

SOME NEW SOUTH AMERICAN LAND SHELLS

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WITH ONE PLATE

Among some shells collected near the Atrato River, in the Sierra Darien, by Mr. A. E. Heighway, and generously presented to the Museum were *Pleurodonte (Labyrinthus) plicata* Born, *P. (L.) sipunculata* Forbes, and the following species which appears to be very distinct from any other heretofore described.

PLEURODONTE (LABYRINTHUS) TENACULUM, new species

PLATE XXXVII, FIGURES 5, 6, 10, 11

Shell dark purplish or chocolate brown, with a broad yellowish-white band near the periphery of the whorls above and below; whole surface finely granulate, and covered with a thin brownish dehiscent periostracum; shell five-whorled, depressed, sharply carinate; upper surface of the whorls (except the nucleus) flattened; the base moderately convex, compressed near the periphery, rounding gently into a deep funicular umbilicus; nucleus pale, with obscurely vermiculate

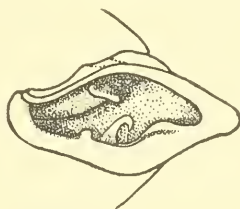


FIG. 64.—Diagram of aperture of *Pleurodonte tenaculum* showing armature.

surface and a deep suture, which is subsequently closely appressed; incremental lines rather distinct and close set; peristome white, the whorl beneath the internal plications impressed externally; the aperture nearly parallel to the basal plane, thick, reflected, with no sulcus at the umbilicus or carina, obscurely subquadrate; parietal lamella low, oblique, thin, strongly reflected outwardly, about five or six millimeters long; basal lamellæ two, the inner not longer than the width of the reflection of the peristome, low, rounded, simple, nearly

vertical; the outer similar but longer, beginning externally near the carinal angle and extending backwards obliquely about six millimeters; all these projections are, like the peristome, white; between the two basal lamellæ, slightly nearer the outer one and near its inner end, is a thorn-like projection of a chocolate color, not connected with either lamella, rapidly attenuated and bent forward toward the aperture, the extreme end sharply recurved, white and acute, like a cat's claw; maximum diameter of shell, 30.0; of peristome, 16.0; of umbilicus, 5.0; minimum diameter of shell, 24.0; of aperture, 9.0; altitude of shell, 6.0 mm.

U. S. Nat. Museum no. 111,073.

Two specimens were obtained. The remarkable armature seems to be unique in the group.

HELICINA HEIGHWAYANA, new species

PLATE XXXVII, FIGURES 7, 8, 9

Shell large, depressed, biconic, very sharply carinated, the carina prominently rostrate at the peristome; color pale lemon yellow fading into creamy white, whorls about five; surface finely radially closely striate, the striæ somewhat wavy near the carina; nucleus small, smooth; suture closely appressed; periphery impressed just within the carina, the remainder of the whorl moderately convex, above and below; base imperforate with a very small inconspicuous callus; aperture subtriangular, wider than high, the upper and basal margins thick, strongly reflected, but the callus not carried across the body; at the angle the thickened lip is strongly produced, rostrate, and bent slightly forward with a faint channel internally; operculum lost. Maximum diameter of shell, 25.0; of aperture, 13.0; minimum diameter of shell, 19.0; of aperture (vertical), 7.0; altitude of the shell, 13.0 mm.

One specimen was obtained with the preceding species. U. S. Nat. Museum no. 111,074.

This is the largest and most strongly rostrate species of the group yet described. Its nearest relative seems to be *H. rhynchostoma*, of the same region, which is much smaller, differently colored, and with a polished surface.

With these shells were found *Aperostoma gigantea* Gray, in some numbers, but a poor state of preservation.

While traveling in the interior of the province of Bahia, Brazil, in 1908, Dr. J. C. Branner, vice-president of Stanford University, observed that landshells, mostly dead, were remarkably abundant,

especially *Bulimulus* (*Anctus*) *angiosomus* Wagner, and allied forms. The surface soil, beside silica, contained nearly fifty per cent of lime, over four per cent of carbonate of magnesia, and nearly nine per cent of sodium chloride and sulphate. There is so much salt in the soil that it is leached for the manufacture of common salt. Certain of the landshells, especially the *Anctus*, seemed to thrive best on this salty ground; after the pools of the rainy season had dried up, they were noted upon the stems of weeds which grow abundantly over this low ground. There were found a number of the shells of *Strophocheilus oblongus*, variety *crassus* Albers, which had become remarkably thickened internally; some of the shell was about half an inch thick, and the unbroken specimen felt as if it had been filled with lead. Besides this species, *Bulimulus pachys* Pilsbry and *Odontostomus sectilabris* Pfeiffer were identified, together with the following new species.

ODONTOSTOMUS (CYCLODONTINA) BRANNERI, new species

PLATE XXXVII, FIGURES 2, 3, 4

• Shell slender, elongate, subacute, with nine and a half whorls separated by a narrow, deep, but not channeled suture; nucleus small, minutely punctate, with an apical dimple; the subsequent sculpture of fine, even, close-set retractive wrinkles, or riblets, extending from suture to suture and over the base; color white, with irregularly disposed brown lines, usually distant and in harmony with the sculpture; whorls very slightly rounded, the last finally attenuated and externally impressed over the internal denticles; under the reflected lip and behind the large lamina on the pillar is a minute umbilical chink; aperture with a strongly reflected white peristome, with a thin layer of parietal callus, separated from the lip at either end by a channel, shallow at the pillar-lip but deep at the external angle, where it is bounded in front by a small lamina; this sulcus, however, is not indicated externally (as in *O. sectilabris*) by a marginating band in front of the suture; the armature of the aperture externally visible resembles that of *O. sectilabris* Pfeiffer, but, in harmony with the whole aperture, is narrower, and the left hand basal tooth of *sectilabris* is represented by two small but quite separate teeth; an examination of the internal armature shows that half a whorl behind the large pillar-tooth the margin of the pillar is gyrate and swollen, forming a lumpy callosity in the first half of the last whorl; in *O. sectilabris*, however, the same part of the axis is slender, not gyrate or swollen, but merely twisted like the axis in the whorls above. Length

of shell, 30.0; of last whorl, 16.0; of aperture, 10.5; maximum diameter of shell, 9.0; of aperture, 7.0 mm.

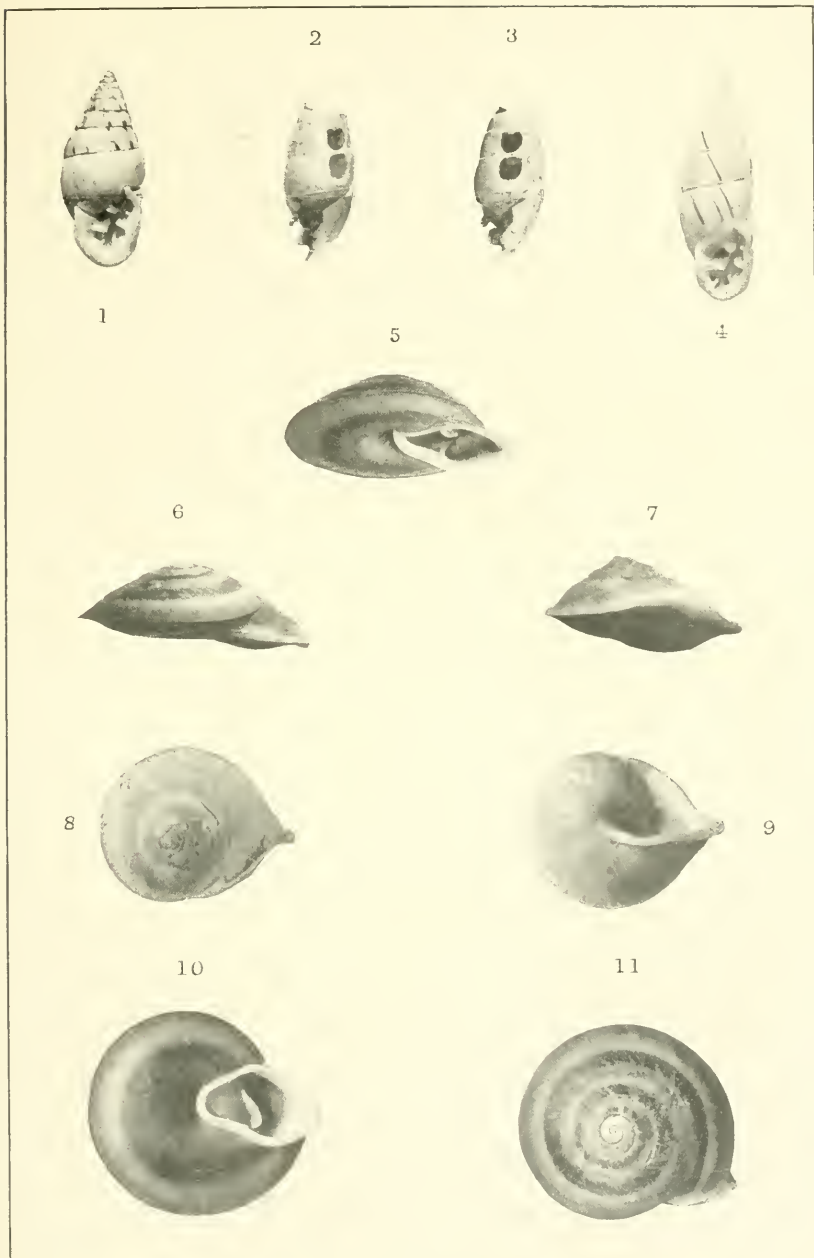
Two specimens and a fragment were obtained near Rio San Francisco, Serra do Mulato, province of Bahia, Brazil, by Dr. Branner, one of which was donated by him to the National Museum, no. 205,956.

This species differs from the numerous varieties of *sectilabris* by its more slender and elongated form, the internal callus on the axis, and, in the specimen described, by the duplication of the left-hand basal denticle; this last character is, however, probably merely individual. In a large series of *O. sectilabris* from various localities none approached the slender form of *O. branneri*. On plate XXXVII, figure 1, is a figure of *O. sectilabris* for comparison with *O. branneri*, both being in the same scale. The fragment has been utilized to show the callosity on the axis of *O. branneri*, two views being given.

PLATE XXXVII

Figures all about natural size and on the same scale

- FIG. 1. *Odontostomus sectilabris* Pfeiffer, U. S. Nat. Mus. No. 205957.
- FIGS. 2, 3. Views of the axis of *Odontostoma branneri* Dall, from slightly different angles, the last half of the outer wall of the last whorl broken away, allowing the callosity to be observed; p. 363.
- FIG. 4. *Odontostomus branneri* Dall, n. sp., front view, U. S. Nat. Mus. No. 205956; p. 363.
- FIG. 5. *Pleurodonte (Labyrinthus) tenaculum* Dall, n. sp., oblique view of shell showing the hook in the aperture, U. S. Nat. Mus. No. 111073; p. 361.
- FIG. 6. The same specimen in profile.
- FIGS. 7, 8, 9. *Helicina heighwayana* Dall, n. sp., profile, upper and basal views; U. S. Nat. Mus. No. 111074; p. 362.
- FIGS. 10, 11. *Pleurodonte (Labyrinthus) tenaculum* Dall, views of base and upper surface of the specimen represented by figure 5.



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