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A MONOGRAPH OF THE MOLLUSCAN FAUNA OF
THE ORTHAULAX PUGNAX ZONE OF THE
OLIGOCENE OF TAMPA, FLORIDA

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BULLARIA PETROSA Conrad.

Bulla petrosa CONRAD, Amer. Journ. Sci., ser. 2, vol. 2, p. 399, 1846, with figure. Not *Bullina petrosa* Conrad, Amer. Journ. Sci., ser. 2, vol. 5, p. 433, 1848, from Miocene of Oregon, nor *Bulla petrosa* Conrad, in Dana, Geol. U. S. Expl. Exp., p. 727, 1849 (= *Haminea petrosa*, Oregonian Miocene).—DALL, Trans. Wagner Inst., vol. 3, p. 18, 1890.

Rare in the Tampa silex beds, where it was first found by Conrad and later by Dall. U. S. Nat. Mus. No. 97488.

This belongs to the typical section of the genus with perforate apex and resembles *Bullaria solida*, but is of smaller size.

This species has also been collected from the Oligocene limestone of Jacksonboro, Georgia.

BULLARIA (HAMINEA ?) SULCOBASIS, new species.

Plate 6, fig. 6.

Shell small, subovate, anterior third spirally striated, posterior two-thirds smooth or faintly marked by incremental lines; whorls involved, thin, the apex depressed, showing only the external whorl; outer lip as long as the shell, thin, simple; anterior third with fine spiral striae, at first close, later coarser and with wider interspaces; around the minutely perforate umbilicus there is a narrow space free from striae; aperture behind extending beyond the apex, and rather narrow, in front wider; body with a thin wash of callus; pillar lip short, smooth with a slight free reflection over the umbilical region. Height 8.2, maximum diameter 5.4 mm.

Tampa silex beds at Ballast Point, Tampa Bay, Florida. One specimen from the Post collection, U. S. Nat. Mus. No. 165027.

This species may belong to the genus *Haminea*, but the specimen is hardly perfect enough to be positive as to its proper location.

Superorder STREPTONEURA.

Order CTENOBRANCHIATA.

Superfamily TOXOGLOSSA.

Family TEREBRIDAE.

Genus TEREBRA Bruguiere.

Terebra BRUGUIERE, Encycl. Meth., vol. 1, p. 15, 1789 (no species mentioned); Lamarck, Prodr., p. 71, 1799. Sole example, *Buccinum subulatum* Linnaeus.

Epitonium (sect. 3) BOLTEN, Mus. Boltenianum, p. 93, 1799.

Terebra DALL, Nautilus, vol. 21, No. 11, p. 124, Mar., 1908, Bull. Mus. Comp. Zool., vol. 43, No. 6, p. 246, 1908.

This group was associated with *Buccinum* by Linnaeus, with *Turritella* and *Scalaria* by Bolten, and with *Cerithium* by Say. The name was used for *Turritella* in the Museum Calonnianum. A revision of the group by the writer appears as above cited.

Section OXYMERIS Dall.

Oxymeris DALL, Proc. U. S. Nat. Mus., vol. 26, No. 1342, p. 951, 1903; new name for *Acus* Gray, not of Edwards; section of *Terebra*; Nautilus, vol. 21, No. 11, March, 1908, p. 124; Bull. Mus. Comp. Zool., vol. 43, No. 6, p. 246, 1908. (Not of August, 1900, as mistakenly entered in the synonymy of the last citation.)

* TEREBRA (OXYMERIS) DISLOCATA Say.

Plate 5, fig. 2.

- Cerithium dislocatum* SAY, Journ. Acad. Nat. Sci. Phila., vol. 2, p. 235, 1822.
Terebra petittii KIENER, Mon. Terebra, p. 37, pl. 13, fig. 32, 1838.
Terebra rudis GRAY, Proc. Zool. Soc. London, 1834, p. 60.
Terebra dislocata HOLMES, Post. Pl. fos. S. Car., p. 70, pl. 11, fig. 12, 1858.
Terebra carolinensis CONRAD (part), Post. Pl. fos. S. Car., p. 70.
Terebra dislocatum EMMONS, N. Car. Geol. Surv., p. 257, 1858.
Terebra (Acus) dislocata DALL, Trans. Wagner Inst., vol. 3, pt. 1, p. 24, Aug., 1890.

Tampa silex beds, at Ballast Point, Tampa Bay, Florida; Dall. Also Miocene of Virginia and North Carolina; Pliocene of the Carolinas and of the Florida Caloosahatchee beds; Post Pliocene of the whole coast from Maryland southward; and living from Maryland southward to Florida, the Bahamas, and Venezuela. U. S. Nat. Mus. No. 113610.

This well-known form indulges in many variations. The Ballast Point specimens are somewhat intermediate between the typical form and *T. tantula* and *T. protexta*. Miocene specimens from South Carolina agree exactly with the large *T. dislocata* variety *rudis*. Similar mutations are common among the recent specimens.

TEREBRA (OXYMERIS) TANTULA Conrad.

- Terebra tantula* CONRAD, Journ. Acad. Nat. Sci. Phila., n. ser., vol. 3, p. 114, pl. 11, fig. 15, 1848; Amer. Journ. Conch., vol. 1, p. 28, 1865.—DALL, Trans. Wagner Inst., vol. 3, pt. 1, p. 24, 1890.

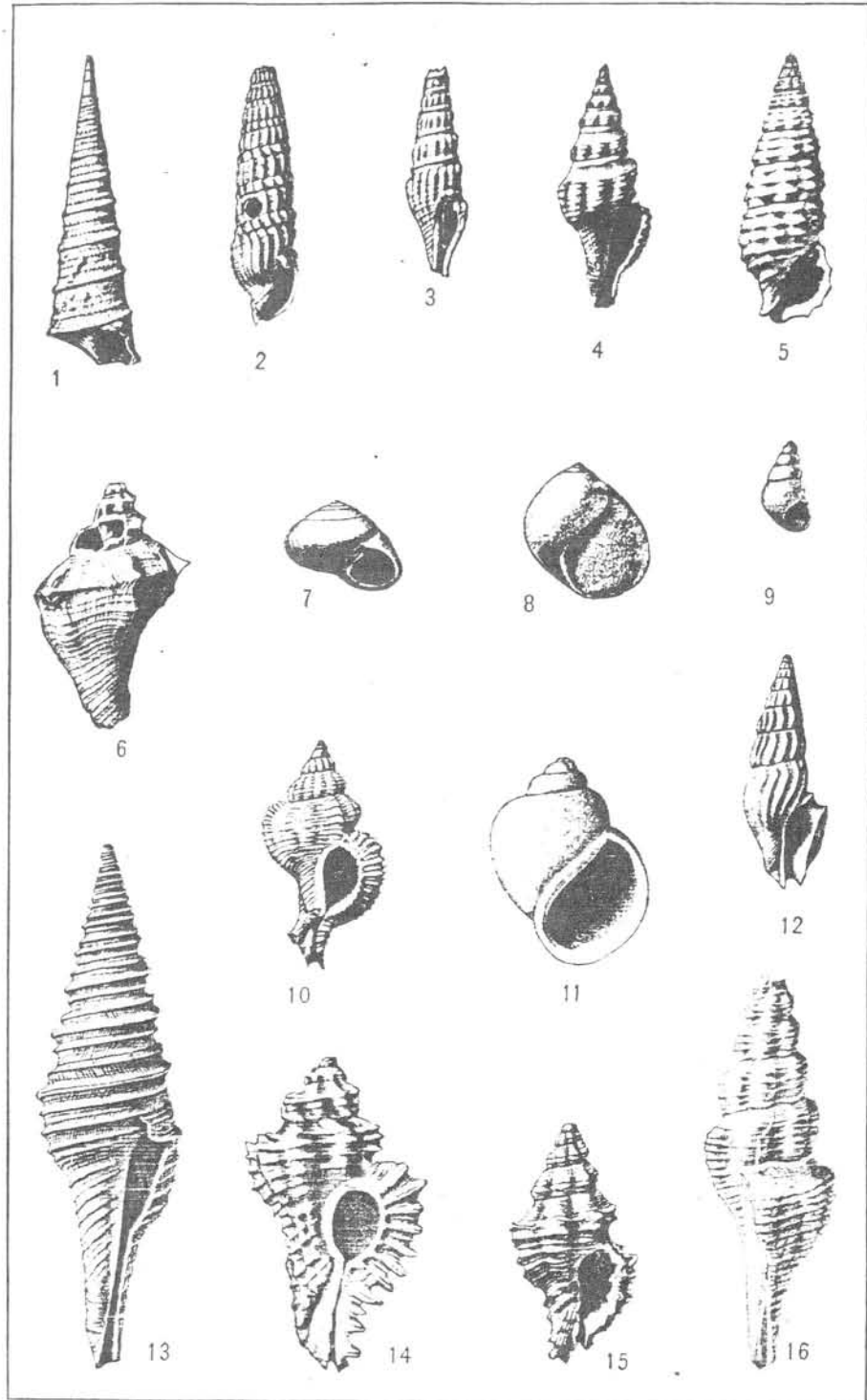
Oligocene of Vicksburg, Mississippi, Conrad; of the Tampa silex beds at Ballast Point, Tampa Bay, Florida; Dall; and at De Funiak Springs, Florida; Burns. U. S. Nat. Mus. No. 165028.

Specimens of the typical *tantula* have been obtained from Ballast Point since my remarks in the Wagner Institute Transactions were published.

Family CONIDAE.

Genus CONUS Linnaeus.

- Conus* LINNAEUS, Syst. Nat., ed. 10, p. 712, 1758; ed. 12, p. 1165, 1768.—LAMARCK, Prodrome, p. 69, 1799 (monotype, *C. marmoreus* Linnaeus).



FOSSILS OF THE ORTHAULAX PUGNAX ZONE.

FOR EXPLANATION OF PLATE SEE PAGE 160.