

forms. A few small ova may be found near its upper end in some Ascidiozooids, but the greater part of it is occupied by a mass of young and undeveloped spermatie vesicles. The vas deferens is not conspicuous, but may generally be made out running through the upper part of the post-abdomen and continued forwards alongside the rectum. No larvæ were found in any of the Ascidiozooids examined.

The posterior end of the post-abdomen (Pl. XXIV. fig. 4) forms a slightly swollen clear-walled bulb in which the heart lies, and it presents terminally a small knob which resembles a very rudimentary vascular appendage. The double septum traversing the post-abdomen is more conspicuous than usual (Pl. XXIV. fig. 4, *p.ab.*), and transverse sections show that its lumen is complicated and that its walls are formed in most places of large columnar cells (Pl. XXIV. fig. 8). The figure shows the ectoderm externally formed of squamous cells (*ec.*), and enclosing a great mass of rounded mesoderm cells (*mes.*) in which two cavities (*cæl.*) occur, one on each side of the median double septum, which is formed of columnar endoderm cells (*end.*) bounding a narrow lumen (*ar.*), which is, according to Kowalevsky, a prolongation of the posterior end of the branchial sac.

*Atopogaster elongata*, var. *pallida*, nov. (Pl. XXIV. figs. 9, 10).

*The Colony* is an irregular mass growing upwards from a broad base of attachment. It is rather elongated from the base upwards, and tapers slightly. The upper end is blunt. The colour is a pale opaque grey. The surface is very uneven, being cut up by deep grooves and ridges.

The length is 6.5 cm., the greatest breadth (above the base) is 3 cm., and the usual thickness is 2 cm.

*The Ascidiozooids* are small but very numerous, and are arranged quite irregularly. Their anterior ends are more opaque than the surrounding test, and appear as small dull yellow rounded spots. They are not distinctly divided into regions.

*The Test* is firm and massive, and is almost quite opaque. The small cells are exceedingly numerous; most of them are more or less rounded in form.

*The Mantle* is moderately strong, and most of the muscle bands run longitudinally.

*The Branchial Sac* is small and opaque. The stigmata are small rounded apertures.

*Locality*.—Simon's Bay; depth, 10 to 20 fathoms.

The specimen obtained at Simon's Bay, from which the preceding description has been taken, is very closely allied to *Atopogaster elongata*, and it is probably best to regard it as a variety of that species. The shape although still elongated from the base upwards is more irregular, the surface being strongly ridged and grooved (Pl. XXIV. fig. 9),