Clenchina* species, the early whorls are heavily ornamented with a single row of large, elongated riblike knobs.

Scaphella (Clenchina) carrieae Petuch and Berschauer, new species
(Plate 6 A-F)

Description. Shell small for subgenus from 32 to 44 mm in length, broadly rhomboid, with proportionally-low spire; shoulder of body whorl and spire whorls strongly carinate, with large, prominent rounded carina that projects beyond shell outline; shoulder carina heavily ornamented with large, prominent elongated rib-like knobs, averaging 20 per whorl; subsutural area distinctly sloping, grading directly into knobbed carina; shell with silky texture, ornamented with very numerous, extremely fine spiral threads, which become larger and coarser on anterior half of body whorl; entire shell colored pale straw-yellow, overlaid with 6-7 rows of evenly-spaced orange-tan rectangular spots on body whorl anterior of shoulder carina and 1-2 orange-tan spots on sloping subsutural area posterior of shoulder carina; aperture open, flaring, narrowing toward anterior end; interior of aperture pale yellow; columella slightly arcuate, with 3 large, thin blade-like folds; protoconch proportionally very large, smooth, rounded and dome-shaped, composed of 2 whorls.

Type Material. HOLOTYPE - length 42.0 mm, width 19.0 mm, 550 m depth off Key Largo,

Florida Keys, Monroe County, Florida, SBMNH 235857; PARATYPES - length 40.0 mm, 700 m depth in the Straits of Florida south of Key West, Monroe County, Florida, in the Petuch collection: lengths 44.0 mm and 32.0 mm, from 750 m depth in the Straits of Florida south of Key West, Monroe County, in the Berschauer collection; 14 specimens, in the Douglas Shelton collection, as follows: Florida Straight between Florida Keys and northeastern Cuba, dredged from 1,200 feet in 1969 (46.1, 32.4, 45.9, 30.0, 34.9, and 40.2 mm in length); Monroe County, Florida, off Key West, R/V Combat St. 444, at 25°11'N 79°55'W, at 300 fathoms, July 23, 1957 (49.7 and 37.7 mm in length); Monroe County, Florida, SW of Key West, dredged from 125 fathoms (42.6 mm in length); and specimens from old collections with questionable localities: "Palm Beach County, Florida, south of Boynton Inlet", dredged from 125 fathoms, July 14, 1968 (44.0 mm in length); "Broward County, Florida, off Hillsboro Light", 150 fathoms (37.2 and 16.6 mm in length); "Palm Beach County, Florida, off Boynton Beach, Ocean Ridge," trawled from 105 fathoms, June 11, 1953 (33.1 and 32.1 mm in length).

Type Locality. The holotype was dredged by the R/V *Combat* (station 444; 25 degrees, 11 minutes North; 70 degrees, 55 minutes West) from 550 m depth in the Straits of Florida southeast of Key Largo, Florida Keys, Monroe County, Florida (collected on 7/22/1957).

Range. The new species is primarily known from deep water (500-750 m) in the Straits of Florida, south of the Florida Keys, from Key Largo to Key West.

Etymology. Named for Carrie Shelton of Mobile, Alabama, who has assisted her husband, Douglas Shelton, with his studies of the Gulf of Mexico Volutidae.

Discussion. Of the known species in the subgenus *Clenchina*, the new species is closest to *Scaphella (Clenchina) marionae* Pilsbry and Olsson, 1953 (Plate 6 H, I), a species found in the Bathyal Zone along western Florida, from off Fort Myers north to Cedar Key. Although often synonymized with the widespread Gulf of Mexico *S. (Clenchina) robusta* (Dall, 1889), *S. (Clenchina) marionae* is a smaller shell than *robusta*, with a more inflated body whorl, proportionally lower spire, and different color pattern composed of widely-spaced dark brown spots on a white base color, as opposed to the pale yellow base color seen on *robusta*. Of these two related species, *S. (Clenchina) carrieae* is morphologically-closest to the western Florida *marionae* but differs in the following ways: **1.** having a less inflated shell with a distinct rhomboidal shape; **2.** in having a silkier shell sculpture that lacks the heavy raised cords seen on *marionae*; **3.** in having a much better-developed shoulder carina with proportionally much larger knobs; **4.** in having the shoulder carina knobs extend along the entire body whorl except for the labial area (in *marionae* the carina knobs only extend around half the body whorl); **5.** in having a pale straw-yellow shell color with orange checkered spots, while *marionae* has a white shell with small, rounded dark brown spots.

Scaphella (Clenchina) carrieae is also similar to *S. (Clenchina) florida* (Clench and Aguayo, 1940) (Plate 6 G), another volute that is endemic to the Florida Keys and has, essentially, the same range as the new species. This species, however, lives in much shallower water than does *carrieae*, preferring depths of around 200-300 m as opposed to 700-750 m. *Scaphella (Clenchina) florida* also has a very prominent shoulder carina that is ornamented with large elongated knobs, but these are confined to the early whorls (usually first three whorls) and are not present on the body whorl. *Scaphella (Clenchina) florida* is also a larger and more elongated shell than is *carrieae* and has a dark yellow-orange base color, similar to that seen on

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the widespread Gulf of Mexico *S. (Clenchina) dohrni* (Sowerby III, 1903). The northern Cuban *S. (Clenchina) cuba* Clench, 1946 shares the same stocky, rhomboidal shape and strong shoulder carina that are seen on *S. (Clenchina) carrieae*, but differs in having a color pattern composed of thin longitudinal "zebra" stripes as opposed to the discrete checkers seen on the new species.

Scaphella (Clenchina) rundoi Petuch and Berschauer, new species
(Plate 7 C-G)

Description. Shell small for subgenus from 38 to 58 mm in length, distinctly fusiform and inflated, with proportionally-low, subpyramidal spire; body whorl smooth, with silky texture composed of very numerous, closely-packed fine spiral threads; shoulder and subsutural area greatly sloping, fusing directly into body whorl; spire whorls conspicuously angled on early whorls, with some specimens having faint, poorly-developed, elongated ribs on the first two postnuclear whorls; protoconch proportionally large, dome-shaped, rounded, composed of 2 whorls; shell base color pale yellow or pale yellow-tan, overlaid with 8 rows of small, evenly-spaced light brown checkers; some specimens with secondary subsidiary rows of smaller spots present between rows of larger spots; aperture open and flaring, pale yellow within interior; columella relatively straight, ornamented with 3 large, thin, blade-like folds.

Type Material. HOLOTYPE - (fragmentary) length 58.0 mm, width 21.7 mm, trawled from 400 m depth NW of the Dry Tortugas, Florida Keys, SBMNH 235858; PARATYPES - length 41.5 mm, trawled from 400 m depth north of the Dry Tortugas, Florida Keys, in the Petuch collection; lengths 40.3 mm and 46.5 mm, 350 m depth north of the Dry Tortugas, Florida Keys, Monroe County, Florida, in the Berschauer collection; 8 specimens in the Douglas Shelton collection, as follows: Florida Straight between Florida Keys and northeastern Cuba at 1,200 feet depth in 1969 (51.3 and 51.2 mm in length); Monroe County, Florida, off Dry Tortugas at 125 fathoms (48.9 and 39.3 mm in length); Monroe County, Florida, off Key West, trawled from 75 fathoms in 1969 (45.6 mm in length); Monroe County, Florida, off Key West, trawled from 100 fathoms (39.3 mm in length); Monroe County, Florida, off Key West, R/V Combat St. 444, at 25°11'N 79°55'W, at 300 fathoms, July 23, 1957 (46.3 mm in length); and a specimen from an old collection with a questionable locality: "Palm Beach County, Florida, off Boynton Beach," trawled from 105 fathoms, June 11, 1953 (38.1 mm in length).

Type Locality. Known from the area around the Dry Tortugas, western Florida Keys, Monroe County, Florida, in depths of 350-400 m.

Range. Known primarily from deep water around the Dry Tortugas, western Florida Keys. The species may also inhabit the Bathyal Zone at the edge of the southwestern Florida Continental Shelf, in depths averaging 400 m.

Etymology. Named for Louie Rundo of Broadview Heights, Ohio who kindly donated rare and important Gulf species for our research.

Discussion. Of the known *Clenchina* species, the Dry Tortugas *S. (Clenchina) rundoi* is most similar to the widespread Gulf volute, *S. (Clenchina) dohrni* (Sowerby, 1903) (Plate 7 A, B), but differs in the following ways: **1.** in being a smaller shell, averaging 50 mm, as opposed to the 70-80 mm length of an average *dohrni*; **2.** in being a much more inflated shell with more-rounded sides and a distinctly-fusiform shell; **3.** in having a proportionally lower spire that is not as protracted and elevated as that of *dohrni*, often being only one-half the total length; **4.** in having small, poorly-developed ribs on the early whorls of some specimens, a shell character that is absent on specimens of *dohrni*; **5.** in having a pale straw-yellow base color that is overlaid with eight rows of pale tan, widely-spaced light brown spots as opposed to the dark yellow-

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orange base color and 8-10 rows of large, dark brown checkers seen on *dohrni*. *Scaphella (Clenchina) rundoi* is also similar to the exceedingly rare and poorly-known *S. (Clenchina) atlantis* Clench, 1956 (Plate 7 H) from deep water in the Straits of Florida between Cuba and the Florida Keys, but differs in being a more inflated shell with more rounded sides and in lacking the prominent sharply-angled shoulder.

Genus *Aurinia* H. and A. Adams, 1853

Subgenus *Garciavoluta* Petuch and Berschauer, new genus

Diagnosis. Shells large for genus, averaging 225 mm in length, extremely elongated and fusiform, with high, elevated spires and very protracted and narrow siphonal canals; columella straight, ornamented with 2 large folds; shell color golden-tan, grading into light brown on the siphonal canal; first 3 postnuclear whorl marked with 2 or 3 rows of very small, widely-separated round dots; dotted pattern disappears on later whorls; protoconch proportionally extremely large, bulbous and globe-shaped, composed of 2 whorls; protoconch with uniform dark reddish-brown color.

Type Species. *Aurinia (Garciavoluta) mcginnorum* (Garcia and Emerson, 1987), by monotypy. Originally described as "*Scaphella*" *mcginnorum* (shown here on Plate 7 I, J).

Distribution. The monotypic subgenus is confined to deep water areas off the northeastern side of the Yucatan Peninsula of Mexico, from Isla Holbox to Isla Contoy. Most of the known specimens have been collected by shrimpers from 300 m off Contoy Light.

Etymology. Named for Dr. Emilio Garcia of Lafayette, Louisiana, in recognition of his many important contributions to the malacology of the Gulf of Mexico, especially his discovery and naming of *Aurinia mcginnorum*.

Discussion. The new monotypic subgenus represents a separate clade off the main *Aurinia* branch of scaphelline volutes. Its placement as a subgenus of *Aurinia* and not *Scaphella* is due to the fact that *mcginnorum* only has two thin columellar plicae, as does *Aurinia s.s.*, and not three or four as seen in *Scaphella s.s.* and *Scaphella (Clenchina)*. Unlike the true *Aurinia (Aurinia)* and *Aurinia (Rehderia)* species, the new subgenus lacks any type of checkered color pattern on the body whorl and penultimate whorl and also has a proportionally much longer and narrower siphonal canal. The primary shell character that sets *Garciavoluta* apart from the other related subgeneric groups is the presence of the unusually-large, bulbous, knob-like brown protoconch, which is a unique feature that is seen only in the new subgenus.

Family Cancellariidae Lamarck, 1799
Subfamily Cancellariinae Forbes & Hanley, 1851
Genus *Ventrilia* Jousseaume, 1887

Ventrilia jonathoni Petuch and Berschauer, new species
(Plate 8 H, I, J)

Description. Shell small for genus at approximately 12 mm in length, subcylindrical, highly inflated, with proportion-ally low scalariform spire and planar subsutural area; shoulder of body whorl rounded, ornamented with 12 low, smooth knobs; body whorl sculptured with 2 rows of closely-packed, proportionally-large rounded knobs around midline of body whorl; each row of midline knobs composed to 2 closely-packed smaller rows of secondary knobs arranged in oblique pattern; some oblique rows fuse together into almost-solid oblique bars, all arranged in echelon pattern; rounded knobs overlaid with numerous strong spiral cords; body whorl and

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spire colored reddish-orange; subsutural area pure white, contrasting with red-orange body whorl color; aperture wide, flaring, triangular, white within interior; columella straight, white in color, with 2 small folds; umbilicus narrow but deep.

Type Material. HOLOTYPE - length 12.0 mm, width 11.0 mm, Telchac Puerto, Yucatan State, Mexico, SBMNH 235859.

Type Locality. On the beach at Telchac Puerto, Yucatan State, Mexico.

Range. Specimens of this new cancellariid have been collected as beach specimens from Telchac, Yucatan State to Isla Contoy, Quintana Roo State, Yucatan Peninsula, Mexico.

Etymology. Named for Jonathon Berschauer, son of the junior author, an avid outdoors-man and naturalist who has assisted in field studies and collection in Cancun, Mexico, and other localities.

Discussion. This small colorful new cancellariid is closest only to the wide-ranging *Ventrilia tenerum* (Philippi, 1848) (Plate 8 A, B) from the Floridian and Suwannean Subprovinces but differs in being a much smaller species with a much stronger sculpture pattern composed of obliquely-aligned rows of large fused rounded knobs instead of 2 rows of discretely-separated smaller knobs. *Ventrilia jonathoni* is also a far more colorful shell than the uniformly straw-colored *V. tenerum*, being a bright red-orange shell with a pure white spire (shown here on Plate 8 J).

Ventrilia xbalanque Petuch and Berschauer, new species
(Plate 8 C, D)

Description. Shell small for genus at approximately 16 mm in length, cylindrical, with high, protracted, scalariform spire; shoulder of body whorl rounded, ornamented with 15 low, smooth knobs; body whorl sculpture consisting of 2 large, prominent rounded spiral cords around midbody and 25 smaller subsidiary spiral cords; shell color uniformly deep golden orange, with shoulder knobs being darker brown-orange; aperture flaring, triangular in shape, pale tan within interior; columella straight, white in color, with 2 small plicae; umbilicus very wide and flaring.

Type Material. HOLOTYPE - length 16.0 mm, width 12.0 mm, from Telchac Puerto, Yucatan, Mexico, SBMNH 235860.

Type Locality. On the beach at Telchac Puerto, Yucatan State, Mexico.

Range. Specimens of this new cancellariid have been collected as beach specimens from Telchac, Yucatan State to Isla Contoy, Quintana Roo State, Yucatan Peninsula, Mexico.

Etymology. The taxon honors Xbalanque, brother of Hunahpu and one of the Mayan Hero Twins described in the Popol Vuh. Xbalanque, along with his brother, crossed the Rainbow Bridge into the underworld of Xibalba and survived an attack by the bat spirit demigod, Camazotz.

Discussion. *Ventrilia xbalanque* does not resemble either of the two known *Ventrilia* species from the Carolinian Molluscan Province; *V. jonathon* and *V. tenerum*. Of these two congeners, the new species is closest to *tenerum* (Plate 8, A, B) but differs in lacking the strong knobs on the body whorl, in being a more cylindrical and elongated shell, and in having the dark brown-orange shell color. With these shell characters, *Ventrilia xbalanque* actually closely resembles *V. bullatum* (Sowerby I, 1832) from the Eastern Pacific Panamic Molluscan Province and appears to be the western Atlantic cognate species of its Eastern Pacific congener.

Subclass	Heterobranchia Gray, 1840
Infraclass	Euthyneura Spengel, 1881
Order	Cephalaspidea Fischer, 1883
Superfamily	Bulloidea Gray, 1827
Family	Bullidae Gray, 1827
Genus	*Bulla* Linnaeus, 1758

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Bulla occidentalis morai Petuch and Berschauer, new subspecies
(Plate 8 E, F)

Description. Shell smaller than nominal subspecies from 11 to 17 mm in length, ovate, inflated, subcylindrical; spire low, with deeply-perforate apical pit; shell smooth and polished with 8 thin spiral cords around anterior end; posterior end of labrum projecting beyond plane of spire; shell color white overlaid with widely-separated reddish-brown amorphous patches and small brown speckles; anterior end of body whorl colored pale orange; aperture wide and flaring, white within.

Type Material. HOLOTYPE - length 17.4 mm, width 10.4 mm, Celestun Lagoon, Yucatan, Mexico, SNMNH 235861; PARATYPE - length 11.0 mm, from the same locality as the holotype, in the Petuch collection.

Type Locality. Celestun Lagoon, Celestun, Yucatan State, Mexico, near a bed of Turtle Grass (*Thalassia testudinum*).

Range. Restricted to the Yucatan Peninsula of Mexico, from eastern Tabasco State to Isla Contoy, Quintana Roo State, where it lives in shallow water Turtle Grass (*Thalassia testudinum*) beds within quiet, sheltered coastal lagoons.

Etymology. Named for Gilberto Naal Mora of Celestun, Yucatan, Mexico, who collected the holotype.

Discussion. This new subspecies of the widespread western Atlantic *Bulla occidentalis* A. Adams, 1850 (Plate 8 G) is restricted to the Yucatan Peninsula and appears to represent a genetically-isolated population that inhabits the coastal lagoons. The new Yucatan subspecies differs from the wide-ranging nominate subspecies in being consistently a much smaller shell (averaging 12 mm as opposed to 35 mm for *occidentalis*), in having a narrower and more cylindrical shell, in having a more sharply-projecting and narrower posterior labral projection, and in having a distinctive color pattern of large, discrete, brown patches distributed on a white background, producing a slightly checkered appearance, as opposed to the dark-colored and densely-patterned *occidentalis*. What malacologists call *"Bulla occidentalis*" may actually represent a complex of closely-related sibling species and subspecies, with the Yucatanean Subprovince *morai* representing a Yucatan endemic and the Floridian Subprovince *Bulla frankovichi* Petuch & Myers, 2014 representing a dark-banded dwarf taxon that is endemic to the Florida Keys (see Petuch & Myers, 2014).

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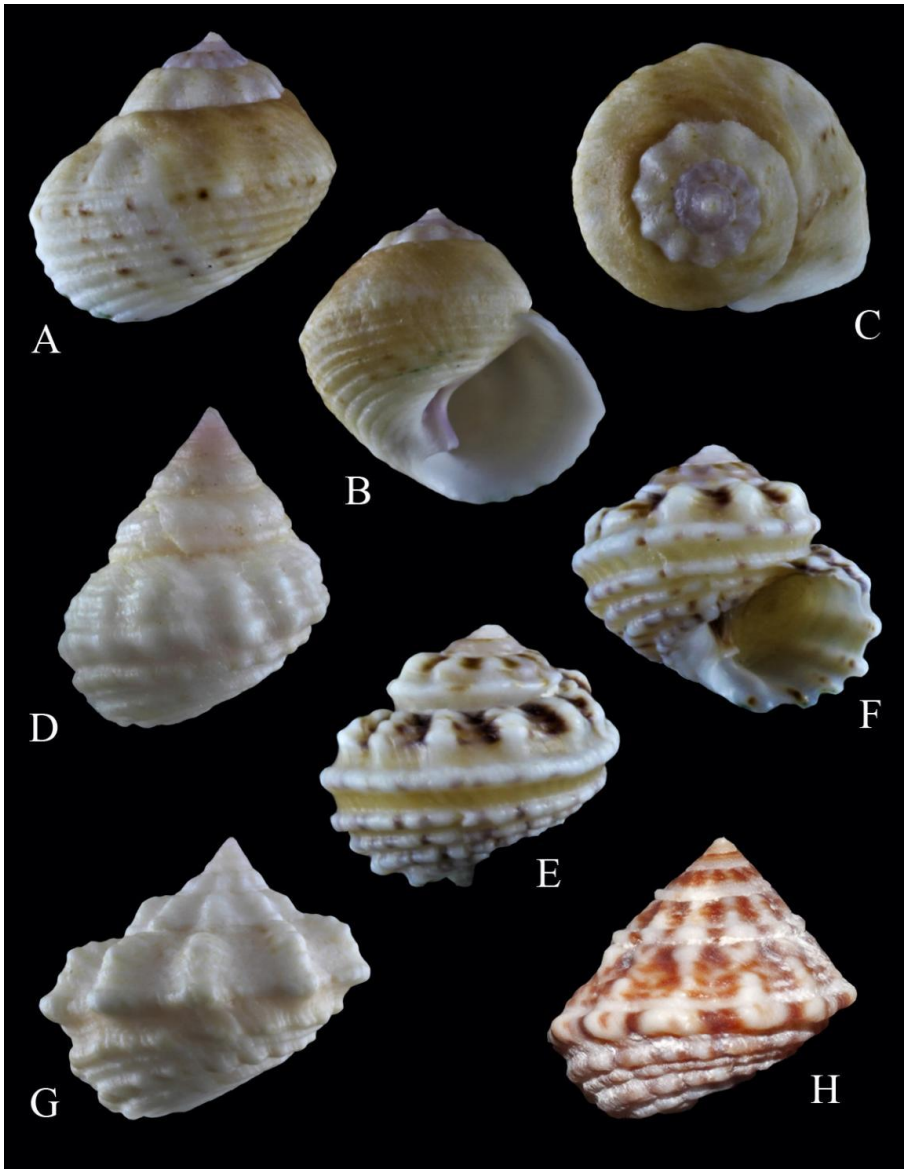

Plate 1. Modulidae of the Gulf of Mexico.
A, B, C= *Conomodulus lambi* Petuch & Berschauer, new species, holotype, diameter 12.6 mm, trawled from coralline algal beds in 46 m depth, 50 km north of the Dry Tortugas, Florida Keys; **D=** *Conomodulus lindae* (Petuch, 1987), height 18.0 mm, on red algae trawled from 40 m depth off Key Largo, Florida Keys, Monroe County, Florida; **E, F=** *Modulus floridanus* (Conrad, 1869), diameter 15.0 mm, on *Halodule* Shoal grass in 0.5 m depth off Fort DeSoto Park, Pinellas County, Florida (for comparison with *M. danielsi*); **G=** *Modulus kaicherae* Petuch, 1987, trawled from 60 m depth along the deep reef off Palm Beach Island, Palm Beach, Florida; **H=** *Modulus modulus* (Linnaeus, 1758), diameter 13.0 mm, found in a Turtle Grass bed at Fajardo, Puerto Rico (for comparison with *Modulus hunahpu*, *M. floridanus*, and *M. danielsi*).

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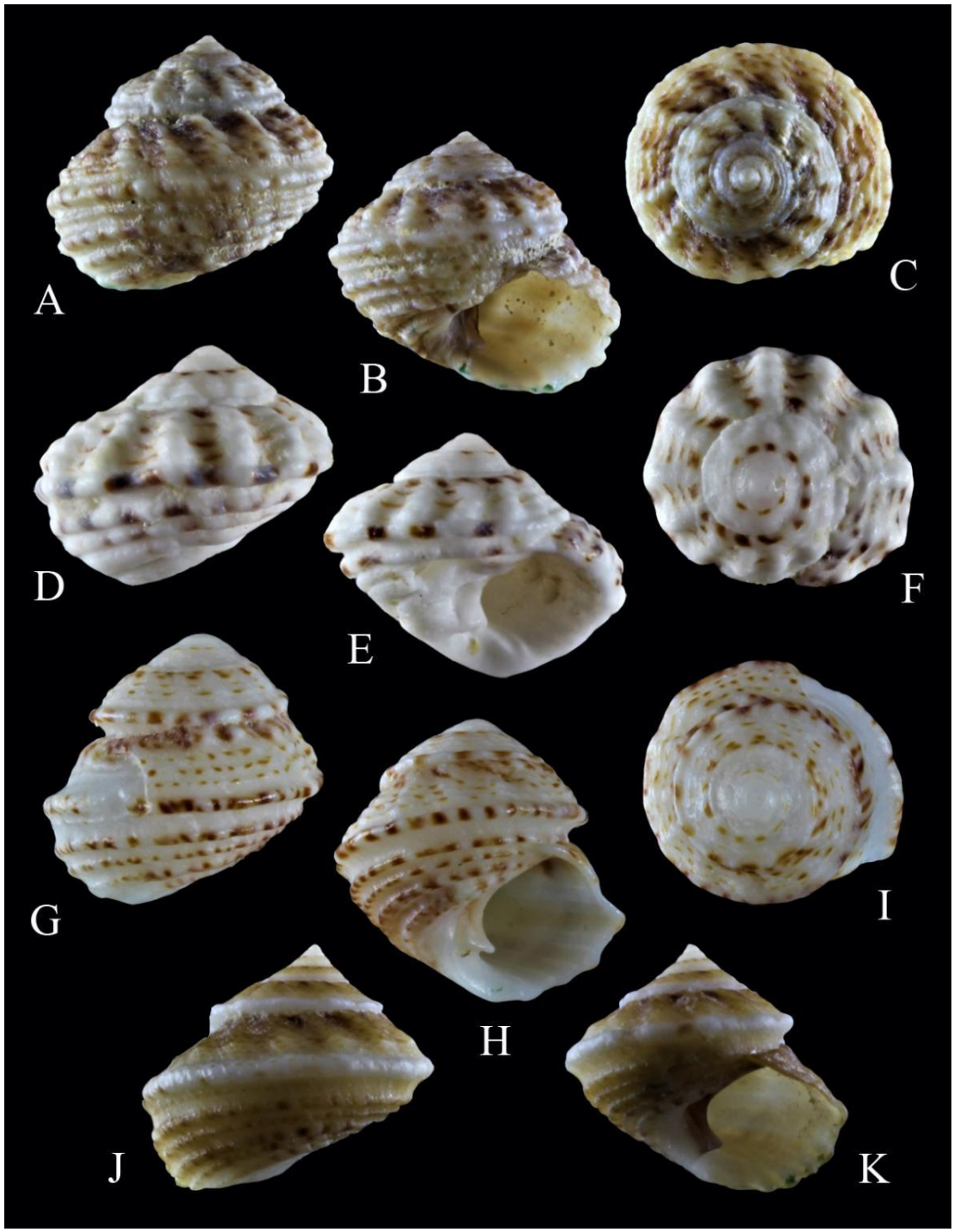

Plate 2. Modulidae of the Gulf of Mexico.
A, B, C= *Modulus danielsi* Petuch & Berschauer, new species, holotype, diameter 9.5 mm, in sea grass in 0.5 m depth, St. Andrew's Bay, Panama City, Bay County, Florida; **D, E, F=** *Modulus hunahpu* Petuch & Berschauer, new species, holotype, diameter 10.0 mm, washed onto the beach in Celestun Lagoon, Celestun, Yucatan State, Mexico; **G, H, I=** *Trochomodulus velai* Petuch & Berschauer, new species, holotype, diameter 11.7 mm, washed onto the beach in Celestun Lagoon, Celestun, Yucatan State, Mexico; **J, K=** *Trochomodulus calusa* (Petuch, 1988), diameter 12.0 mm, in 1 m depth on Turtle Grass bed, off Middle Torch Key, Florida Keys, Monroe County, Florida (for comparison with *Trochomodulus velai* n. sp.).

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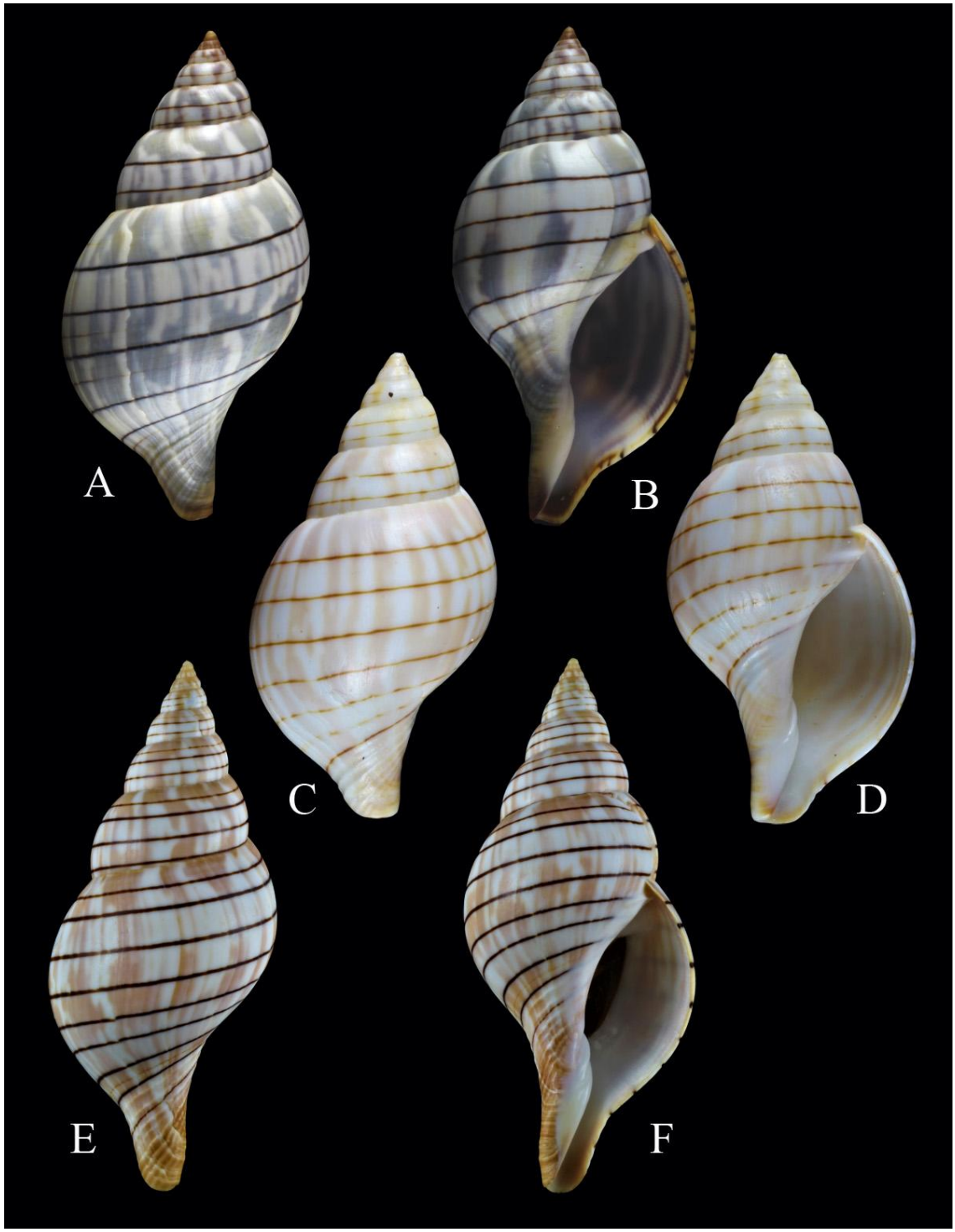

Plate 3. *Cinctura* Species from the Gulf of Mexico.
A, B= *Cinctura hunteria* (Perry, 1811), length 78.0 mm, collected at low tide on sand and sea grass, Camp Lulu Key, Collier County, Ten Thousand Islands, Florida; **C, D=** *Cinctura salasi* Petuch & Berschauer, new species, holotype length 51.6 mm, washed onto the beach along Celestun Lagoon, Celestun, Yucatan State, Mexico; **E, F=** *Cinctura connori* Petuch & Berschauer, 2020, length 73.0 mm, trawled from 250 m depth off Cabo Catoche, Quintana Roo State, Mexico.

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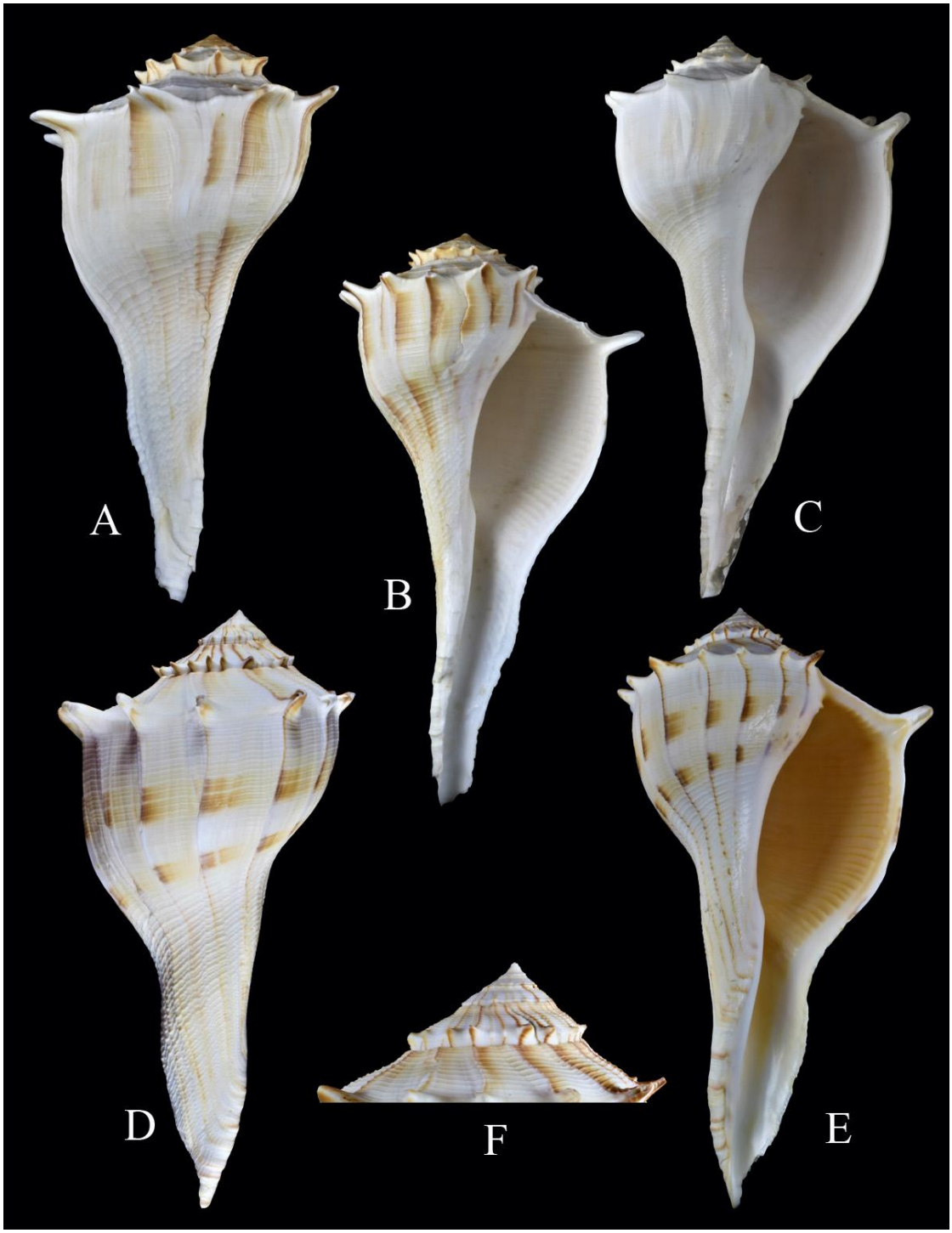

Plate 4. *Lindafulgur* Busyconids from the Yucatan Peninsula.
A, B= *Lindafulgur candelabrum* (Lamarck, 1816), length 181.0 mm, trawled from 50 m depth on the Campeche Bank off Progreso, Campeche State, Mexico (for comparison with *L. camazotz*); **C=** *Lindafulgur candelabrum* (Lamarck, 1816), length 225.0 mm, trawled by shrimpers from 50 m depth off Progreso, Campeche State, Mexico; **D, E=** *Lindafulgur camazotz* Petuch & Berschauer, new species, holotype, length 207.0 mm, trawled by shrimpers from 120 m depth off Isla Blanca, Quintana Roo State, Yucatan Peninsula, Mexico; **F=** *Lindafulgur camazotz*, detail of the spire whorls, showing the spiral cord sculpture and bulbous protoconch.

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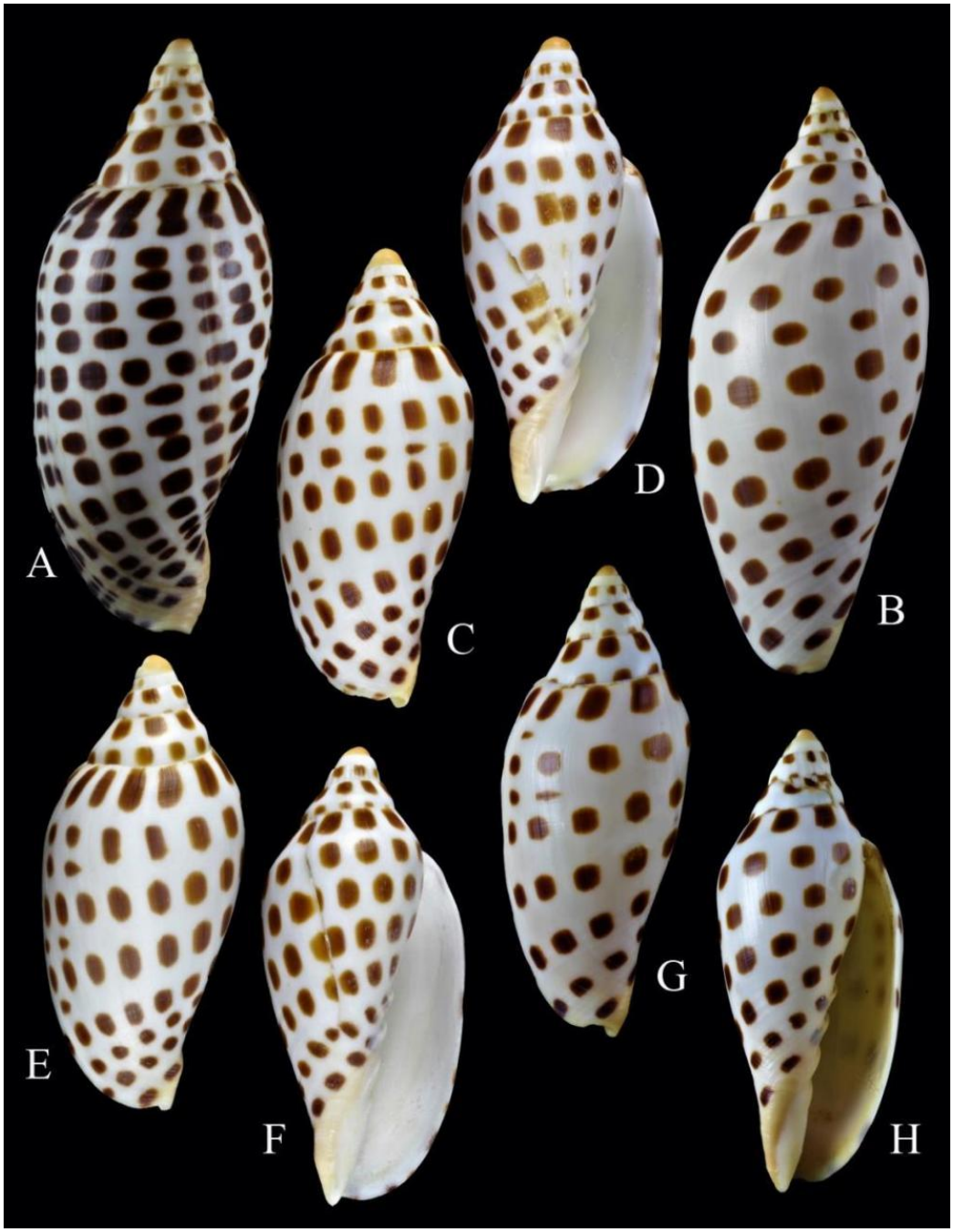

Plate 5. *Scaphella (Scaphella) junonia* subspecies from southern Florida.
A= *Scaphella (Scaphella) junonia junonia* (Lamarck, 1804), length 108.0 mm, collected in a crab trap set in 15 m depth off Rabbit Key, Monroe County, Ten Thousand Islands, Florida; **B=** *Scaphella (Scaphella) junonia elizabethae* Petuch & Sargent, 2011, length 110.0 mm, trawled from 50 m depth north of Garden Island, Dry Tortugas, Florida Keys; **C, D=** *Scaphella (Scaphella) junonia glicksteinorum* Petuch & Berschauer, new subspecies, holotype, length 61.7 mm, on clean carbonate sand and living corals, 8 m depth north of Looe Key Reefs, Lower Florida Keys, Monroe County, Florida; **E, F=** *Scaphella (Scaphella) junonia glicksteinorum* Petuch & Berschauer, new subspecies, length 62.5 mm, in a sand pocket on a living coral patch reef, 5 m depth, south of Big Munson Island, Big Pine Key, Monroe County, Florida, in the Petuch collection; **G, H=** *Scaphella (Scaphella) junonia glicksteinorum* Petuch & Berschauer, new subspecies, length 65.0 mm, found freshly-dead on clean carbonate sand, 5 m depth off Pickles Reef, Plantation Key, northern Florida Keys, Monroe County, Florida, in the Berschauer collection.

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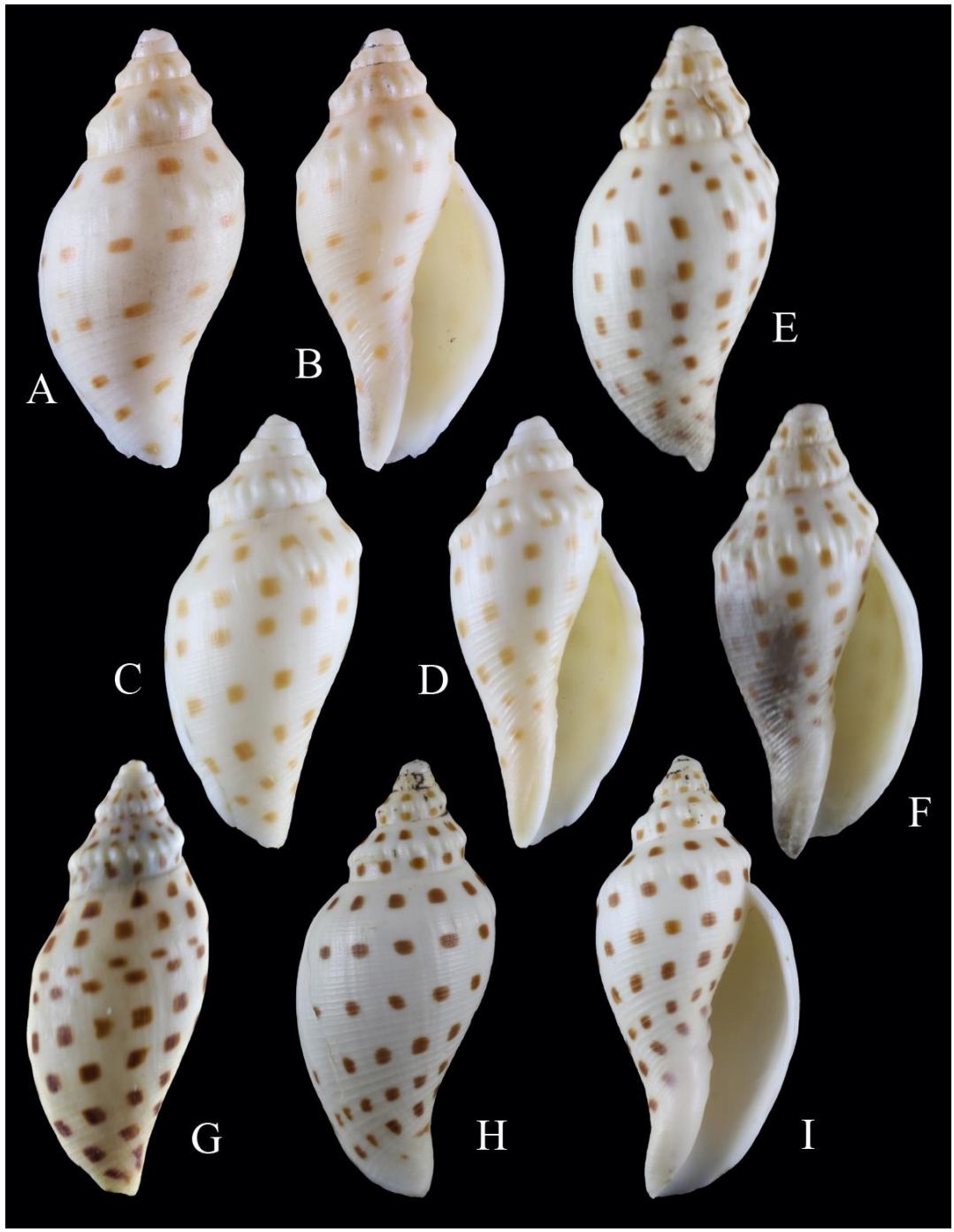

Plate 6. Deep Water *Scaphella (Clenchina)* Volutes from the Straits of Florida.
A, B= *Scaphella (Clenchina) carriae* Petuch & Berschauer, new species, holotype, length 42.0 mm, dredged from 550 m depth southeast of Key Largo, Florida Keys, Monroe County, Florida, by the R/V *Combat* (station 444); **C, D=** *Scaphella (Clenchina) carrieae* Petuch & Berschauer, new species, length 40.0 mm, trawled by deep water shrimpers from 700 m depth in the Straits of Florida south of Key West, Florida, in the Petuch collection; **E, F=** *Scaphella (Clenchina) carrieae* Petuch & Berschauer, new species, length 44.0 mm, trawled from 750 m depth in the Straits of Florida, south of Key West, Florida, in the Berschauer collection; **G=** *Scaphella (Clenchina) florida* (Clench and Aguayo, 1940), length 51.7 mm, collected by a submersible vessel from 262 m depth, off Key Largo, Monroe County, Florida (for comparison with *S. carrieae*); **H, I=** *Scaphella (Clenchina) marionae* Pilsbry and Olsson, 1953, length 48.0 mm, trawled by shrimpers from 400 m depth due west of Sarasota, Florida (for comparison with *S. carrieae*).

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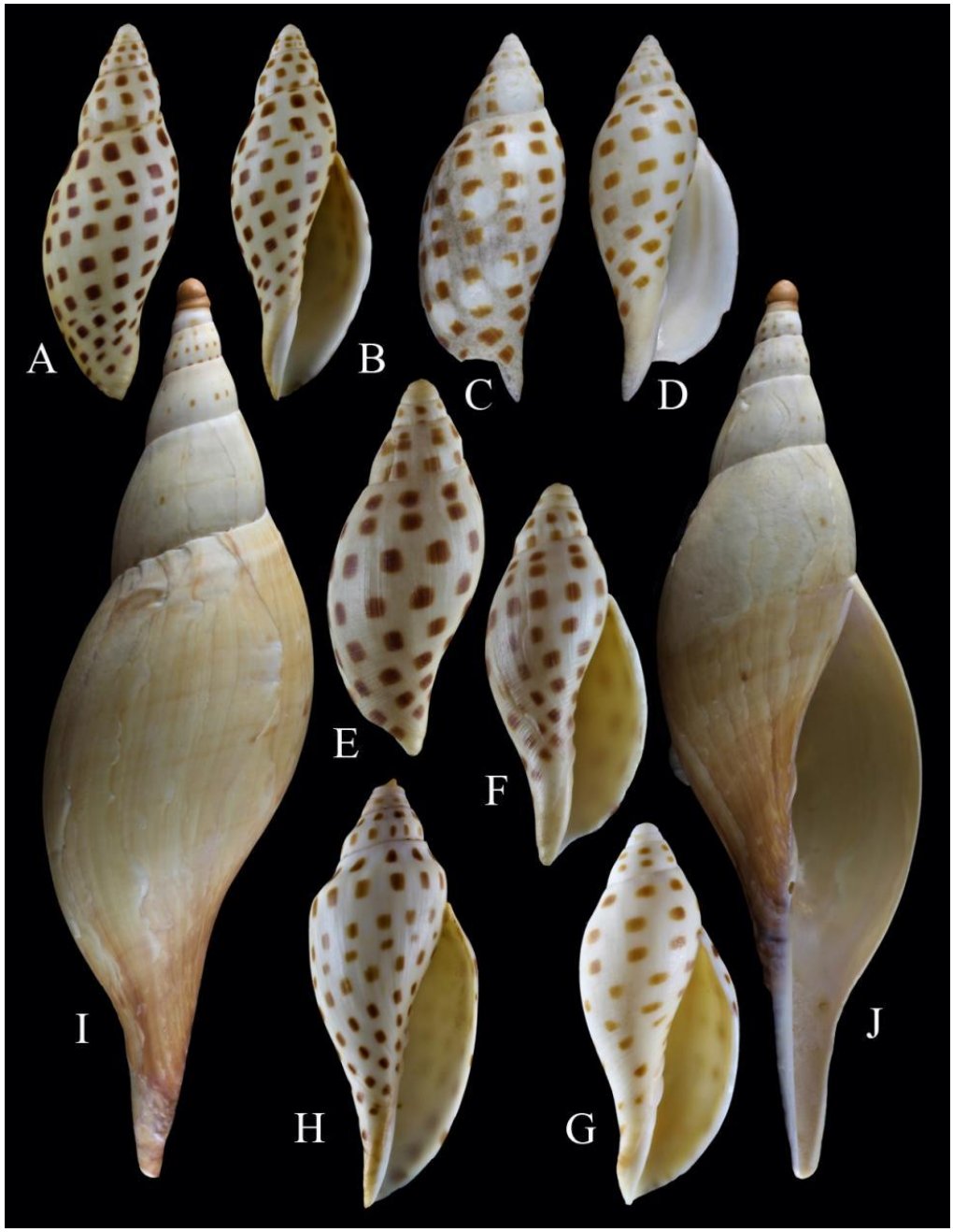

Plate 7. Deep WaterVolutes from Florida and Yucatan.
A, B= *Scaphella (Clenchina) dohrni* (Sowerby III, 1903), length 72.0 mm, trawled by "Royal Red" shrimpers from 300 m depth northwest of the Dry Tortugas, Florida Keys (for comparison with *S. (Clenchina) rundoi*); **C, D=** *Scaphella (Clenchina) rundoi* Petuch & Berschauer, new species, holotype, length 58.0 mm, trawled by shrimpers from 400 m depth NW of the Dry Tortugas, Florida Keys; **E, F=** *Scaphella (Clenchina) rundoi* Petuch & Berschauer, new species, length 40.3 mm, trawled from 350 m depth north of the Dry Tortugas, Florida Keys, in the Berschauer collection; **G=** *Scaphella (Clenchina) rundoi* Petuch & Berschauer, new species, length 41.5 mm, trawled from 400 m depth north of the Dry Tortugas, Florida Keys, in the Petuch collection; **H=** *Scaphella (Clenchina) atlantis* Clench, 1956, length 53.0 mm, trawled by the R/V *Atlantis* (Station 2999) from 421 m depth between Key West, Florida and Matanzas, Cuba (an historically-important specimen from the M.L. Jaume collection, and collected on March 17, 1938; for comparison with *S. rundoi*) **I, J=** *Aurinia (Garciavoluta) mcginnorum* (Garcia and Emerson, 1987), length 213.0 mm, from 300 m depth off Isla Contoy, Quintana Roo State, Mexico (type of the new subgenus *Garciavoluta*).

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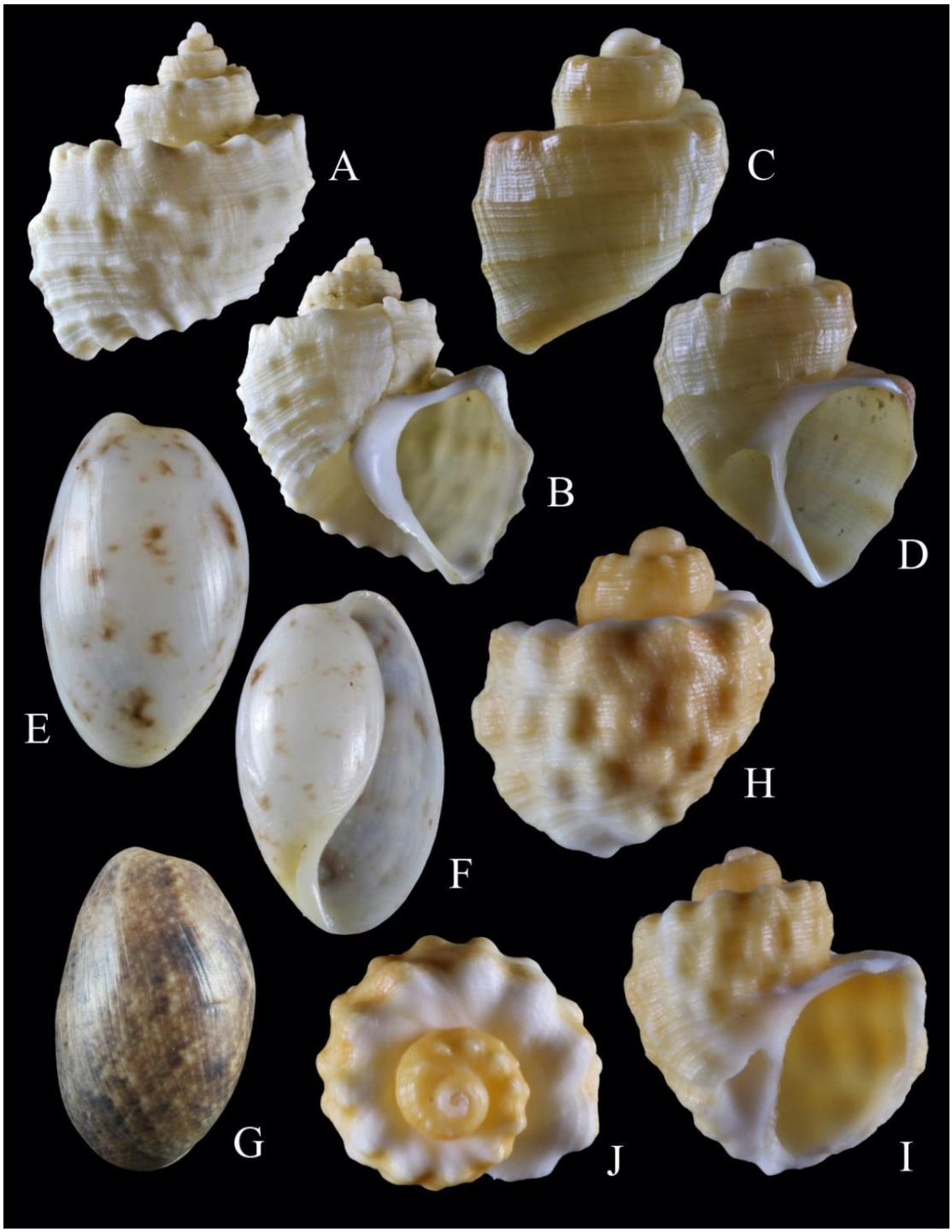

Plate 8. New Gastropods from the Gulf of Mexico.
A, B= *Ventrilia tenerum* (Philippi, 1848), length 23.0 mm, from 100 m depth off Palm Beach, Florida; **C, D=** *Ventrilia xbalanque* Petuch & Berschauer, new species, holotype, length 16.0 mm, 20 m depth off Telchac Puerto, Yucatan, Mexico; **E, F=** *Bulla occidentalis morai* Petuch & Berschauer, new subspecies, length 17.4 mm, holotype, washed onto the beach in Celestun Lagoon, Celestun, Yucatan State, Mexico; **G=** *Bulla occidentalis* A. Adams, 1850, length 27 mm, in sea grass bed, Camp Lulu Key, Collier County, Ten Thousand Islands, Florida (for comparison with *B. occidentalis morai*); **H, I, J=** *Ventrilia jonathoni* Petuch & Berschauer, new species, length 12.0 mm, holotype, washed onto beach at Celestun, Yucatan State, Mexico.