

otherwise simple alimentary canal. The intestine is thin walled and of great length. It stretches for a considerable distance beyond the stomach posteriorly, and then turns round to run forwards parallel to its first part and to the stomach. The intestinal loop is thus very long and narrow. The rectum does not extend very far forwards.

The post-abdomen contains both mature ova and spermatocytic vesicles, so that both reproductive elements seem to be formed in the Ascidiozoid at the same time in this species. The reproductive organs are not confined to the post-abdomen, but cover also a part of the long intestinal loop. The distance to which the post-abdomen may extend is very variable. The numerous spermatocytic vesicles are ovate or elliptical in form, and are united in groups by delicate ducts which join to form the vas deferens. This is a wide and rather conspicuous opaque tube which is coiled spirally and may be traced forwards alongside the intestine and rectum to the peribranchial cavity. In its entire extent its course is greatly convoluted. The mature ova are large and of an opaque yellow colour. Embryos and tailed larvæ are found in the peribranchial cavity, mainly on the dorsal edge, but there is no incubatory pouch. The tailed larvæ are large (Pl. XXIII. fig. 13), and have three very conspicuous adhering organs placed anteriorly. There is only one pigmented sense-organ, and it is placed near the posterior end of the body.

*Atopogaster informis*, n. sp. (Pl. XXIV. figs. 11-15).

*The Colony* must have been of large size, and probably was more or less rounded in form and not pedunculated. The colour is light grey, and the surface is rather uneven.

*The Ascidiozooids* are large, and have rather a long and narrow shape; they are about 1.2 cm. antero-posteriorly and 1 mm. in greatest breadth. The body is not distinctly divided into regions.

*The Test* is firm and cartilaginous. It is of a pale grey colour, and is fairly transparent. The homogeneous matrix is crowded with small rounded test cells, and no bladder cells are present.

*The Mantle* is moderately strong, and the musculature is well developed on the thoracic part of the body. The muscle bands are nearly all longitudinal, and they run with great regularity. There is little or no musculature on the abdomen and post-abdomen.

*The Branchial Sac* is fairly large, and the stigmata are numerous. The transverse vessels are wide and have no horizontal membranes. The stigmata are of moderate length and are regularly placed.

*The Dorsal Lamina* is represented by a series of short stout languets.

*The Tentacles* are large and numerous; they are all of much the same size.

*Locality*.—Unknown.

This species is based upon a fragment of a colony which was found in a bottle containing a number of pieces of Compound Ascidiæ preserved in absolute alcohol.