

represented in figure 6 is just ending its female stage of existence and preparing to function as a male.

*Incubatory Pouch.*—In the present species this organ is so slightly developed that it is doubtful whether it should be considered as existing at all. The embryos merely lie in an enlargement of the base of the peribranchial cavity.

On examining the thorax of a fully developed Ascidiozoid from the right side, two, three, or four large mature ova are noticed, forming a transverse row, which extends from the dorsal edge three-fourths of the way round the posterior end of the thorax towards the endostyle (Pl. XI. fig. 2). Generally the dorsal end of the row projects more or less beyond the margin of the thorax, and is then contained in a sac-like diverticulum of the mantle, having no muscular bands. From the ventral end of this transverse row of ova a series of embryos in different stages of development extends in an oblique antero-posterior direction from the base of the endostyle towards the atrial aperture. The most posteriorly placed of these is only slightly more advanced in development than the ovum next it, while the embryo at the anterior end of the line is a tailed larva ready for expulsion (Pl. XI. fig. 2). Thus a regular series is formed from the dorsal end of the sac across the posterior end and then along its length to the atrial aperture, the embryos being arranged in order of development. These series of ova and embryos merely lie in the peribranchial cavity, and are covered by the mantle, which they push out so as to form a sac-like diverticulum, which only differs from the incubatory pouch of the last species in degree of development and in not being so much constricted off from the rest of the peribranchial cavity. This arrangement rather supports the view (suggested on p. 89) that in *Colella pedunculata* the incubatory pouch may possibly be formed after the ova and embryos have all arrived in the peribranchial cavity. It is obvious that if in *Colella thomsoni* (see Pl. XI. fig. 2) the region of the peribranchial cavity occupied by embryos were constricted off to form an incubatory pouch commencing with the posterior end of the dorsal edge, the youngest embryos would be placed at the far end of the pouch and the tailed larvæ would be next the mouth—exactly the arrangement found in *Colella pedunculata*.

*The Process of Budding.*—In this species, as in the case of *Colella pedunculata*, gemination takes place in the peduncle. The vascular appendages have the same structure as in the last species. Each is divided by a median septum into two canals running side by side. The wall is formed of squamous epithelium, the ectoderm, lined by a delicate layer of connective tissue. The ectodermal cells are polygonal and distinctly nucleated (Pl. XIII. fig. 5). These vessels and their lateral branches contain many blood-corpuscles—in some places the small vessels, and especially some short cæcal processes which occur on their sides, are completely filled up with them (Pl. XIII. figs. 1, 4). Every here and there in the cavities of the vascular appendages occupying the larger canals of the stalk minute buds or spherical aggregations of cells are found (Pl. XIII. fig. 8 *gm'*).