further observations prove the existence of such pores, then these Physemaria must be united with our *Ammolynthus*, as the simplest forms of Ammoconidæ.

Genus 1. *Ammolynthus*,[1] n. gen.

Definition.—Ammoconidæ with simple, tubular or urceolate, unbranched body. Distal end of the tubule with a simple opening (osculum).

The genus *Ammolynthus* is of special interest, as the simplest of all Keratose sponges, and as a prototype corresponding perfectly to *Calcolynthus* among the calcareous sponges. I propose to retain the term *Olynthus* (first employed in my Monograph of the Calcispongiæ, 1872) for the simplest tubular sponge-type without skeleton, and to use the term *Calcolynthus* for those forms of *Olynthus* which produce calcareous spicules in the mesodermal outer wall of the utricle, and *Ammolynthus* for those forms, the pseudo-skeleton of which is composed of xenophya. The important embryonic stage of many sponges, which corresponds to these mature *Olynthus*-forms, may be called *Olynthula*, and the corresponding hypothetical phylogenetic form—the probable common ancestral form of all sponges—*Archolynthus* (=*Archispongia*).

Two interesting species of *Ammolynthus* were found in the Challenger collection, both representing a simple utricle of the typical *Olynthus*-form. The pseudo-skeleton of the smaller form (*Ammolynthus prototypus*, Pl. VIII. fig. 1) is siliceous, composed of Radiolarian ooze; that of the larger form (*Ammolynthus haliphysema*) is calcareous, composed of Globigerina ooze. The former was better preserved, and exhibited not only remnants of the flagellated entodermal epithelium, but also distinct eggs.

Ammolynthus prototypus, n. sp. (Pl. VIII. figs. 1A–1C).

Habitat.—Central Pacific, Station 271; September 6, 1875; lat. 0° 33′ S., long. 151° 34′ W.; depth, 2425 fathoms; bottom, Globigerina ooze, containing many Radiolarians.

Sponge urn-shaped or urceolate, representing a simple ovate utricle, which is fixed by a slender cylindrical pedicle at the proximal end, and opens by a cylindrical proboscis at the distal end. Pseudo-skeleton composed of siliceous shells of Radiolaria.

Ammolynthus prototypus may be regarded as the simplest architype of a Keratose sponge, corresponding to *Calcolynthus* among the Calcarea.[2] The utricular body has a length of 6 to 10 mm., and in its middle widest portion a breadth of 1 to 1·2 mm. The inferior or proximal half of the body is formed by a cylindrical pedicle 0·3 mm. in diameter, which is fixed to the bottom by a broadened basal plate. The superior or

[1] *Ammolynthus*=Sandy fruit, ἄμμος, ὄλυος.

[2] Compare my Monograph, 1872, pl. i., vol. i., pp. 339, 342, etc.