

distal half is ovate, and opens above by a short cylindrical proboscis (caminus). The terminal mouth of the latter, or the osculum (*o*), is simple, circular, and has a diameter of 0.5 mm.

Longitudinal and transverse sections through the utricular sponge (figs. 1A, 1B) show that the internal cavity (or the gastral cavity) is perfectly simple, enclosed by a thin wall of nearly equal thickness (about 0.1 mm.). This cavity opens above by the distal ostium, and in the middle dilated portion by numerous small circular pores, 0.03 to 0.04 mm. in diameter (*p*). The pores seem to be absent in the basal pedicle as well as in the distal proboscis. Probably the sea-water enters into the gastral cavity by these dermal pores and issues by the distal osculum (*o*).

The thin and rather firm wall of the utricle is mainly composed of siliceous Radiolarian tests of those wonderful and most elegant forms making up the Radiolarian ooze of Station 271. They are connected by a granular maltha, or the ground-mass of the connective tissue, which constitutes the outer wall of the sponge. Through this maltha are scattered numerous very small stellate cells, and a few larger amœboid wandering cells (*α*); these are more distinct in the thinner walled proboscis, which is free from xenophya. In some transverse sections (fig. 1B), through the inferior part of the gastral cavity, close to the pedicle, there appear between the xenophya and within the maltha (*m*) single eggs (*e*), naked amœboid cells, 0.1 to 0.2 mm. in diameter. Their nucleus or germinal vesicle (*v*) includes a distinct nucleolus. Further, in some of these sections are visible, on the inside of the wall, small thin bands composed of small granular cells (*n*); these are probably the remnants of the flagellated entodermal epithelium. Fig. 1C shows a small portion of the wall, seen from the inside, in which the above-mentioned structures are more or less distinct.

*Ammolynthus haliphysema*, n. sp. (Pl. VIII. fig. 2).

*Habitat*.—Central Pacific, Station 270; September 4, 1875; lat. 2° 34' N., long. 149° 9' W.; depth, 2925 fathoms; bottom, Globigerina ooze.

Sponge ovate, with a simple osculum at the distal end, arising from a slender cylindrical pedicle, which is fixed by a broad basal plate. Pseudo-skeleton composed of calcareous shells of Foraminifera.

*Ammolynthus haliphysema* is closely allied to the preceding species, but differs from it in the simple, not proboscoidal, opening of the osculum (*o*), and principally in the composition of the pseudo-skeleton, which is built up of calcareous shells from the Globigerina ooze. The ovate body of the sponge is much larger, 5 to 8 mm. in diameter, and arises from a slender, cylindrical, slightly curved pedicle, which is 10 to 12 mm. long and 1 to 1.2 mm. broad. This is broadened below and attached to the bottom on the proximal