such as are found in the red clay, in the other (fig. 5). Thus it appears that the three principal abyssal deposits—Globigerina ooze, Radiolarian ooze, and red clay—supply accidentally the materials of which the pseudo-skeleton in these Ammoconidæ, as well as in the following families of Deep-sea Keratosa, is composed.

Soft Parts.—Whilst the main mass of the tubular body in all the Ammoconidæ is composed of xenophya, or of foreign bodies received from the ooze of the sea-bottom, the true organic tissue of the sponge itself is represented only by the thin delicate membrane which connects and encloses the xenophya. The nature of this membrane is best recognised in those species in which the calcareous matter may be removed by treatment with acids. The delicate residue is formed by a thin, transparent, or somewhat granular membrane, which closer examination proves to be a soft maltha, or mesodermal ground-mass, in which two kinds of cells are enclosed: small, roundish, fusiform or stellate, connective cells, and larger amœboid wandering cells. Besides, in one species (*Ammolynthus prototypus*, Pl. VIII. fig. 1) larger amœboid cells could be recognised, possessing a large clear spherical nucleus with a small dark nucleolus (figs. 1B, 1C, *e*, *v*). These cannot be distinguished from the common naked eggs of sponges; stages of segmentation, however, and larvæ (Gastrulæ) were not observed in these Ammoconidæ. The same must be said of the (hypothetical) exodermal pavement-epithelium, whereas remnants of the entodermal flagellated epithelium were recognisable on the inside of some tubular Ammoconidæ (Pl. VIII. figs. 1B, 1C, *n*).

Ammoconidæ and Rhabdamminidæ.—The peculiar deep-sea organisms here described as Ammoconidæ exhibit a striking resemblance to certain Rhabdamminidæ, described as Foraminifera Astrorhizida in Henry B. Brady's Report.[1] We find a striking similarity between *Ammolynthus* and *Rhabdammina*, between *Ammosolenia* and *Rhizammina*, between *Ammoconia* and *Sagenella*. Brady thus characterises the family Astrorhizidæ:—"Test invariably composite, usually of large size and monothalamous; often branched or radiate, sometimes segmented by constriction of the walls, but seldom or never truly septate; polythalamous forms never symmetrical."[2] The subfamily Rhabdamminidæ is characterised as follows:—"Test composed of firmly cemented sand-grains, often with sponge-spicules intermixed, tubular, straight, radiate, branched or irregular, free or adherent, with one, two, or more apertures, rarely segmented."[3] For further comparison see the careful description of Brady.

Judging as to the nature and affinities of these gigantic deep-sea Rhizopods (the majority of which have been recently described), it must not be forgotten that we know very little more than the external form and the structure of their arenaceous shell. The internal organisation, and even the organic contents, of the shells are almost unknown, except in a few cases. On the other hand, the general form of the numerous

[1] Zool. Chall. Exp., pt. xxii. pp. 63, 227, pls. xix.–xxviii.
[2] *Loc. cit.*, p. 63. [3] *Loc. cit.*, p. 64.