Family VI. Cœlocormidæ, n. fam.

Colony massive, deeply concave on the upper surface, not attached.
Ascidiozooids large, scattered all over the surface. Branchial apertures five-lobed.
Test soft and gelatinous. Test cells numerous. Calcareous spicules present in the outer layer of the colony.
Branchial Sac large and well developed.
Dorsal Lamina represented by a series of languets.
Alimentary Canal extending beyond the branchial sac posteriorly, but not forming a distinct abdomen. Stomach smooth-walled.
Reproductive Organs hermaphrodite in the adult Ascidiozooid. Testis composed of a number of pyriform vesicles, which join a spirally coiled vas deferens.

The colony which will be described below under the name of *Cœlocormus huxley* is so remarkable in its structure, and differs so much from other Ascidiæ Compositæ, that I consider it necessary to form a new family for its reception. This family I would place, in a phylogenetic classification of the Tunicata, between *Didemnum* and *Pyrosoma*, so as to lie on the outskirts of the Ascidiæ Compositæ, leading in the direction of the Ascidiæ Salpiformes.

The colony in the only species known is massive, and is so deeply concave on the upper surface as to be cup-shaped or almost tubular (Pl. XXXVII. fig. 2, and Pl. XXXVIII. fig. 1). It is not attached, but was probably not free-swimming. There is only one common cloacal aperture in the single colony, and it is placed at the bottom of the central cavity (see fig. 10, B, p. 320). From this cloacal aperture canals spread through the test, and connect the atrial apertures of the various Ascidiozooids.

The branchial apertures are pentagonal or surrounded by five short lobes (Pl. XXXVIII. figs. 2, 3). They occur not only on the outer surface of the colony but also on the inner wall of the central cavity (fig. 10, B, p. 320).

In the shape of the colony, in its free condition, and in the form of the branchial apertures, this family differs from all previously described Compound Ascidians, while in the condition of the test, the branchial sac, the dorsal lamina, and the vas deferens, it agrees with the Didemnidæ. The presence of calcareous spicules in the test, and the spiral coiling of the vas deferens, especially indicate relationship to the Didemnidæ, but it is interesting to find that although the vas deferens has the same arrangement as in the family Didemnidæ the testis is quite different, and in place of forming one large ellipsoidal mass, it is divided into a number of distinct pyriform vesicles, as in the Distomidæ or the Polyclinidæ.

The family contains the single genus *Cœlocormus*.