

budded. It is seen from the dorsal edge, and shows the mantle (*m*), the branchial sac, the prebranchial area in front bounded by the peripharyngeal bands, the œsophagus, stomach (*st*) and intestine, and the two genital glands (*o*), which in these buds are always filled with ova of various sizes, some of them apparently mature or almost so. The genital glands in the adult Ascidiozoid, on the contrary, show no ova, and appear to be merely testes. It is pretty certain, therefore, that protogyny occurs here as in many other Compound Ascidians, and that each Ascidiozoid produces ova in its genital gland when young, and spermatozoa only when fully developed. In this way cross fertilisation is effected, the ova of the younger members of the colony being fertilised by the spermatozoa of the older ones.

*Botrylloides perspicuum*, n. sp. (Pl. I. figs. 4, 5 ; and Pl. III. figs. 9-14).

*The Colony* is lobed, but not very irregular in form ; it is rather thick. The surface is slightly uneven, but smooth. The general colour is a light brown, with a greyish-blue tinge in places. The anterior ends of the Ascidiozooids are light grey, but opaque. The edges of the colony, composed of test only, are a transparent grey, while the bodies of the Ascidiozooids cause the remainder of the colony to appear of a grey-brown colour with a slight tinge of purple. The common cloacal apertures are fairly numerous and conspicuous.

The length of the larger colony is 4 cm., the greatest breadth 3 cm., and the average thickness about 4 mm.

*The Ascidiozooids* are elongated antero-posteriorly and placed at right angles to the upper surface of the colony. Each is about 2 mm. in length and less than 1 mm. in its greatest breadth. The light coloured anterior end visible on the surface is about 0.5 mm. in diameter.

*The Test* is firm and in some places rather thick. At the margins of the colony, where free from Ascidiozooids, it is transparent, and almost colourless or of a pale grey hue. Elsewhere it seems of a pale bluish-purple colour. The terminal knobs of the vessels are very conspicuous in most parts of the colony. They are numerous and of a purplish-brown colour. In some places, however, especially along the edges of the colony, they are of a light grey colour. The matrix of the test is homogeneous and compact ; it contains the usual small ovate and fusiform cells. Vessels are numerous and branch freely, especially near the surface and edges of the colony. The swollen terminations are very large, and usually more or less spherical in form ; they contain many pigmented corpuscles of a brownish-purple colour.

*The Mantle* is thin and very slightly muscular. It contains a number of large pigmented cells scattered through it.

*The Branchial Sac* is large. The transverse vessels are of moderate breadth and all