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## THE NAUTILUS

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No. 2

## A NEW GENUS OF MEXICAN HELICIDS

BY H. BURRINGTON BAKER

This is the 9th paper on the inland Mexican mollusks collected in 1926 for Dr. Bryant Walker. In the plate, the scales represent lengths of one millimeter, except those for figure 4 (.01 mm.) and 4-T (.1 mm.). Abbreviations not explained in the text are tabulated in Bishop Museum Bulletin 166, p. 337 (1941).

*BUNNYA BERNADINAE*, new genus and species. Plate 5.

The single type specimen (University of Michigan Museum) was collected Sept. 3, on the wall of the old monastery at El Desierto de los Leones (C, II, 11, b), altitude 9800 ft., D. F. *B. bernadinae*, named for my wife, is the type of the genus *Bunnya*, which agrees so closely with *Xanthonyx*, in shell, mantle reflection, form of body, tail "horn" and arrangement of pallial complex, that the two genera must be closely related. But, *Bunnya* differs markedly in its 3 double dart-sacs, producing 6 darts, and in the sharply differentiated sculpture on the embryonic whorls of its shell. In fact, in its genitalia, *Bunnya* appears to approach *Humboldtiana*, which occurs with it in the temperate zone, although the tropical *Xanthonyx* has more in common with *Averellia*. From the description, *Xanthonyx potosiana* Dall (1905, *Smithson. Misc. Coll.* 48: 190) from the Alvarez Mts., San Luis Potosí, seems to have similar embryonic whorls and may be a *Bunnya*, but is a larger rimate shell, with more rapid whorl increase, longer columellar callus and apparently with its later growth-wrinkles somewhat stronger.

Shell (figs. 1-2) imperforate but with foveola deep and narrow (although half open inside aperture); whorls rapidly increasing, depressed but well rounded; thin and translucent, slightly glossy, light brownish buff colored, somewhat darker at apex, with irides-

along the east bank of White River (West fork) in the region of the Harding Street Bridge.<sup>1</sup> Aside from a scattering of specimens eastwards of the bridge-head, the colony is as yet confined to the southwest corner of Harding Street and the River on and about weed-covered, man-made gravel hills. Specimens are least plentiful on the more nearly level areas adjacent to the hills. Another group of hills, less than 500 feet distant, are as yet uncolonized by *appressus* although other species occur there. The present extent of the colony is about that of a moderate sized city lot.

A rough estimate of the relative abundance of *appressus* and of the larger species associated with it was determined in the course of 2-3 hours of collecting in the most favorable part of the colonized area—the extreme NW hill—after heavy rains. On this occasion every living snail encountered (exclusive of the minute species) was collected. Expressing the abundance of each species as a percentage of the 469 snails obtained, their relative abundances are as follows: *Anguispira alternata* (Say) 62.26%, *Mesodon appressus* (Say) 29.63%, *Mesodon elevatus* (Say) 4.05%, *Succinea avara* Say 2.77%, and *Mesodon clausus* (Say) 1.27%.

So far as I know, the closest point at which *appressus* occurs indigenously is about 54 miles distant.<sup>2</sup> It would thus seem that the Marion County colony has resulted from a chance introduction of specimens. Spring collecting (1942) reveals the colony to have survived the winter unharmed. The subsequent history of the colony should prove interesting.

Specimens have been deposited in the collections of the Academy of Natural Sciences of Philadelphia. In making the identification, the genitalia of about a dozen specimens were examined.

### NEW FLORIDAN MARINE MOLLUSKS

By JEANNE S. SCHWENGEL

LAMELLARIA LEUCOSPHAERA, new species. NAUTILUS 56, Pl. 3, figs. 8.

Shell naticoid, thin, transparent, with a slight milky cloudi-

<sup>1</sup> Loc. H+4-.

<sup>2</sup> 1929. Cahn, A. R. and Kemp, J. T., "The Terrestrial Mollusca of Turkey Run State Park, Indiana." Naut. 43(2) pp. 66-68.

ness, smooth, shining and faintly iridescent. Nucleus very small, flat and glassy, of about  $1\frac{1}{4}$  whorls, followed by two abruptly larger, convex whorls. Suture impressed. Sculpture of fine incremental lines. Aperture broad, ovate, nearly two-thirds the size of the shell. Columella concave, spirally gyrate, allowing a view up the spire from the base of the shell. Length 16 mm., breadth 15 mm., thickness 11 mm.

Dredged by Carl S. and Alice D. Miner, in about  $1\frac{1}{2}$  to 2 fathoms in Pine Island Sound, off Red Fish Pass, Captiva, Florida. Type A.N.S.P. No. 178718.

This shell is very similar in form and size to *Marsenina globosa* Perry, but the shell is completely enclosed in the mantle, has no fine microscopic revolving threads as has *M. globosa*, is not quite so globose, the next-to-last and body whorls being more oblique and the spire being a little more produced.

The following description of the animal was made from a living aquarium specimen observed closely over a period of days by Louise M. Perry. Thanks and appreciation are accorded her.

"Length 20 mm., width 15 mm., height at center 16 mm. In external appearance the animal is grayish, jelly-like, oval in outline, gently and symmetrically rounded to a central, elevated summit where the shell is visible through the semi-transparent mantle. The mantle completely covers the body and the shell, whose apex is seen posteriorly at the right. Structural details of the dark liver are visible through mantle and shell.

"The mantle is grayish, semi-transparent; its free edges are thin and delicate, rounded behind, slightly 'frilled' at the sides where there are three indentations or slits. These slits may be deepened by contraction of the body of the mantle. Directly in front the mantle has a deep central fissure whose edges are folded and reflected to form a siphonal canal which is directed forward and upward at an angle near 25 degrees. This siphonal canal can be lengthened or shortened and widened.

"The outer surface of the mantle is peppered with small black dots tending to circular grouping and surrounded by numerous granular appearing, refractile, white 'sugar grains.' Less numerous and irregularly placed are clusters of these dots conically elevated above the general surface level. The free edges of the mantle are thickly covered with minute pin dots like fine sugar crystals, slightly refractile, as are those over the body of the mantle. The dots are entirely absent from the mantle's inner surface. Under low magnification the entire surface of the mantle

appears finely granular throughout its thickness. Its whole surface is sensitive to touch.

"There seems to be no distinctly separate head. Two tentacles are present, about 3 mm. long, bluntly pointed and carried well apart like the horns of a Texas 'longhorn.' The eyes are brilliant black, set in bulbous enlargements near the outer sides of the bases of the tentacles.

"The foot is elongate, oval, somewhat squared at the anterior extremity forming corners which can be turned inward for use as clasping processes. Also the entire extent of the lateral borders of the foot can be reflected over the plantar surface and used as clasps.

"The creature creeps sluggishly, and can sustain itself in a reversed position beneath the surface film."

*PTERIA XANTHIA*, new species. NAUTILUS 56: Pl. 3, figs. 1, 1a.

The shell is obliquely ovate, of fragile, horny texture, of a light cadmium color. The rays of scales are strongly developed, but are more or less worn off except on the lower third of valve. The anterior wing is very thickly laminate, almost forming a frill, but thinning to about eight rays thereafter on the left valve. The laminations on the seventh ray are much wider and longer, about 12 mm., and are in exact prolongation of the convexity from umbo to posterior margin, looking very much like the tail of a fish; this illusion being carried out by the laminations on the tip of the posterior wing, where they are again longer and heavier, turning slightly upward and looking like a dorsal fin. These rays of laminations or scales are much more frequent on the right valve than on the left, having smaller and intermediate rays between each of the heavier rays. The rounded umbones are at about the anterior fourth, and do not project above the cardinal margin, which is straight except at the tip of the posterior wing, where it turns obliquely upward. The byssal notch is much larger than in most pterias, taking practically all of the anterior wing space on the right valve. The interior of the valves is macreous, ending in a distinct line a short distance from the free margins. Length 35 mm., height 18 mm. (exclusive of the projecting scales.)

The Type, 178717 A.N.S.P., was dredged off Captive Island, Florida, by Alice D. Miner, in December 1941.

This shell has been compared with *Pteria vitrea* Reeve, which it most nearly resembles, though it is not as oblique, the color is yellow instead of opaque white, and the laminations are much longer, though not as profuse as in *P. vitrea* Reeve.

*TEREBRA GLOSSEMA*, new species. Pl. 6, fig. 3.

Shell elongate, apex very minute but rounded, consisting of  $1\frac{1}{2}$  smooth, faintly pink whorls, followed by 14 slightly convex whorls; milk-white, tapering regularly from base to apex. Axial sculpture of small, retractively curved ribs, scarcely equal to their intervals, 27 on the last whorl. Spiral sculpture begins so faintly on early whorls as to be undiscernible except through a lens, but gradually strengthens into 5 or 6 unevenly spaced, squarely cut linear grooves, a much wider groove defining the sutural fasciole. Microscopic spiral lines appear between the grooves on the last three whorls. These grooves do not completely cut the summits of the ribs, thereby retaining the continuity of ribs from apex to base. Aperture small, columella smooth and recurved into the deeply channelled notch, siphonal fasciole convex.

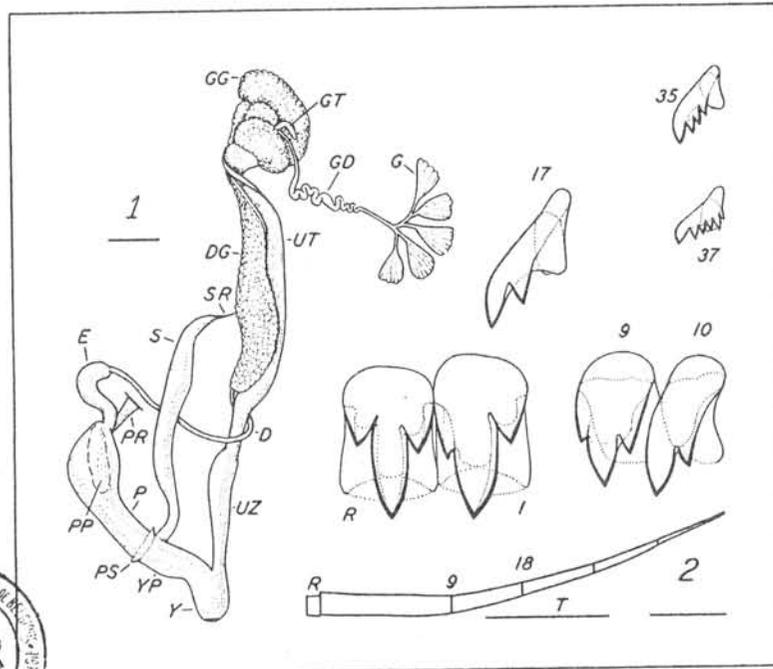
Length 24 mm., width 6 mm.; length of aperture, 5 mm., width 2 mm.

Dredged in 7 to 8 fms. off Pelican Shoal, Florida Keys, by the author and Ted Dranga in April, 1939. Type 175131 A.N.S.P. It was illustrated in THE NAUTILUS, Vol. 53, No. 3, January, 1940, plate 12, fig. 14.

*T. glossema*, taken in the dredging off Sanibel in 1941, shows the first 8 or 9 whorls of ochraceous buff, with a paler band on the next to the last whorl and on the base.

*TRITARIA (ANTILLOPHOS) VIRGINIAE*, new species. Plate 3, figs. 6, 7.

Shell medium-sized, moderately slender, with  $3\frac{1}{2}$  nuclear whorls, the last  $1\frac{1}{2}$  bearing a sub-basal spiral keel, which gradually lowers until it disappears in the suture. The last third of the apex bears 4 or 5 widely spaced, curved, axial ribs. Six rounded whorls follow, with a well defined suture and sculptured with two spiral ridges on first whorl, three to four on the second, increasing to five on succeeding whorls and ending with from 14 to 16 on body-whorl, with one and sometimes two faint ridges, the first heavier than the second, in intervals between spiral ridges. The entire shell is covered with small axial ribs, unevenly spaced, interspersed with heavier varix-like ribs, forming nodules where these ribs cross the spirals. There are between 22 and 26 axial ribs on the body whorl. The color is light buff with faint cinnamon-buff splotches on the earlier whorls, which develop into three faint bands on the body-whorl, the cinnamon-buff on three spiral ridges



Figs. 1-2, *Tengchiena rathouisii*.

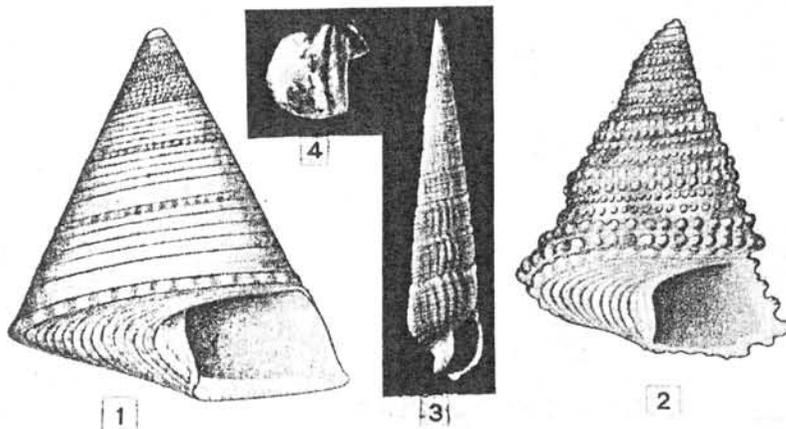


Fig. 1. *Calliostoma faustum*, page 14. 2, *Calliostoma fascians*, p. 15. 3, *Terebra glossema*. 4, *Xylophaga atlantica*.

terr. Fl. Bleu: 14), from Ling-Ying, West Lake, Hangchow, China, has been studied. Surprisingly, it appears to represent a group of Microcystinae (Helicarionidae), which is not known from the islands of the Pacific Ocean, and is now made the type of a new genus, *Tengchiena*. The shell of *T. rathouisii* somewhat resembles that of *Liardetia*, and has rather heavy, but irregular growth-wrinkles, which obscure the spiral striae above the acute angle of its later whorls, a smoothish base with more conspicuous spirals, and a similar externally rimate umbilicus, which is internally closed by a thin callus. But, it is heavier and larger. Since it lacks a penial appendix, *T. rathouisii* appears anatomically closer to the Fijian subgenus *Lava* of *Diastole*, from which it differs in its large spermatheca, short epiphallus, apically swollen penis with heavy stimulator fold, simply bicuspid radular marginals, and superficially rimate shell.

Animal like *Diastole (Lava) lauae* H.B.B. (1938, Bishop Mus. Bull. 158: 55) but: Unpigmented, except for black ommatophores. Lung colorless, 7 times as long as its base or 4 times kidney length, which is thrice its base or 1.5 times pericardium. Ovotestis (G, f. 1; scale = 1 mm.) with 5 triangular lobes of few clavate alveoli, imbedded in basal half of apical liver lobe. Recurved talon (GT) exposed; smaller irregularly ovoid carrefour imbedded in albumen gland (GG). Uterus (UT) not gravid. Spermatheca (S) thin walled, elongate fusiform, with short stalk. Epiphallus (E) small, entering near penial apex and insertion of retractor (PR). Penis (P) internally, in basal half with two pilasters, one of which is continuous with large and high, transversely convoluted fold (outlined at PP) in apical half. Jaw with weak rounded median lobe. Radula (fig. 2; scale = .01 mm.) with 9 tricuspid laterals, 17-19 slender bicuspid marginals and 19-17 short outer marginals with additional cusps; 98 transverse rows (T; scale = .1 mm.; blocks of 9 teeth indicated).

### FIELD NOTES ON SOME WEST COAST MOLLUSKS

By E. P. CHACE

During the winter of 1941-42 Mrs. Chace and I did quite a bit of collecting near Monterey. We made several trips to Del Monte Beach and found and broke up many chunks of shale that had come in from the bottom of the bay. One in particular was very thrilling: a block nearly 3 feet square and 18 inches thick. When