

The large specimen in the Challenger collection, which I have referred to this species differs somewhat externally from Heller's original description of *Microcosmus polymorphus*. It is smoother and less covered with excrescences. In internal structure, however, it agrees well, and I think there can be no doubt that it is the same species.

The branchial sac is yellow, and has seven large folds on each side. The difference in the proportion between the folds and the interspaces in this species and in *Microcosmus helleri* may be seen by comparing figs. 7 and 2 on Pl. XIV. There are about ten internal longitudinal bars on each side of the fold, and five or six in the interspace; they are very stout. The meshes contain from ten to fourteen stigmata each (Pl. XIV. fig. 8).

The tentacles are about twenty in number, compound, and of two sizes, placed large and small alternately. The dorsal lamina is smooth-edged.

This seems to be the species described in 1816, by Dr. C. G. Carus, in his "Beiträge zur Anatomie und Physiologie der Seescheiden," under the name of *Ascidia papillosa*. His fig. 2 on Pl. VII. is especially like the present species, and on the other hand his fig. 1 on Pl. VIII. shows a large rounded projection at the base of the branchial siphon: the other figures correspond very fairly with *Microcosmus polymorphus*.

One large specimen of this species, 11 cm. in length and 7 cm. in breadth, was obtained along with *Microcosmus propinquus*, off East Monceur Island, Bass Strait, at Station 162, April 2, 1874; depth, 38 to 40 fathoms; bottom sandy.

Cynthia, Savigny.

Ascidia, Linnæus, O. F. Müller, Lamarck, Cuvier, &c. In part.

Cynthia, Savigny, Mémoires sur les Animaux sans Vertèbres, pt. 2^m, fasc. 1, 1816. In part.

Halocynthia, Verrill, Bull. U. S. Nat. Museum, No. 15, p. 147, 1879. In part.

Cynthia, Heller, Untersuch. ü. d. Tun. d. adriat. u. Mittelm., Abth. 3, p. 9, 1877.

Cynthia, Traustedt, Oversigt over de fra Danmark, &c., Ascidiæ Simplices, 1880. In part.

Body attached, sessile or very shortly stalked, rarely incrustated with sand.

Branchial and atrial apertures both four-lobed.

Test coriaceous, rarely cartilaginous.

Mantle well developed, usually with a strong musculature.

Branchial Sac with six to twelve longitudinal folds upon each side.

Dorsal Lamina with the free margin toothed.

Tentacles always compound.

Intestine forming rather a wide loop.

The genus *Cynthia* was founded by Savigny in 1816, for sessile Simple Ascidiæ with a coriaceous test, but at that time, and for long afterwards, it included all the other genera of the Cynthiidae, with the exception of *Boltenia*. Of the groups into which Savigny divided his *Cynthia*, the Cynthiæ Simplices most nearly correspond to the present