In the third and last stage the large granular cells have disappeared, and their conversion into collenchyma, suggested by the changes commencing in the preceding stage, is complete. The ectosome is differentiated from the choanosome, the latter consists of collenchyma, which in addition to the ordinary collencytes, includes numerous oval cells, 0·008 to 0·01 mm. in diameter, composed of spherical granules, 0·002 mm. in diameter. Its passage into the ectosome is marked by the appearance of tangentially arranged fusiform cells in the collenchyma, which is finely fibrillated, parallel to the length of these cells where it surrounds them. Further outwards, forming the floor of the subdermal cavities, the gelatinous basis of the collenchyma almost entirely disappears, and granular, deeply stained, fusiform cells, tangentially arranged, with overlapping ends, form a layer two or three cells deep, and about 0·02 mm. thick.

Canal System.—The subdermal cavities extend as canals into the choanosome and end in flagellated chambers, 0·02 by 0·03 mm. in length and breadth; so similar both in size and form are these with their choanocytal lining to the oval granular cells associated with them, that one can hardly help the suggestion that the latter have been produced by the transformation of the granules of the granule cells into choanocytes.

Spicules.—All the forms of spicule present in the adult, except sigmaspires, are found in the embryo of the last described stage. The absence of microscleres is remarkable, since triænes are present, while we have every reason to believe that phylogenetically the sigmaspire preceded the triæne in development.

Abnormal forms appear to be more common in the young than the adult state; several instances of ana- and pro-triænes, with one or more bifurcated cladi, were observed.

The protriænes gave the following measurements:—Rhabdome 0·4 by 0·0197 mm., cladi 0·07 by 0·016 mm.

Genital Elements.—In addition to embryos, sperm-balls but not ova are present in the sponge; they lie in vesicles lined by an epithelium; the diameter of the head of a spermatozoon measures about 0·002 mm.; a sperm-ball measured 0·063 by 0·028 mm., and the cavity containing it 0·075 by 0·0316 mm.

The spicules of the specimen containing embryos have the following dimensions:—(1) *Somal oxea* fusiform, 1·33 by 0·021 to 1·75 by 0·0316 mm.; (2) *cortical oxea* absent; (3) *protriæne*, rhabdome 1·27 and over by 0·0276 mm., cladi 0·119 by 0·0197 mm.; (4) *anatriæne*, rhabdome 0·024 mm. in diameter, cladi 0·103 by 0·021 mm., chord 0·16 mm.; (5) *sigmaspire*, 0·0197 mm. long.

In the specimen without embryos the measurements are:—(1) *Oxea*, fusiform, 2·23 mm. long; (2) *protriæne*, rhabdome 1·27 to over 1·6 by 0·021 mm., immediately below the cladome increasing to 0·0237 mm., and then diminishing in diameter; cladi 0·16 by 0·019 mm.; (3) *sigmaspire*, 0·019 mm. long.