

ANATOMY.

The colony is somewhat club-shaped (Pl. V. fig. 1), and may, for convenience of description, be divided into the stalk and the head. The stalk is attached by its lower extremity to some foreign body, and bears the head on its upper end. It is long and rather slender. It tapers downwards from the point of junction with the head to within a short distance of the lower end, where it spreads out to form a base of attachment (Pl. V. figs. 4, 5). It is generally undulating in its course, sometimes twisted spirally, marked with faint longitudinal striæ, and often wrinkled transversely (Pl. V. fig. 1); in one or two specimens it is slightly constricted just below the head, thus forming a sort of neck. In colour it varies from light yellow (straw colour) to light reddish-brown. In a few specimens there is a collar or darker band of brown just below the head. Opaque yellow dots of varying sizes up to 0.5 mm. may be seen, especially if the stalk be held up to the light, in the interior. They are largest and most numerous at the upper end (see Pl. V. fig. 10).

The head is roughly ellipsoidal in form; sometimes it is more of an oval, the pointed end being downwards. The investing mass between the Ascidiozooids is of a dull grey colour. There is always a patch of this to be seen, free from Ascidiozooids, at the summit of the colony. The Ascidiozooids appear externally as pale yellow blotches arranged in vertical lines. They are largest at the summit of the colony round the terminal bare patch, and gradually decrease in size as they are traced downwards to near the lower end. Here they rapidly get smaller, closer together, and less distinct till finally they are lost to sight at the top of the stalk. In some Ascidiozooids nothing more than the outline is visible, but in many a minute bright yellow opaque-looking dot is seen near the centre of the anterior extremity (Pl. V. fig. 2).

The head is essentially a mass of grey test, in the outer layer of which the Ascidiozooids are imbedded. Its inner part is traversed by the vascular appendages, which run inwards and downwards from the posterior or inner extremities of the Ascidiozooids. At the summit of the colony there are, as mentioned above, no Ascidiozooids, and of course no appendages, therefore in a transverse section of this region nothing but the grey test is seen. Here, however, it has generally a somewhat spongy, and, on the surface, ragged appearance (Pl. V. fig. 2).

In a section through the colony about the level of the top row of Ascidiozooids (Pl. V. fig. 7) an irregular disk of grey test is seen, having a few Ascidiozooids and masses of embryos lying in its periphery, and extending in nearly to the centre.

A transverse section about the middle of the colony (Pl. V. fig. 8) shows the same disposition of Ascidiozooids and of embryos in various stages of development, but here they only occupy the outer half of the disk, leaving in the centre a circular piece of grey substance which is more or less spongy as it is traversed by canals containing the