

NOTES ON THE FAUNA OF THE CHIPOLA FORMATION — XXVI:  
A NEW SPECIES OF *TRACHYCARDIUM* FROM TENMILE CREEK

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In 1977 the writer published a study on the Cardiidae of the Chipola Formation in which 16 species were identified in collections that included 40,342 specimens. It was with considerable surprise, therefore, that recently a valve of what is clearly a new species of *Trachycardium* was collected by George Mollyn, a Tulane University graduate student, from locality TU 951 on Tenmile Creek, Calhoun County, Florida.

Genus *TRACHYCARDIUM* Mörch, 1853

*Trachycardium* MÖRCH, 1853, *Catalogus Conchyliorum* . . . Comes de Yoldi, Fasc. 2, p. 34. Type species, by subsequent designation, von Martens, 1870: *Cardium isocardia* Linnaeus, 1758. Recent; West Indies from Jamaica to Trinidad, the Caribbean coast of northern South and Central America and the southern Gulf of Mexico, around the Yucatan Peninsula and westward at least as far as Isla Carmen, Mexico.

As is the case with the other Chipola species assigned to the genus *Trachycardium*, the present form lacks the characteristic ornament of round-topped imbricating scales that are strongly developed over all, or almost all, of the surfaces of the costae on the median part of the valves. The nature of the ornament on the ribs on the median part of the shell is somewhat similar to that present on species referred to *Dallocardia* Stewart, 1930, but the shape of the shell is very different and the exceedingly narrow, straight-sided linear ribs, with flattened upper surface overhanging on both sides, plus the narrowly lineate interspaces, are of completely different aspect than the less numerous, broader and round-topped ribs of that subgenus. Accordingly the present species is assigned to *Trachycardium* sensu lato.

*TRACHYCARDIUM MOLLYNI*  
H. E. Vokes, n.sp.

Text figure 1

*Description:* Shell of medium size, subequilateral, subovate with anterior, antero-ventral, and ventral margins broadly and almost equally rounded, more sharply rounded postero-ventrally into an almost straight, but slightly convex posterior end that passes into the dorsal margin in an

arc essentially equal to that on the postero-ventral margin; umbone narrow, moderately high, not strongly inflated; ornamentation of 60 radial ribs, the anterior five or six being essentially sloping lamellae, overhanging the interspaces posteriorly, but sloping gently into them anteriorly; these ribs bearing strong, transversely narrowed nodes; the ribs immediately posterior with similar surficial nodes but becoming narrower and more erect with a vertical posterior side and a rounded, semi-erect anterior one; toward the umbonal end of the tenth costa numerous small spines appearing on the posterior side of the overhanging rib top; from this point on the transverse nodes progressively disappearing ventrally until finally absent on the twenty-first and subsequent ones; the small marginal spines present on all up to and including the fortieth one, interspaces in this area narrow and linear, the ribs very narrow below the top surface, which tends to be flattened and projecting on both anterior and posterior sides, the whole being suggestive of the transverse section through a railroad rail; ribs on the posterior slope of the valve beginning as a relatively narrow structure marked by a median groove that separates a smooth anterior segment from a posterior one crossed by sharp, obliquely transverse nodes; these ribs becoming progressively lower and broader, although the median groove continues essentially as strong, and the interspaces progressively shallower until, on about the forty-fifth or forty-sixth rib, the obliquely spined segment assumes the appearance of being on the anterior side of the structure, with the median groove so much more pronounced than the interspace that it appears to represent the latter: on last two or three ribs the former anterior segment reduced to a low broadly rounded area between the segments on which the oblique spinose lamellae have become increasing numerous, higher and more prominent. Hinge structure typical of the genus *Trachycardium*; internal margins deeply serrate, muscle scars typical, not incised.

*Holotype:* USNM 340287; height 47.0 mm, length 37.3 mm, diameter (right valve) 16.7 mm.

*Type locality:* TU 951, Tenmile Creek, south bank about 1.5 miles west-northwest of mouth of creek at Bailey's Ferry (SE ¼ Sec. 12, T1N, R10W), Calhoun County, Florida.

*Remarks:* *Trachycardium mollyni*, n. sp., is distinguished from all other described East Coast Tertiary and Recent species by the number of its radial costae. The majority of the species referred to this generic

group tend to have between 35 and 40 ribs, a few attain up to 50. The only exception, of which the writer is aware, is *T. (Dallocardia) dominicense* (Gabb) (1873, p. 250), from the Burdigalian Baitoa Formation of the Dominican Republic, originally described as having about 60 ribs; seven specimens in a collection presently being studied have 51 to 58 ribs, all being round-topped with narrow relatively shallow interspaces, and having a wholly different type of surficial ornament. *Cardium (Trachycardium) gatunense* Toulou, 1901 (p. 720, pl. 27, fig. 4; pl. 28, fig. 18; non *Cardium (Fragum) gatunense* Dall, 1900, p. 1100) appears to be a synonym of *T. dominicense*.

## LITERATURE CITED

- DALL, W. H., 1900, Contributions to the Tertiary Fauna of Florida . . . , Pt. 5: Wagner Free Inst. Sci., Trans. v. 3, pt. 5, p. i-vi, 949-1218, pls. 36-47.
- GABB, W. M., 1873, On the topography and geology of Santo Domingo: Amer. Phil. Soc., Trans., (N.S.) v. 15, pt. 1, p. 49-259, 2 maps.
- TOULA, FRANZ, 1909, Eine jungtertiäre Fauna von Gatun am Panama-Kanal: Jahrb. K. K. Geol. Reichsanstalt, v. 58, pt. 4, p. 673-760, pls. 25-28, 15 text figs.
- VOKES, H. E., 1977, Cardiidae (Mollusca: Bivalvia) from the Chipola Formation, Calhoun County, Florida: Tulane Stud. Geol. Paleont., v. 13, no. 4, p. 143-189, pls. 1-10, 1 text fig., 6 tables.

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Text figure 1, *Trachycardium mollyni* n. sp., Holotype, USNM 340287. A) Right valve,  $\times 1\frac{1}{3}$ ; B) View of surface ornament on posterior segment of valve,  $\times 2$ ; C) View of surface ornament on anterior area,  $\times 2$ .