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Descriptions of New Species of Fossils from the Pliocene Clay Beds between Limon and Moen, Costa Rica, together with Notes on previously known Species from there and elsewhere in the Caribbean Area.

By Wm. M. Gabb.

I have used this rather comprehensive heading for reasons similar to those which prompted a like one for the Miocene fossils. Wherever no special locality is mentioned, it must be understood that the clay beds of the Limon peninsula are meant. Many species are quoted as living on the Cuban coast; doubtless, when the other islands shall have been as thoroughly studied, not only will the geographical range of these be increased, but many species now only known as fossils will make their appearance.

CRUSTACEA.

Crustacean remains are rare in this deposit, but I found one little nodule of clay which disclosed the greater part of a small crab. On attempting to clean it, it crumbled, all but the carapace and left hand, both of which are figured, slightly magnified, on Plate 45, fig. 29.

ATLANTA, Lesueur.

A. Ammonitiformis, Gabb, n. s., Pl. 45, fig. 30.

Shell very minute, dextral, spire well marked and slightly elevated. Dorsum distinctly rounded in the young shell without trace of keel or angle; becoming angulated on the third volution, but bearing no keel or crest. Diameter, 1 mm.

From the Moen beds. Most nearly allied to *A. Peronii*, but differs in the lateral view of the side of the mouth. In that species the outline is a gentle, regular curve; in this, it bends much more backwards towards the peripheral margin.

MUREX, Linn.

M. recurvirostris, Brod., P. Z. Soc., 1832, p. 174.
M. nigrescens, Sby., P. Z. S., 1840, p. 138.

Both the above names were given to shells found in the Pacific, and separated on points which seem to be of too little value for specific distinction. Not only am I convinced that our shell belongs to the species, but longer acquaintance with

ARCHITECTONICA, Bolt.

A. BISULCATA, d'Orb., sp.

Solarium, id., d'Orb., La Sagra, p. 66, Pl. 18, figs. 17–20.

A single, but very well preserved specimen. Found living on the Cuban coast.

A. GRANULATA, Lam., A. S. V., v. 7, 3.

S. quadriseriatum, Sby., Q. J. G. S., v. 6, p. 51, Pl. 10, fig. 8.

Further comparisons of large suites of both recent and fossil specimens, including some from Costa Rica, convince me of the identity of the fossil and recent shells.

CONUS, Linn.

C. LEONINUS, Hwass, Encyc. Meth., v. 1, Part 2, p. 683, Pl. 334, figs. 5–6.

Half a dozen specimens, all retaining their color pattern. A well known West Indian shell.

C. CONSOBRINUS, Sby., Q. J. G. S., v. 6, p. 45.

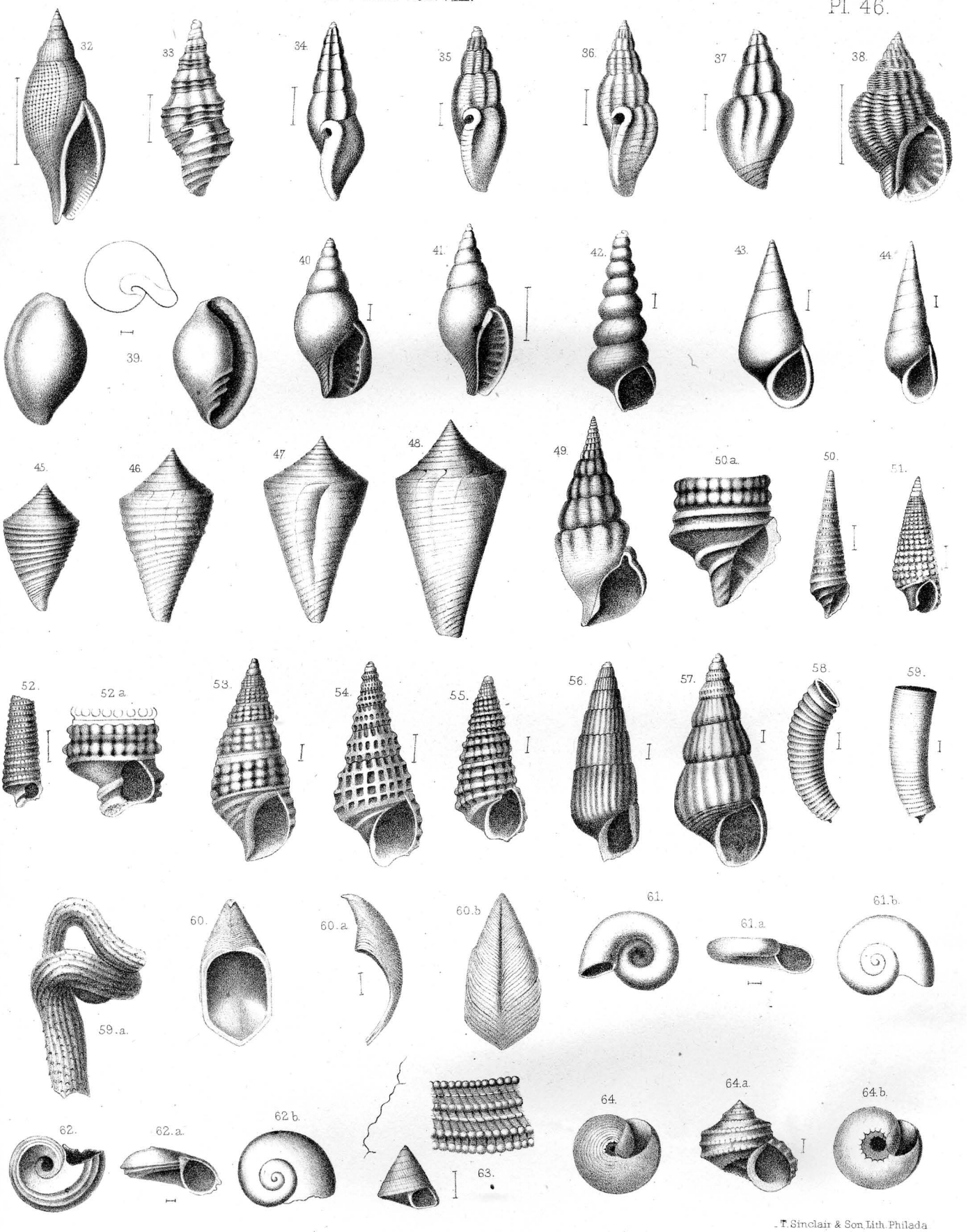
C. granozonatus, Guppy, *loc. cit.*, v. 22, p. 287, Pl. 16, fig. 5.

Two or three of the specimens retain traces of coloration; the pattern resembling that of *C. Haitensis*, a dark ground, irregularly streaked and flaked with white, the light color being arranged more or less spirally. I am in some doubt as to whether this is really the remains of the color of the live shell, or whether it may not be connected with some peculiar condition of fossilization.

The species is found fossil in Jamaica and Santo Domingo. It is not known living.

C. REGULARIS, Sby. (Conch. Ill.), Pl. 46, figs. 45–48.

An abundant fossil of Costa Rica which agrees with the descriptions and figures as well as with recent specimens from the Gulf of Nicoya, except that the surface is described as smooth. I find, however, that some of the recent shells are grooved and even marked by moniliform ribs, especially on the anterior end. The fossils vary from more nearly smooth than some of the recent specimens, to a form covered over the entire surface with large ribs, with equal, deep interspaces. *C. marginatus*, Sby. (fossil in Santo Domingo), seems to be only an older form of the same species. It is smaller and more robust than the recent shell, though approached in this respect by some of the Costa Rican fossils. Its surface is regularly marked by square revolving ribs, with equal squarely sunken interspaces, and even this character is approached by some of the specimens before us.



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Gabb on Fossils of the Caribbean Area.