ZOOLOGICAL SERIES
OF
FIELD MUSEUM OF NATURAL HISTORY

Volume 24 | CHICAGO, JANUARY 31, 1941 | No. 17

MALACOLOGICAL NOTES—II

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A NEW MARINE PROSOBRANCH SNAIL FROM THE YUCATAN COAST

A small gastropod shell from Yucatan in Field Museum's collections since 1895 proves to represent a fine new species of the fasciolarid genus *Latirus*. On corresponding with Dr. Paul Bartsch of the United States National Museum about it, I learn that he has already recognized the same form from three specimens in his charge. One of these, with photographs of the others, has been forwarded for comparison with our specimen. I am greatly indebted to Dr. Bartsch for his courtesy in allowing me to publish a description of the new form.

Latirus festivus sp. nov. (pl. 1; pl. 2, figs. *a*, *b*).

Type from Mujeres Island, Yucatan, Mexico. No. 13754 Field Museum of Natural History. Collected in 1895 by C. F. Millspaugh.

Diagnosis.—A small species of *Latirus*, characterized by heavy and brightly colored spiral sculpture, by complete absence of axial ribs and by a comparatively small and narrow aperture which shows two columellar folds.

Comparisons.—The allied West Indian *Latirus ernesti* Melville differs from *festivus* in its ochraceous ground color with white lirae, and in the greater number and more nearly equal width of the lirae. *Mitra roborea* Reeve, which I suspect to be a *Latirus*, is known only from its description and figure. It differs from *festivus* in being higher (16.5) and more slender (width only 6.5); by different color pattern, namely, white cords on a blackish-brown background; and by the cords being, apparently, narrower than the separating spaces.

Description of type.—Shell elongate, biconical to turreted, strongly and spirally sculptured; aperture comparatively short; a short canal, curved leftward and backward; spire acuminate with broad apex, consisting of about six whorls; suture hardly visible. A broad yellow

spiral cord or lira just beneath the suture, followed by two narrower purplish cords of almost equal width bordered with yellow; on the penultimate and the antepenultimate whorl, a third narrow yellow cord is developed between the broad subsutural one and the two narrower lower ones, and there may even be traces of additional narrow cords on the last two whorls. The last whorl shows one broad yellow subsutural cord, two to three narrower purplish ones, another broad yellow one and, lastly, toward the base of the shell, two narrow purplish cords; the canal is adorned by one broad yellow and two narrow purplish cords, so that, as a whole, there are three broad yellow cords and six to seven purplish ones on the last whorl and its canal. The cords have a polished, enameled surface and are separated by incised narrower lines; these incised lines are black and show a fine but distinct vertical striation (pl. 2, fig. *a*). The apical whorls are worn and thus have a dull appearance; their colors are alternately grayish-blue and grayish-purple. The nepionic part of the apex has entirely disappeared. The columella is lined with an especially heavy coat of purplish brown enamel, which is raised and forms a decided rim at its left side and which vividly contrasts in color with the gaily sculptured outer surface. There are two rather obvious oblique folds on this columellar enameled coat, corresponding in position to the continuation of the two purplish spiral cords of the surface situated between the central and the lower broad yellow cord; but these two columellar folds are separated from the cords mentioned by the raised enamel coat of the columella. At the base of the shell there is a kind of narrow, shallow, umbilical chink, bordered at the left by the external surface and at the right by the rim of the enameled coat of the columella.

Measurements.—The type is an immature specimen, measuring 7 mm. in height, 3 in width, and 2.5 in height of aperture; the paratype measures 10.75 in height, 4.25 in width, and 4 in height of aperture.

Notes on paratypes.—No. 253874 United States National Museum, with photographs of two additional specimens in the same lot, are full-grown, and afford information as to the form of the aperture in the adult. These shells are much worn. The aperture in these specimens (pl. 2, fig. *b*) is pear-shaped, with a small but obvious sinus at the upper end, bordered by a knob-like protuberance at the left side. The short canal is narrow, bent to the left and backward. There is no indication of an external lip; the last whorl seems to bend inward at the aperture, with an ill-defined thickening of the edge. The external

LATIRUS FESTIVUS sp. nov.
Type, Field Museum No. 13754; × 8

ribs do not appear as teeth on the outer margin of the aperture, but the incised spiral lines of the outer surface are so impressed as to form narrow raised ridges on the inner surface, thus appearing as internal teeth when seen from the aperture. The interior surface of the aperture is purplish-brown, with the inner ridges whitish by contrast.

Discussion.—The only species closely allied to the new form is *Latirus ernesti* Melville, from the West Indies (pl. 2, fig. *c*). This shell, not recorded since its original description (Proc. Mal. Soc. Lond., **9**, p. 147, 1 fig., 1910), is certainly related to *festivus* and with it apparently forms a distinct group within *Latirus*, superficially resembling typical *Latirus* (especially *L. craticulatus* Linnaeus and *turritus* Gmelin) but differing in lacking the vertical folds, or rounded ribs, which cross the spiral cords in the typical subgenus. Other features of the shell exclude *festivus* and *ernesti* from the other subgenera of *Latirus*. The distinction of a new subgenus for these forms should, however, await additional material, and especially the study of the anatomy of the soft parts.

Mitra roborea Reeve was described in 1845 (Proc. Zool. Soc. Lond., 1845, p. 57) and figured in 1849 (Reeve, Conch. Icon., **2**, pl. 37, fig. 306) without adequate description or statement of its origin. Most authors have ignored this form, but Tryon (Man. Conch., **4**, p. 140, pl. 41, fig. 201, 1882) lists it as a mitrid of the genus *Cancilla*, though suspecting that it might be a *Latirus*. This supposition is made more likely by the discovery of *festivus*.

In the hope of locating the type of *roborea*, I wrote to Mr. J. R. Le B. Tomlin, of the British Museum, who replied as follows: "A few years ago I went through all the Mitridae in the British Museum, and fortunately kept notes. I do not think that *roborea* is a mitrid at all. Anyhow it was described ex coll. Metcalfe and the British Museum possesses hardly anything of his. I recollect only one set of types there that belonged to Metcalfe—a Turrid. Some years ago I made a considerable effort to find out what had happened to his collection. He seems to have died over ninety years ago. After much writing I unearthed some grandchildren of his and met one of them in London. He said that the collection was sold by his father—probably at Stevens' Auction Rooms—but he could give no details whatever. Anyhow, all trace of the collection has vanished. As there is no specimen in existence, I'm afraid *roborea* must be written off as a lost species." The figure of *Mitra roborea* is here reproduced (pl. 2, fig. *d*).

APICAL SCULPTURE OF THE GENUS IMBRICARIA SCHUMACHER

Neither Schumacher, the author of the mitrid genus *Imbricaria* (Essai Nouv. Syst. Habitations Vers Test., p. 71, 1817), nor Swainson, who bestowed the generic name of *Conoelix* upon the group of species under consideration (Zool. Illus., **1**, pl. 24, 1821), nor any of the subsequent authors of malacological textbooks, mentions the rather strongly developed apical sculpture of these shells. In their accounts the apical part of the shell of this genus is described as almost smooth. Küster was apparently the only one to note this strange apical feature of *Imbricaria*, for he states that the first whorls of *Imbricaria dactyloidea* Anton show longitudinal furrows (Martini-Chemnitz, Ill. Conch. Cab., **5**, p. 74, 1839).

In arranging the species of *Imbricaria* in Field Museum I have been struck by the singular sculpture and peculiar shape of the apices of some fresh specimens. Thus *Imbricaria olivaeformis* Swainson has a blunt apex, consisting of about 3½ whorls which are regularly latticed by the crossing of vertical striae with two rows of revolving striae; at the end of the last apical whorl this sculpture becomes gradually weaker, especially in its lower part, and the following whorls show only a kind of crenulation on their upper suture, but are otherwise smooth; the sutural crenulation continues less regularly on the following whorls (pl. 2, fig. *e*).

In *Imbricaria vanikorensis* Quoy the apex is much like that in the preceding species, but the sutural crenulation is stronger on the later whorls and continues even to the body whorl; the apex is nearly cylindrical, passing rather abruptly into the conical part of the spire. The earliest whorls on the specimen studied are too much worn to show any traces of sculpture, but they presumably had the same pattern of cancellation as the adjoining apical whorl (pl. 2, fig. *f*).

ANOTHER AMERICAN RECORD OF BULLARIA STRIATA

In addition to the common North American bubble shell, *Bullaria* (*Bullaria*) *occidentalis* Adams, a closely related European species, *B. striata* Bruguière, has occasionally been collected on the American side of the Atlantic Ocean along the shore of Palm Beach County, Florida. A specimen in Field Museum supplies a further record with an indisputable specimen, No. 13056, of *striata* from Charlotte Harbor, De Soto County, Florida.

APICAL SCULPTURE OF NORRISIA NORRISI

The trochid genus *Norrisia* Bayle, with its unique species *norrisi* Sowerby from California, is described by authors who have dealt

with it, as absolutely or almost smooth. I have found no remark whatever as to an apical sculpture. A young specimen of *Norrisia norrisi*, with only 3½ whorls (Field Museum No. 7658), from Monterey, California, proves that there is a rather dense system of incised spiral lines on the first whorls in the unworn young shell (pl. 2, fig. *g*). These lines become less obvious on the fourth whorl, where they are crossed by numerous growth marks; they soon disappear on later whorls. Old and full-grown specimens show scarcely any traces of this original apical sculpture, since the incised grooves no longer show on their somewhat worn apical portions.

ADDITIONS TO THE MOLLUSK FAUNA OF BERMUDA

In identifying mollusks collected by T. H. Bean in the course of the Field Museum Bermuda Expedition, in 1905, I find several species new to the archipelago and one species apparently even new to science. The land shells collected by Bean represent twelve localities and belong to seventeen of the more common species. There are no pupillids, endodontids, nor any of the smaller zonitids in the lot. There is no need of enumerating this part of the material.

Marine mollusks from about twenty localities amount to forty-eight species, most of them widespread and already recorded from Bermuda. *Tenagodus* (*Agathirsus*) *squamatus* Blainville seems not to have been recorded since Dall's list. It was taken by Bean at the Argus Bank, at a depth of thirty fathoms. Other forms from the same locality include *Laevicardium* (*Laevicardium*) *mortoni* Conrad, *Pusula* (*Niveria*) *quadripunctata* Gray, and *Triphora* (*Triphora*) *bermudensis* Bartsch.

I am grateful to Dr. Paul Bartsch and Dr. Harold A. Rehder of the United States National Museum for aid in the identification of certain forms. Lieutenant Colonel A. J. Peile kindly sent me a copy of his *Mollusca of Bermuda* (Proc. Mal. Soc., Lond., **17**, pp. 71–98, 1926), brought up to date and corrected by his own hand.

Additions to the Bermudian fauna consist of the following species:

Cerithium (Vulgocerithium) semiferrugineum Lamarck—Grace Island, Castle Harbor, Field Museum No. 13711 (identified by Dr. Harold A. Rehder).

Pusia (Thala?) torticula Dall—Challenger Bank, 28 fathoms, Field Museum No. 13727.

This species was described by Dall (Bull. Mus. Comp. Zool., **18**, p. 162, pl. 15, fig. 8, 1889) as *Mitra* (*Thala?*) *torticula* from a single

specimen obtained in living state off Havana, in 400 fathoms; in another publication (Bull. U. S. Nat. Mus., **37**, p. 110, 1889) Dall cites this species in the fossil state from the Florida Keys and from the West Indies. These notes seem to constitute the only information on this little mitrid shell. A dead shell in good condition from the Challenger Bank, Bermuda, fits Dall's diagnosis and figure of *torticula* almost perfectly. According to more recent ideas I refer *torticula* to *Pusia*, preserving, though with hesitation, the subgeneric reference to *Thala*, an otherwise Indo-Pacific subgenus. Examination of the unknown anatomy of *torticula* is required to establish this subgeneric reference, or to place it correctly.

Cymatosyrinx bartschi sp. nov. (pl. 2, figs. *h*, *i*)

Type from Argus Bank, Bermuda Islands. No. 13672 Field Museum of Natural History. Collected October 13, 1905, by Tarleton H. Bean. A dead shell, in good condition, from a depth of thirty fathoms.

Diagnosis.—A turritid shell of somewhat uncertain generic position, characterized by its short, but slender shape, by the absence of all spiral elements of shell sculpture, by the presence of stout and rather densely set axial ribs which leave free a conspicuous infrasutural constriction, and by a wide, ear-shaped aperture with both an infrasutural and a basal notch on its outer lip and with a rather wide canal at its base.

Comparisons.—The new species does not appear to be closely related to any Atlantic form. I judge it to be most nearly allied to the Californian *Cymatosyrinx ferminiana* Dall (Proc. U. S. Nat. Mus., **56**, p. 7, pl. 8, fig. 4, 1919), from which it differs by the wider ribless infrasutural zone and by the wider aperture with a more pronounced basal notch.

Description of type.—Shell with a silky luster, vinaceous cinnamon, lighter toward the tip, darker toward the base, acute, slender (pl. 2, fig. *h*). Whorls 7¾, the first 1¾ occupied by a smooth, globular, creamy-white nucleus, whose apex is somewhat sunk and thus does

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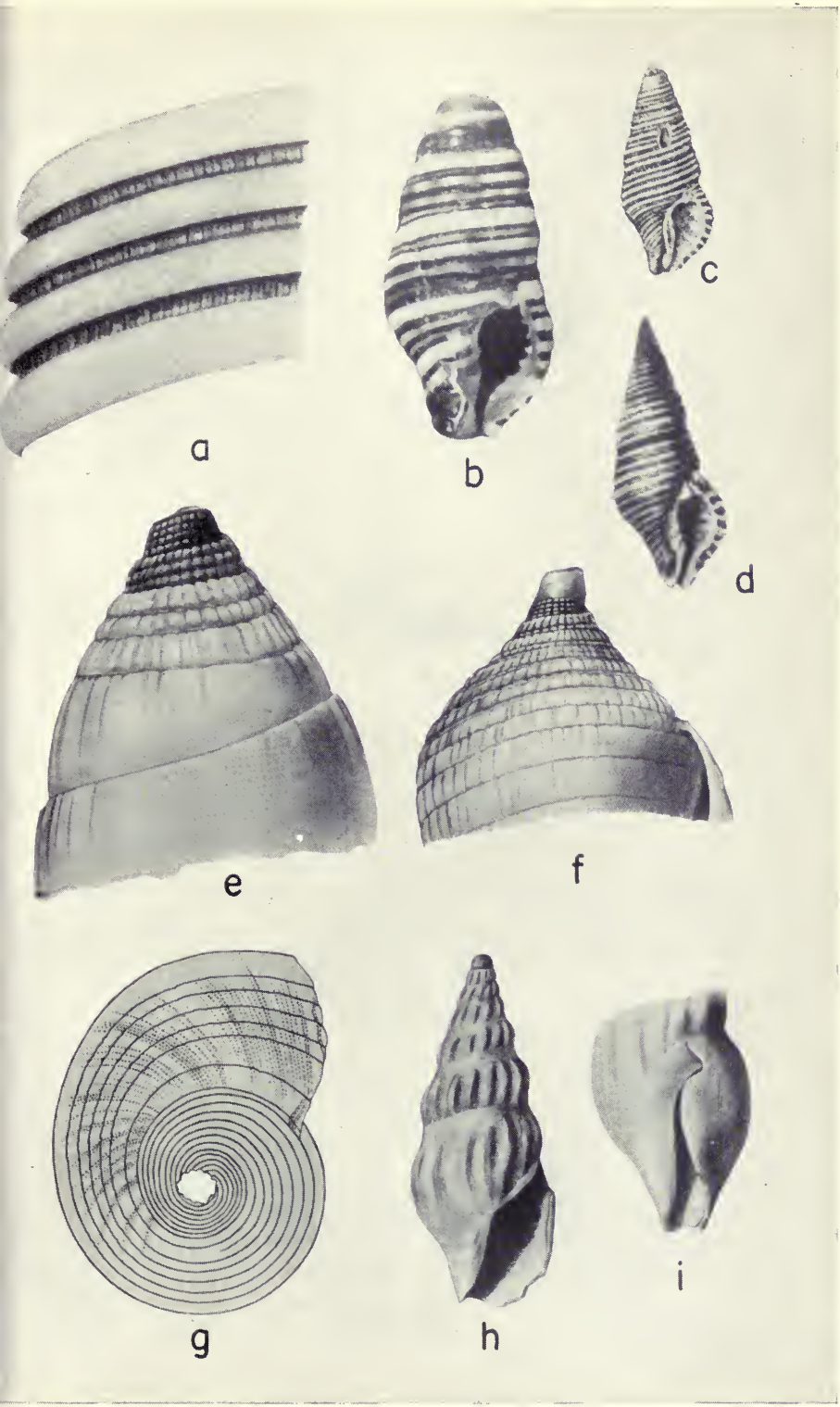
PLATE 2. a, *Latirus festivus* sp. nov., the sculpture of the surface; × 24. b, *Latirus festivus* sp. nov., paratype, U. S. Nat. Mus. No. 253874; × 4.5. c, *Latirus ernesti* Melville (from Melville's original picture); × 2.5. d, *Mitra roborea* Reeve (from Reeve's original picture); × about 2. e, *Imbricaria olivaeformis* Swainson, Field Museum No. 3915, showing apical sculpture; × 7. f, *Imbricaria vanikorensis* Quoy, Field Museum No. 13210, showing apical sculpture; × 7. g, *Norrisia norrisi* Sowerby, Field Museum No. 7658, young specimen showing apical sculpture; × 5.5. h, *Cymatosyrinx bartschi* sp. nov., Field Museum No. 13672; × 5. i, *Cymatosyrinx bartschi* sp. nov., shape of outer lip; × 6.


a
b
c
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i

not project above the following part of the first whorl. Only in the nucleus and in the earlier whorls of the postembryonic shell is the suture deep and obvious; in the following whorls it becomes increasingly appressed, producing a smooth, somewhat concave infrasutural zone on the upper edge of each whorl. The whorls are rather strongly and regularly swollen, more so toward the base, and the above-mentioned infrasutural zone produces a marked strangulation at their upper edge. Axial ribs present with no trace of spiral sculpture. The ribs consist of well-defined, rather narrow, somewhat undulate threads, which are wider than the interstices between them. There are fifteen of them on the penultimate whorl. They start just beneath the infrasutural constriction, leaving it almost smooth and only occasionally extending into it. The ribs are less elevated above, where they often bend backward, following the course of the growth lines; the highest part of the ribs lies toward their lower end. The ribs on the body whorl extend over its widest part, gradually fading and finally disappearing toward the base of the shell and toward the aperture. Aperture rather wide, with a rather wide distinct canal. Columella smooth, covered by a thin but obvious callus which extends to the insertion of the outer lip, forming a somewhat pad-like incrassation in the parieto-palatal angle. Outer lip (pl. 2, fig. *i*) with a rounded but marked and short sinus at a distance from the insertion, a uniformly but slightly curved broad central part and a rather abrupt notch at the base; only the central part of the lip is somewhat thickened and slightly bent inward.

Measurements.—Length 10.5, diameter 4.

Discussion.—Dr. Paul Bartsch and Dr. H. A. Rehder have examined the type at my request. They find no turritid form like it in the collection of the United States National Museum. I therefore venture to describe it and to name it in honor of Dr. Bartsch, in recognition of many kindnesses from him. While there is apparently no doubt that we have an undescribed species, its allocation to the genus *Cymatosyrinx* Dall is tentative, the exact systematic position of the shell in question being scarcely recognizable from the poor material at hand.

MARINE SHELLS FROM THE MANDEL CARIBBEAN EXPEDITION

The Mandel Caribbean Expedition of Field Museum visited a number of out-of-the-way islands in the Caribbean. Though only short faunal lists can be given, their publication may be welcome, since the localities visited have seldom, if ever, been mentioned in

malacological literature. The specimens listed were collected by Mr. D. Dwight Davis, Curator of Anatomy in Field Museum.

1. Misteriosa Bank, between Cuba and Swan Island (January 1, 1940).

Sepioteuthis ovata Gabb[1]

2. Coxen Hole, Ruatan, Bay Islands, Honduras (January 4, 1940).

Diodora alternata Say
Modulus angulatus C. B. Adams
Cerithium (*Vulgocerithium*) *muscarum* Say
Fasciolaria (*Fasciolaria*) *tulipa* Linnaeus

3. Southwest Cay, Glover Reef, off British Honduras (January 18, 1940).

Diodora listeri d'Orbigny
Nerita (*Nerita*) *versicolor* Gmelin
Nerita (*Nerita*) *peloronta* Linnaeus
Nerita (*Theliostyla*) *tesselata* Gmelin
Cittarium pica Linnaeus
Astraea (*Lithopoma*) *americana* Gmelin
Littorina (*Littorinopsis*) *angulifera* Lamarck
Tectarius (*Cenchritis*) *muricatus* Linnaeus
Tectarius (*Echinellopsis*) *nodulosus* Gmelin
Cerithium (*Vulgocerithium*) *litteratum* Born
Strombus (*Strombus*) *gigas* Linnaeus
Polinices (*Polinices*) *lacteus* Guilding
Erosaria (*Ocellaria*) *spurca* Linnaeus
Dolium (*Dolium*) *perdix* Linnaeus
Thais (*Stramonita*) *floridana* Conrad
Thais (*Stramonita*) *deltoidea* Lamarck
Conus (*Rhizoconus*) *mus* Hwass
Aplysia (*Aplysia*) *dactylomela* Rang
Arca (*Barbatia*) *barbata* Linnaeus
Codakia (*Codakia*) *orbicularis* Linnaeus
Cyclotellina (*Cyclotellina*) *fausta* Pultney
Sepioteuthis ovata Gabb (?=*sepioidea* Blainville)
Octopus (*Octopus*) (?)*vulgaris* Lamarck. Too young to permit a correct classification

4. Grand Point, Turneffe Island, British Honduras (January 19, 1940).

Modulus angulatus C. B. Adams
Arca (*Scapharca*) *auriculata* Lamarck
Polymesoda (*Pseudocyrena*) *salmacida* Morelet
Codakia (*Codakia*) *orbicularis* Linnaeus

5. Mujeres Island, Yucatan, Mexico (January 28, 1940).

Fissurella (*Cremides*) *nodosa* Born
Diodora listeri d'Orbigny
Nerita (*Theliostyla*) *tesselata* Gmelin
Dolium (*Dolium*) *perdix* Linnaeus
Thais (*Stramonita*) *deltoidea* Lamarck
Columbella (*Columbella*) *mercatoria* Linnaeus
Cantharus (*Cantharus*) *auritula* Linck
Arca (*Navicula*) *umbonata* Lamarck
Arca (*Barbatia*) *barbata* Linnaeus
Phacoides (*Linga*) *pennsylvanicus* Linnaeus
Chama (*Chama*) *congregata* Conrad
Tivela (*Tivela*) *mactroides* Born
Venus (*Chione*) *cancellata* Linnaeus

6. Cayos de San Felipe, off southwestern Cuba (January 30, 1940).

Codakia (*Codakia*) *orbicularis* Linnaeus
Doryteuthis plei Blainville

[1] According to Adam (Siboga Expeditie, 55, pt. 5, Cephalopoda, p. 30, 1939), this species should be called *sepioidea* Blainville.