

This small *Chione* was dredged in some abundance by the senior author while on the Pinchot Expedition, in Limon Bay, near Colon, Panama. The type and figured paratype are 187194 ANSP. Other paratypes have been deposited in the U. S. Nat. Mus., M.C.Z., and Cal. Acad. Sci.

Although evidently this is a very common species in the recent fauna, it has so far not shown up as fossil in the Pleistocene beds surrounding Limon Bay, from which several mollusks were described by Dall and Pilsbry.

The small size of this species recalls certain Miocene forms such as *Chione walli* Guppy from Trinidad, *C. paraquanensis* Hodson from Venezuela and *C. propinqua* Spieker from Peru.

Chionopsis Olsson¹ (type *Chione amathusia* Philippi), is mainly Pacific in distribution at the present day, but with numerous fossil species in the Caribbean-West Indian region. It differs from typical *Chione* (type *C. cancellata* L.), by its thinner, more inflated shell, the well crenulated lunular margin, deeper pallial sinus and certain hinge characteristics. *Gnidiella* Parker² (type *Venus gnidia* Brod. & Sby.), is a synonym of *Chionopsis*.

NEW DEEP-WATER OLIVELLAS FROM FLORIDA, WITH NOTES ON THE O. JASPIDEA- NIVEA COMPLEX¹

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Recent dredgings made off Miami and Key Largo by Messrs. F. M. Bayer and Gilbert L. Voss on the University of Miami Biological Laboratories launch "Megalopa" have brought to light two small species of *Olivella*, which apparently have not been described. These two species were also represented abundantly in the numerous dredging hauls of J. B. Henderson's yacht,

¹ OLSSON, A. A., 1932, The Peruvian miocene. *Bulls. Amer. Paleontology*, vol. 19, p. 111.

² PARKER, P., 1949. Fossil and recent species of the pelecypod genera *Chione* and *Securella* from the Pacific Coast. *Jour. of Pal.*, vol. 23, no. 6, p. 582.

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"Eolis." I am appending to these descriptions a few remarks to clarify the identities of *O. watermani* McGinty, *O. jaspidea* (Gmelin), *O. nivea* (Gmelin) and *O. mutica* (Say).

OLIVELLA BAYERI, **new species**. Plate 7, figs. 2a-b.

Description.—Adults 6 to 9 mm. in length, elongate, rather thin, glossy, translucent with faint brown markings, and with 4 to 5 whorls. Nuclear whorl of one revolution, large, moderately bulbous, glassy-smooth, translucent, and separated from the post-nuclear whorls by a fine, axial line. Postnuclear whorls 3 to 4, slightly convex, smooth, translucent, clear tan in live specimens to milky white in dead specimens. Suture distinct, deeply and finely canaliculate. Most of the channeling is on the inner edge of the top of the whorl, although there is a small amount of concave etching against the side of the preceding whorl. Aperture elongate to lanceolate, about 6/10 the total length of the shell, narrow posteriorly, and continuous with the deep sutural channel. Outer lip thin, sharp, and projecting considerably downward at its lower and outer, rounded corner. Inner lip smooth with a very indistinct, elongate, clear-colored callus which is thickest in specimens over 6 mm. in length. It is often microscopically scratched with numerous, short, wavy, axial lines. The area of the anal fasciole is bounded above by a finely raised thread. The columella below this line is evenly and shallowly S-shaped. The lower fourth of the columella is very slightly thickened into a single, raised, rather wide, spiral plication. In thicker specimens, there is often a tiny, weaker and narrower plait just above. Color of anal fasciole usually white, but occasionally with a spiral series of weak, brown spots. Color pattern on body whorl variable, usually indistinct, with small, irregular, light-brown spots just below the suture and just above the anal fasciole thread. Sides of whorls irregularly painted with inter-connecting streaks and flamules of light-brown. In most specimens, especially dead ones, milky whiteness obscures the color. Operculum thin, translucent yellowish, horny, sickle-shaped to lanceolate, with smooth edges, and slightly larger than the aperture of the shell.

The mean length of adults varies considerably in the various dredging samples. At nine stations (from off Fowey Light south about 30 miles to Molasses Reef, Key Largo), adults rarely exceeded 7.0 mm. in length, while the majority of 98 dredging stations, mainly "Eolis" (from Miami to Key West) contained adults 8.0 to 11.0 mm. in length.

Measurements in mm.

Length	Width	Aperture	
9.0	3.8	5.0×1.7	Holotype. "Eolis" Station 369
11.0	4.0	5.7×2.0	Paratype. "Eolis" Station 369
3.6	1.8	2.3×0.9	Paratype. (young) Station 369
7.0	2.7	3.8×1.3	Paratype. "Megalopa" Station 21
7.0	2.9	4.0×1.3	Paratype. "Megalopa" Station 21

Type locality.—About 3 miles off Ajax Reef, off Elliott's Key, Lower Florida Keys, Florida. 80 to 100 fathoms. August 1917. "Eolis" station 369.

Types.—The holotype from the above locality is in USNM 595132. Paratypes from the same lot are in USNM 412871; also in the Mus. Comp. Zoöl. (Harvard), the Academy of Natural Sciences (Philadelphia), and the Biological Laboratories of the University of Miami (Florida).

Range and records.—From off Lake Worth to Key West. I have examined and used in describing this species specimens from 105 dredging stations, but will list only a few: (UM = Univ. Miami Biol. Lab. M/V "Megalopa." F. M. Bayer, legit. July 1950). UM-14, 3 mi., 150° from Molasses Reef, off Key Largo, 73 fms.; UM-21, 3 mi., 100° from Carysfort Reef, Key Largo, 78 fms.; "Eolis" 174, E.N.E. off Fowey Light, Miami, 58 fms.; "Eolis" 302, off Sand Key, 100 fms.; "Eolis" 384, off Key West, 75-80 fms. The depth ranges in the 94 "Eolis" stations were from 25 to 118 fms., with most larger lots occurring around 75 fms.

Remarks.—Several species approximate the characters of *O. bayeri* but none has the combination of bulbous nuclear whorls, elongate, fragile shell, almost smooth lower columella, and semi-translucent texture of the shell. *O. blanesi* Ford from northern Cuba and the Bahamas is a shallow-water species with a completely smooth lower columella, with a deeper, more concave arch in the lower part of the columella and with a heavier, more squat shell. This species is named for Frederick M. Bayer of the United States National Museum.

OLIVELLA MOOREI, new species. Plate 7, figs. 1a-b.

Description.—Adults 7 to 8 mm. in length, moderately elongate, rather thin, glossy, translucent with bright dark-brown

axial streaks, and with 4 to 5 whorls. Nuclear whorl of one revolution, large, quite bulbous, glassy-white. Postnuclear whorls flattish above, moderately convex below, gradually descending. Sutural channel deep, very narrow; and the side of the preceding whorl is not etched. Aperture lanceolate, constricted above, wide and open below, and about $6/10$ the total length of the shell. Outer lip thin, sharp, very slightly turned inward near the upper third, and projecting slightly downward at its lower, outer corner. Inner lip smooth, with or without a weak, elongate, glazed columellar callus which is often microscopically scratched with fine, sharp threads. Anal fasciole bordered above by a single, fine spiral thread. The columella below this line has an abrupt, angular S-shaped indentation. Base of columella swollen into a rather wide, large twisted fold. Anal fasciole white with a few short spiral brown bars. Color of whorls translucent with a small, solid, spiral band of light-brown just below the suture and numerous long, wavy, axial flammules of reddish brown on the sides. Interior of aperture white, sometimes faintly tinted with tan. Operculum similar to *O. bayeri*. Verge in males vermiform, about as half as long as the shell.

Measurements in mm.

Length	Width	Aperture	
7.5	3.0	4.0×1.4	Holotype, UM Station 20
7.0	2.9	3.9×1.2	Paratype, UM Station 20
8.0	3.6	4.3×1.6	Paratype, "Fish Hawk" 7280

Type locality.—3 miles, 100° from Carysfort Reef, off Key Largo, Florida. 112 fms., July, 1950. Univ. Miami Biol. Lab. M/V, "Megalopa" station 20.

Types.—The holotype from the above locality is in USNM no. 595133. Paratypes from the same locality in USNM 595134; also in the Mus. Comp. Zoöl. (Harvard), the Acad. Nat. Sci. (Philadelphia) and the Univ. Miami Biol. Lab. (Florida).

Range and records.—Off Key Largo to Key West, 115 to 125 fms. Other paratypes from: UM-18, 6 mi., 135° from Molasses Reef, off Key Largo, 122 fms; UM-19, $5\frac{1}{2}$ mi., 127° from Molasses Reef, 120 fms; off Sand Key, "Eolis" sta. 316, 120st fms; off Sambo Reef, "Eolis" stations 329, 330, 331, 332, in 135, 120, 118, and 115 fms., respectively; off West'n Dry Rocks, "Eolis" sta. 341 in 144 fms; off Key West, "Fish Hawk" sta. 7280, 132 fms.

Remarks.—*O. moorei* is closest to *O. strigata* Reeve, 1850, from the "West Indies," the latter, however, being a larger, much more squat species with a light-brown aperture. *O. moorei* is sometimes dredged with *O. bayeri* in depths below 110 fathoms, and can be distinguished from it readily by the longitudinal brown streaks, less elongate spire, thicker fold at the base of the columella, and the less obvious suture. This species is named for Dr. Hilary B. Moore of the University of Miami Biological Laboratories.

The bathymetric ranges of the off-shore *Olivella* appear to be rather distinct for each species. From the more than 100 dredging stations represented in the U. S. National Museum collection, *O. nivea* occurs from shore to 25 fathoms; *O. bayeri* occurs from 25 to 122 fathoms, and *O. moorei* from 115 to 144 and probably deeper.

OLIVELLA WATERMANI McGinty. Plate 7, figs. 5a-b.

Olivella watermani McGinty, 1940, The Nautilus, vol. 54, no. 2, p. 64, pl. 3, figs. 4 and 5 (off Palm Beach, Florida).

Description.—Adults varying from 9 to 12 mm. in length, whorls 4 to 6. Nuclear whorl smooth, glassy-white, moderately bulbous, exserted. Sutural canal deep, not very narrow. The wall of the preceding whorl is strongly and concavely etched opposite the sutural canal. Upper series of plaits on columella 5 to 7, usually 5, and separated from the lower series of 4 to 5 plaits on the base of the columella by a shallow U-shaped constriction. On the inside of the outer lip in most specimens, there is a series of indistinct, raised, spiral, cord-like thickenings.

Range and records.—Off Palm Beach to Key West, Florida from 28 to 100 fathoms. In the majority of the 91 dredging stations from which we have specimens, the largest series came from depths of 50 to 70 fathoms. One of Dall's paratypes of *Olivella jaspidea* var. *rotunda* from off Sombrero, 72 fms., is this species. Typical *rotunda* is extremely close, but seems to differ in having a longer aperture, very bulbous callus on the upper part of the parietal wall and in having an axial color pattern.

OLIVELLA JASPIDEA (Gmelin). Plate 7, figs. 3a-b.

Voluta jaspidea Gmelin, 1792, Systema Nat. 13th ed., p. 3442, no. 21 (refers to Lister Conch., t. 726, f. 13a and to Martini Conch. Cab., vol. 2, t. 50, f. 556) ("in mari hispanico").

Both of the figures referred to by Gmelin are admittedly poor, but I think the character of the color-marked anal fasciole and the shell's general shape are sufficient to identify the name *O. jaspidea* with our common West Indian species. The nuclear whorl in Martini's figure is depicted as large, although no great weight can be put on the accuracy of his artist. This species is commonly confused with *O. nivea*.

Description.—Adults 10 to 18 mm. in length, whorls about 5; *apex blunt*; *nuclear whorl large* and rather bulbous, white. Sutural channel moderately deep, narrow; *without an etched spiral indentation* on the side of the preceding whorl. Surface of shell moderately glossy, with fine axial growth lines. Plaits on upper two-thirds of columella absent or very weak. Base of columella with about 4 rather strong, variably-spaced plaits. Color of shell variable, usually grayish white with small, dull maculations of purplish brown. *Fasciole colored* with irregular brown spots and bars.

Range.—Southeast Florida, south through the Antilles to Barbados. No Bahama or Gulf of Mexico records.

A darker, more squat subspecies occurs from Curacao and Aruba to Barbados. It is probably *O. conoidalis* (Lamarck), 1811.

OLIVELLA NIVEA (Gmelin). Plate 7, figs. 4a-b.

Voluta nivea Gmelin 1792, Systema Nat., 13th ed., p. 3442, no. 22 (refers to Martini, Conch. Cab., vol. 2, t. 50, f. 558 and for his var. B, t. 50, f. 557) ("in mari hispanico").

Martini's figure 557 is an adequate representation of our common Florida and West Indian species, and I have seen specimens which very closely duplicate the same color pattern. The fasciole is colorless. Figure 558 is probably a bleached or white specimen of this species.

Description.—Adults 10 to 25 mm. in length, whorls about 7, *apex pointed*, sharp; *nuclear whorls small*, white, tan or purple. Sutural channel deep, fairly wide; *with a strongly*

concave, etched, spiral indentation on the side of the preceding whorl. Surface of shell very glossy. Plaits on upper two thirds of columella strong, 6 to 8. Base of columella with about 4 to 6 not too strong, variable plaits. Color of shell variable, usually cream-white with orangish, tan or purple markings occurring in clumps in a spiral series just below the suture and just above the fasciole. *Fasciole lacks color*, except for a yellowish tint in fresh specimens.

Range.—Bermuda, southeast Florida, the Bahamas, the Antilles and the Gulf of Mexico north to Yucatan (and Texas?).

OLIVELLA MUTICA (Say)

I would like to point out that Tomlin (Nautilus, 1934, vol. 48, p. 71) was probably unwise in suggesting that *Porphyria minuta* Link, 1807, was an earlier name for our common eastern species, *O. mutica* Say, 1822. Link's name is based on Martini's Conch. Cab., vol. 2, pl. 50, f. 545, which is a West Indian species. It is much fatter than *O. mutica*, with axial zigzag color lines on the outer shell and on the inside of the inner lip, and whose columella is cut-away or narrowed sharply at the base.

EXPLANATION OF PLATE 7

- FIG. 1. *Olivella moorei* Abbott. a, holotype. b, paratype (both $\times 6$).
FIG. 2. *O. bayeri* Abbott. a, holotype. b, paratype (both $\times 6$).
FIG. 3. *O. jaspidea* (Gmelin). a, spire $\times 6$. b, shell $\times 1\frac{1}{2}$.
FIG. 4. *O. nivea* (Gmelin). a, spire $\times 6$. b, shell $\times 1\frac{1}{2}$.
FIG. 5. *O. watermani* McGinty. a, front view $\times 6$. b, $\times 1\frac{1}{2}$.

NEW MARINE MOLLUSKS FROM BRITISH WEST INDIES AND FLORIDA KEYS

By JEANNE S. SCHWENGEL

CRASSISPIRA DRANGAI, new species. Pl. 8, fig. 1.

Shell elongately turrite, blackish brown, with deep livid brown between the ribs on the periphery of the body whorl. Apex missing, eleven slightly bulging whorls, encircled with a single keel on the upper part, concavely depressed above and below the keel. Striae encircle this sulcus, slightly undulating above the keel to conform to the uneven suture, heavier and farther apart below. Longitudinally ribbed beneath; ribs



Abbott, R. Tucker. 1951. "New deep-water Olivellas from Florida, with notes on the *O. jaspidea-nivea* complex." *The Nautilus* 64, 110–116.

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