

is rather remarkable that this form, so closely allied to other species of the Polyclinidæ, should differ from them in the number of lobes surrounding the branchial aperture, a feature which is in most Ascidians a diagnostic character of great importance and constancy.

The branchial sac is of considerable length, and may have as many as fourteen rows of stigmata upon each side. In most cases the anterior half of the sac is narrower than the posterior, and the stigmata in the wider part are rather larger than elsewhere. There are as many as eighteen stigmata in the larger rows, and they are usually wider than the fine longitudinal vessels between them. The transverse vessels are provided with muscle fibres, and are usually very regular and uniform, but in one sac I found a transverse vessel bifurcating (Pl. XXIV. fig. 18) so as to produce a new row of stigmata, a condition frequently seen in some Simple Ascidians, but exceedingly rare amongst Compound Ascidians. The ciliated cells bounding the stigmata are large and distinct.

The endostyle is large. The dorsal languets are tentacular in shape and rather blunt.

The œsophagus is a gradually widening tube which leads from the posterior end of the branchial sac directly backwards to the large stomach (Pl. XXIV. fig. 20, *æ.*). The stomach is irregularly pear-shaped, and its wall in place of being thrown into ridges as in *Amaroucium variabile* and other allied forms, is raised into a series of knobs projecting from the surface, on which the epithelium is greatly thickened. These knobs are placed in irregular rows extending antero-posteriorly along the stomach (Pl. XXIV. fig. 20, *æ.*). There can be no doubt that this peculiar condition is simply the result of the breaking up of the longitudinal folds or ridges so common in the stomachs of Compound Ascidians into rows of detached knobs. The intestine extends for a considerable distance beyond the stomach and then turns sharply towards the dorsal side and anteriorly, to form a very narrow loop. It then becomes the thin-walled wide rectum, which runs forwards along the dorsal edge of the abdomen and thorax. The post-abdomen varies considerably in size, usually it is rather narrow. Its prolongation to form ectodermal tubes or vessels which branch through the test (Pl. XXIV. fig. 17, *v.ap.*) is remarkable, since it is a condition very rarely seen in the Polyclinidæ.

Reproductive organs were not developed in many of the Ascidiozooids examined. When they are present, the vas deferens is large and conspicuous. Its course is very undulating.