

lower surface of the Scutellidæ, and other Echinoderms. Small pores, like punctures, are visible at the angles of these folds, and may be a means of communication between the chymiferous system and the surrounding medium, akin to the minute pores of the lower floor of the Clypeastroids. *Fig. 3* of Pl. XIII. represents a young, showing fewer ramifications and a much less complicated structure of the arms near the centre, than in the adult; though even at this age their margins are already closed, and it is evident that there are eight arms resulting from the division of four main stems, the arms remaining generically closed together ($l\ l'$), though they separate occasionally ($l^1\ l^2, l^3\ l^4$), to a greater or less degree. The other figures exhibit structural details to which I shall allude presently.

The characteristic combination of spheromeres which distinguishes the family of the Polyclonidæ, consists in a central sub-quadrangular cavity (Pl. XIII. *Fig. 4*), formed by the combination of four spheromeres, in the ambulacral rays of which are, morphologically considered, only four arms, extending in the radial prolongation of the four rounded corners of the main cavity, but dividing at once into two symmetrical branches, *Figs. 2* and *3*; while, in the interambulacral rays, there are four genital pouches, alternating with two and two of the arms, and occupying the middle of the sides of the main cavity, through the wall of which open the holes leading from the outside into these pouches (*Fig. 4, oc oc*), though the pouches themselves ($o\ os\ os'$) are closed; so that there is no possible communication between the main cavity into which the genital pouches project and the sacs below them, opening outward between the arms. Another very unusual combination is noticeable in the position of the eyes, of which there are twelve, four in the radial prolongation of the axis of the arms, and two corresponding to each of the four sides of the main cavity; no one of these, however, being in the radial prolongation of the centre of the genital pouches. In the true Rhizostomidæ there are only eight eyes, four in the radial prolongation of the arms, and four in the radial prolongation of the genital pouches. Here we have two eyes to each genital pouch, neither of them in its radial prolongation, but both, on the contrary, occupying a lateral position with reference to the genital pouches, though, with reference to the ambulacral eyes, they are placed at equal distances in the margin of the disk.

The system of radiating chymiferous tubes presents corresponding differences when compared to that of Rhizostoma. In the latter genus there arises one main chymiferous tube, in the radial prolongation of each of the four arms and of each of the four genital pouches, extending in the direction of the eight eyes, while eight others alternate with those of the eyes. These sixteen main branches extend for half their course without giving off any branches; while in their peripheric course they form innumerable small anastomoses, connected with each other and with the main branches by transverse branches and by a few large meshes