

DESCRIPTION OF GENERA AND SPECIES.

Family I. AMMOCONIDÆ, n. fam. (Pl. VIII.).

Definition.—Keratosa without spongin-fibres. Pseudo-skeleton composed of xenophya (or manifold foreign bodies), which are disposed in the thin malthar plate of the porous tubular body. Canal-system tubular, developed on the Asconal-type (similar to that of the Asconidæ).

The new family Ammoconidæ, represented in the Challenger collection by three different deep-sea genera, is of extraordinary morphological interest, for it is the first example of a simple so-called "homocœlous structure" among the "Non-calcareæ," viz., that most remarkable organisation which is represented by the Asconidæ among the Calcareæ. In the first genus, *Ammolynthus*, the body is a simple, unbranched tubule, with an oscular opening at the superior end, opposite to the inferior pedicle (Pl. VIII. figs. 1, 2); it corresponds to *Calcolynthus* among the Calcareæ. The second genus, *Ammosolenia*, is a branched or arborescent body, composed of several *Ammolynthus* (Pl. VIII. fig. 3), similar to *Soleniscus*. The third genus, *Ammoconia*, forms a loose, roundish framework, composed of anastomosing tubules, without oscula, similar to *Auloplegma* (Pl. VIII. figs. 4, 5). The thin wall of all these tubular sponges is pierced by simple pores, through which the water enters into the simple gastral cavity; it issues either through these or through larger openings (oscula). Remains of the entodermal flagellated epithelium lining the inside of the tubes were visible in two genera examined, but no trace of an exodermal pavement-epithelium was visible on the outside; it was probably lost, as usual in spirit specimens. The main mass of the thin wall is formed by foreign bodies, or manifold xenophya, Radiolaria, Foraminifera, sand-grains, &c. They are connected by a relatively scarce maltha, or a homogeneous ground-mass, in which the small cells of the connective tissue are recognisable between the xenophya.

Xenophya.—The foreign bodies which compose the pseudo-skeleton of the Ammoconidæ, and which are cemented together by the scanty maltha of the mesoderm, are calcareous in three of the five species examined—shells and fragments of *Globigerina* and allied Foraminifera (Pl. VIII. figs. 2-4). They are siliceous in the two remaining species, Radiolarian tests in one (fig. 1), spicules of siliceous sponges and volcanic mineral particles,