similar in appearance to the endoderm cells which line the cœnosarcal canals; and apparently the endodermal lining cells of the canals, from which the mass springs, are continuous with those composing its substance. All over the surface of this central mass of cells, which is invested with a thin layer of ectoderm, small globose sacs arise as buds, and gradually increase in size until they assume the form of the ovoid masses, which, being thickly set over the surface of the central mass, and hiding it from view, give to the active generative mass the lobulated appearance figured in Plate VIII. fig. 1, G.

The young lobules when first formed appear as small rounded sacs with a thin wall of ectoderm, and containing a very few cells apparently derived from the main central mass. These cells become multiplied in number as the sac increases in size with progressive development. The sac as it enlarges becomes gradually pedicellate, and when mature is attached to the central mass by a narrow pedicle of some length. The walls of the pedicle are continuous with the ectodermal wall of the sac, which wall contains well-defined nuclei in its substance. Within the sac of the lobule a second sac, composed of a finer membrane, encloses the mature or developing generative elements. The wall of this inner sac is not prolonged into the cavity of the pedicle, but passing across its commencement shuts off the main cavity of the lobule from this latter.

The cells contained within the young lobule maintain a closely similar appearance to ordinary pigment endoderm cells, until they have become multiplied into a large mass. On further increase they change their structure and appear as spherical, perfectly transparent masses, each of which contains a large nucleus which becomes most intensely stained when treated with carmine. These transparent nucleated cells, which are closely similar in appearance to those figured by Allman from the male gonophores of *Laomedea flexuosa*,[1] multiply further by division, becoming very minute, but retaining the same structure (Pl. X. fig. 10, C).

From each of these minute cells a spermatozoon is developed. The head of the spermatozoon appears to be developed out of the nucleus of the cell, which, as the process proceeds, becomes first attached to the wall of the cell on one side, and is then gradually drawn out in the form of a curved elongate mass along the wall of the cell until it assumes the form of the head of the spermatozoon, being curled round within the cell nearly into a circle. The various stages in development are shown on Plate X. fig. 11.

The mature spermatozoa were not observed in the fresh condition. Their appearance as seen in specimens hardened in alcohol is shown on Plate X. fig. 11, *g*. They form closely felted masses within the ripe lobules, which masses do not entirely fill the cavities of the inner sacs of the lobules.

[1] Allman, Gymnoblastic or Tubularian Hydroids, Ray Soc., 1871, part 1, p. 65, fig. 316.