

PROCEEDINGS
OF THE
BIOLOGICAL SOCIETY OF WASHINGTON

A REDESCRIPTION OF THE CORAL *PLATYTROCHUS*
SPECIOSUS.*

BY T. WAYLAND VAUGHAN.

I was obliged, because of the imperfection of the original description and the inadequacy of the figures, to place *Platytrachus speciosus* Gabb and Horn in the category of "Doubtful Species" in my memoir on the Eocene and Lower Oligocene Coral Faunas of the United States.† Through the kindness of Professor L. C. Glenn, of Vanderbilt University, who has recently sent me the types, I am now able to present a new description of the species and to give figures, from drawings by Dr. J. C. McConnell.

***Trochocyathus speciosus* (Gabb and Horn).**

Figs. 1, 1a, 1b, 2, 2a.

1860. *Platytrachus speciosus*, Gabb and Horn, Journ. Acad. Nat. Sci. Phila., 2nd ser., Vol. IV, p. 399, pl. LXIX. Figs. 15, 16, 17
1900. *Platytrachus speciosus*, Vaughan, U. S. Geological Survey, Mon. XXXIX, p. 196.

*Published here by permission of the Director of the U. S. Geological Survey.

†U. S. Geological Survey, Mon. XXXIX, 1900.

Not *Platytrachus speciosus*, C. W. Johnson, Geological Survey, New Jersey, Ann. Rep. for 1897, p. 265, 1898; *Platytrachus speciosus*, C. W. Johnson, Proc. Acad. Nat. Sci. Phila., 1898, p. 462, = *Trochocyathus woolmani*, Vaughan, Proc. Acad. Nat. Sci. Phila., 1900, pp. 436, 437, figs. 1, 2, 3.

Corallum inversely conical, slightly curved, living attached by a rather small base, transverse outline elliptical.

DIMENSIONS:

	Greater transverse diameter of calice	Lesser transverse diameter of calice	Height of corallum
Specimen 1.	13.5 mm.	11.5 mm.	12.25 mm.
Specimen 2.	11 “	10 “	11 “

The transverse measurements are made to the outer edge of the costæ. Wall thin around upper edge, thicker below.

Forty-eight costæ, which are rather prominent, regularly alternately larger and smaller, gradually decreasing in size and prominence as the base is approached. Those corresponding to the fourth cycle of septa are continued very near or actually to the base. Their edges are acute, may be transversely undulated, serrately or crenately dentate, the serrations not very tall; small granulations on the sides. No vestige of epitheca discernible.

Septa rather thin, thicker at the wall, in four complete cycles, grouped into six distinct systems. Members of the first and second cycles free; those of the fourth joining by their inner margins to the sides of the third. The upper margins of the larger septa may project as much as 1.25 mm. above the edge of the wall. Septal margins entire or very faintly crenate. Lateral ornamentation, of granulations arranged along definite lines, with the line of divergence interior to the wall.

Pali in two distinct crowns. Those before the septa of the first and second cycles are situated far down in the calice, but still distinctly above the upper surface of the columella and are narrow. Those before the third cycle extend high up into the calice, and are quite wide, usually about twice as wide as those first described. All of the pali are thin and transversely undulated.

The calice is deep, I would say that its depth is about half the height of the corallum. The upper surface of the columella is suddenly sunken.

Columella well developed, fascicular, composed of numerous twisted, coalescing irregular laths. Its upper termination is not papillose, being formed by the upper ends of the irregular laths.

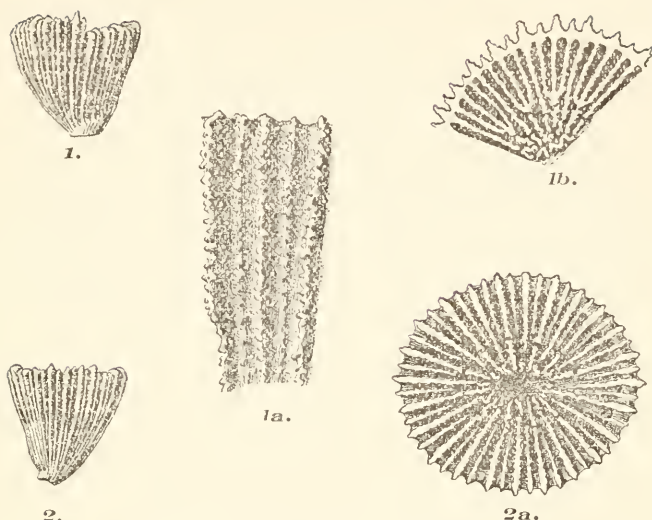
Cotypes of *PLATYTROCHUS SPECIOSUS*.

Fig. 1. General view of specimen, height, 11.25 mm.; Fig. 1a, costae of the same specimen considerably enlarged; Fig. 1b, two systems of septa, showing pali, of the same specimen, slightly diagrammatic; Fig. 2. general view of another specimen, height, 11 mm.; Fig. 2a, calice of the same, greater diameter, 11 mm. [Figures reproduced through the courtesy of the Director of the U. S. Geological Survey.]

Locality.—“M. & C. R. R. or Walker's Bank, at Tennessee State Line, Hardeman County, Tennessee.”

Geological Horizon.—“Midway Eocene.”

Cotypes.—No. 87. Department of Geology, Vanderbilt University. Two specimens.

Remarks.—This species presents an individuality so striking that comparisons with other species can scarcely be made. I pointed out in describing *Trochocyathus woolmani* two important differences between the two species, basing my comparison on Gabb and Horn's brief original description, viz: that *T. speciosus* is three times as large as *T. woolmani* and that its calice is much deeper. A third difference is that the former possesses one more cycle of septa than the latter, even when the specimens of the two species are of the same size.

T. speciosus bears considerable external resemblance to occasional large specimens of *Paracyathus alternatus* Vaughan. The pali and columella are quite different, and even in form there is discernible difference. The ratio of the diameters of the calice to the height of corallum is greater in *T. speciosus*, i. e. the diameters of the calice in *T. speciosus* are relatively greater than in *P. alternatus*.

*Taken from the label accompanying the specimens.