parts of the test, near the outer surface, there are some rather larger elliptical cells with very granular protoplasm.

The musculature is most strongly developed on the thorax and on the post-abdomen; the abdomen has only a few delicate longitudinal bands. There are six well-marked lobes on the branchial siphon, and a long pointed languet is present at the atrial aperture (Pl. XXX. fig. 3, *at. l.*).

The stigmata vary in size in different branchial sacs. In many cases they are shorter and less numerous than in the piece figured (Pl. XXX. fig. 4, *sg.*).

The alimentary canal is of relatively small size (Pl. XXX. fig. 3, *abd.*, and fig. 6). The œsophagus is a narrow tube which runs directly backwards from the posterior end of the branchial sac to open into the large globular stomach (Pl. XXX. figs. 5, 6, *st.*). The wall of the stomach is thrown into a number of longitudinal folds, usually five on each side, which are clearly visible on the outer surface (Pl. XXX. figs. 5, 6, *st.*), and are seen in a transverse section (see Pl. XXX. fig. 7, *st.*) to be of considerable size. The posterior end of the stomach is slightly narrower than the anterior, and it is continued into the narrow intestine, which runs backwards for some distance in a slightly undulating course (Pl. XXX. fig. 6, *i.*). It then turns dorsally and anteriorly and passes into the rectum, a thin-walled tube of considerable size which runs anteriorly along the dorsal edge of the stomach, œsophagus, and branchial sac, and finally terminates in the peri-branchial cavity. The rectum has its wall folded longitudinally in two or three places (Pl. XXX. fig. 7, *r.*), but these folds are neither so large nor so regular as those of the stomach.

The post-abdomen is large and has a small knob at its posterior end like that found in *Atopogaster elongata* (see Pl. XXIV. fig. 4, and Pl. XXX. fig. 3). The heart is placed at the end of the post-abdomen. The usual double membranous septum runs along the whole length (Pl. XXX. fig. 3, *p.abd.*), and separates two cavities in which the reproductive organs are situated.

Amaroucium irregulare, var. *concinnum*, nov. (Pl. XXX. fig. 8).

One specimen, from Station 313, differs in some respects from the other colonies of *Amaroucium irregulare* from that locality, and may consequently be recognised as a variety. It is of elliptical form (Pl. XXX. fig. 8) and is much compressed laterally. It is attached by a very small area at one of the ends, and measures 5·3 cm. in length, 3·5 cm. in breadth, and 1 cm. in thickness. It is slightly paler in colour than most of the other specimens, and has almost no sand attached to the test. The most notable feature in it, however, is that in one region, on one of the flattened sides and especially near the upper end, the Ascidiozooids are arranged in distinct circular or ovate systems like those of a *Botryllus*. There are about a dozen of these systems distinctly visible and clearly