

sac and the intestine and the other viscera are in the form of a mass of granular débris mixed with mud, &c., evidently food matters from the alimentary canal.

The British Museum specimen, which, through the kindness of Dr. Günther, I was permitted to examine, is in better histological condition, and shows the following points in the structure of the Ascidiozooids. The mantle is well developed and is fairly muscular. The chief muscle bands run longitudinally. The branchial sphincter is strong. The endostyle is short but broad, and has an undulating course. The tentacles are all of one size and are numerous. The nerve ganglion is nearly spherical in form.

None of the Ascidiozooids examined showed either the branchial sac or the alimentary and reproductive viscera in sufficiently good condition to allow the details of their structure to be determined. A large conspicuous vas deferens is, however, present, and as it extends for a considerable distance behind the thorax, it may be inferred that a post-abdomen was present.

It is more from the general appearance of the colony and of the Ascidiozooids than from any special points in the anatomy that I place this form in the Polyclinidæ, and in the absence of further information in regard to its structure it is impossible to refer it to its proper genus.

I am inclined to think that both the Challenger specimens and the British Museum specimen were dead and decomposing colonies when they were found and put in spirit. Giard has shown that in some species of Compound Ascidians it is customary at certain seasons for the entire colony to die, and I have myself observed, both on the west coast of Scotland and also in the Chausey Archipelago, off the coast of Brittany, many colonies belonging to several species of Polyclinidæ in a dead and decaying condition. The test is usually in these cases in a soft and spongy state, with an irregular outer surface, and the Ascidiozooids are many of them partially or completely expelled from the colony, just as is the case in the Challenger specimens under consideration. It is to be hoped that some future explorers in the Southern Seas may be successful in obtaining specimens of this, probably the largest known, species of Compound Ascidian in a living condition.

Family IV. DIDEMNIDÆ.

Colony usually flat, thin, and incrusting, rarely thick and massive, never pedunculated.

Systems complicated and irregular, inconspicuous, or absent. Common cloacal apertures usually conspicuous.

Ascidiozooids rather small, divided into two regions—thorax and abdomen.

Branchial aperture six-lobed, atrial plain, or provided with a languet.

Test gelatinous or cartilaginous, usually containing numerous stellate calcareous