essential respect similar to the oxytylote so characteristic of *Esperia marshal-halli* (S. Kent).

Ectosome (Pl. VIII. fig. 9).—This may be regarded as that outer layer of tissue in which the subdermal cavities are included. On an average it measures 0·3 mm. in thickness. The subdermal cavities occupy the greater part of it; above them it is reduced to a dermal membrane 0·004 to 0·008 mm. thick; between them it forms pillars traversed by the megascleres, and connecting the dermal membrane with the choanosome. The collenchyma of the ectosome is of the normal type; and so well preserved that the union of the collencytes by the anastomosis of their branching processes into a continuous network is particularly well displayed. Some of the processes of the collencytes can be traced up to the epithelium, in which they appear to terminate,—in what way I could not precisely ascertain, but it appeared to be by coalescence with the epithelial cells.

The ectosome contains generally but few myocytes, which lie immediately below the outer epithelium tangential to the surface, and in the pillars of the subdermal cavities where they are radiately or longitudinally directed; but where it becomes modified to form the poriferous membrane of the equatorial recess, and the membranous margin of the oscule, myocytes constitute the greater part of it, so that in these regions the whole of the middle layer between the outer and inner epithelia may be regarded as a muscular sheet.

In the wall of the cloaca just below the oscular margin (Pl. VI. fig. 18), the collenchyma becomes modified by the abundant development in it of certain elements which elsewhere are only sparingly present (Pl. VI. fig. 19); these are more or less oval cells with very sharply defined outlines, from 0·02 to 0·04 mm. in diameter, enclosing one, two, or several more or less spherical vacuoles, in at least one of which is usually situated a deeply stained transparent globule, 0·004 to 0·008 mm. in diameter; probably of the same nature as similar globules described in my paper on *Thenea wallichii*.[1] The granular protoplasm of the cell forms a network of which the vacuoles are the meshes, and in one of its widest trabeculæ, from which the others radiate, is situated a nucleus, 0·012 mm. wide, enclosing a spherical nucleolus, 0·004 mm. in diameter, which is attached to the sides of the nucleus by radiating threads. The exterior of the cell is produced into slender branching processes like those of a collencyte, and it may possibly be regarded as a collencyte modified to form a reserve of nutriment (thesocyte).

Choanosome (Pl. VI. fig. 17; Pl. VIII. fig. 9).—The collenchyma of the choanosome is reduced to a minimum, being present as the merest film between adjacent flagellated chambers, and as a very thin layer forming the walls of the larger water-canals, which are without vela, and scarcely modified from their primitive character as spaces left by the folding of the sponge-wall; collenchyma also sparingly accompanies the spicular tracts.

[1] *Ann. and Mag. Nat. Hist.*, vol. ix. p. 447, pl. xvii. figs. 18, 19, 43–46, 1882.