

The single specimen for which this species is formed was dredged in Tangier Bay on the Coast of Morocco, during the cruise of H. M. S. "Porcupine" in the summer of 1870. It is a small colony of irregular shape attached by a narrow base, to which sand, &c., is adhering (Pl. IV. fig. 6).

From the massive form of the specimen and the considerable thickness of the test there can be no doubt that it belongs to the genus *Polycyclus*, and it differs in many respects from the last described species and from all other known species of *Polycyclus*. It is closely allied in some respects to *Polycyclus lamarchi*, and I was at first inclined to regard it as being merely a variety of that species, but a detailed examination revealed so many points of difference that I believe it is best to describe it as a distinct though closely allied species.

The general colour is pale yellow or yellowish-grey. The ends of the Ascidiozooids next the common cloacal apertures are each marked by a short brownish-purple streak, which, as it is traced towards the branchial aperture, dies away in the middle line but is continued a little further anteriorly at the edges. The body of the Ascidiozooid is rather more opaque than the surrounding test, but of much the same yellowish colour. The base of the colony, where test only is present, is of a darker but more transparent grey with opaque white dots thickly scattered over it.

The systems are not very numerous, and are not nearly so closely placed as in the last species. They are always distinctly separated from one another (Pl. IV. fig. 6). The systems are all nearly circular in form, and contain about six to eight Ascidiozooids each. The part of the Ascidiozooid seen on the surface is of elongated ovate form, with the narrower end pointing towards the centre of the system. The largest ones measure about 2.5 mm. in length and 1.5 mm. in greatest breadth.

Under a low power of the microscope the small branchial aperture, surrounded by a rather large opaque white sphincter, can be seen. The endostyle and the peripharyngeal band are also visible, and there are two opaque white spots placed one in the middle of each side between the sphincter and the peripharyngeal band. The nerve ganglion is also visible, and in many of the Ascidiozooids the anterior part of the branchial sac can be made out, the outlines of some of the stigmata and the upper ends of the six internal longitudinal bars being seen. In one or two cases the tentacles are also distinguishable. In this species, as in *Botrylloides purpureum*, a much greater amount of the internal anatomy is visible from the surface than is usually the case. This is due mainly to the great transparency of the superficial layer of the test and the absence of pigment in the mantle.

The common cloacal apertures can be readily seen with the naked eye in most of the systems. They are nearly circular, and have projecting membranous margins. Under a slight magnification this margin is seen to be lobed, one lobe usually corresponding