

circumscribed by upright branching fringes dotted with many pigment cells (Pl. I. *Fig. 3*; Pl. II. *Figs. 3, 7, 8, 9, and 18*). In *Fig. 3* of Pl. I. they are represented from above, so that the form of the space they circumscribe is best seen in such a view. The circumscribed area consists, properly speaking, of two oblong, pear-shaped spaces, tapering toward the central eye-speck, and widening forward and backward where their outlines are rounded off. In *Fig. 3* of Pl. II. their termination near the eye-speck is represented in a magnified view in the same position as in *Fig. 3* of Pl. I. *Fig. 9* of Pl. II. represents one of these spaces in an oblique side view, while *Figs. 8 and 18* represent them in perfect profile from the side, so that their height above the spherosome is plainly visible, the two halves being separated by the eye-speck and its transparent cap. On the side of each of these spaces, about mid-length but somewhat nearer to the eye-speck than to their rounded extremities, may be seen on opposite sides the coeliac openings (Pl. I. *Fig. 3*; Pl. II. *Fig. 9*). *Fig. 7* represents in an oblique view the bulging of the bulb through which these apertures open. Nowhere among Ctenophoræ are these coeliac openings more easily seen than in *Idyia*, and nowhere is the circumscribed area more distinct and more prominent. I cannot, therefore, conceive how these animals can have been described by earlier observers as perforated in the centre, unless they were satisfied with the most superficial inspection of very much injured specimens.

Of all Ctenophoræ the Beroids proper have the largest digestive cavity, and in the genus *Idyia* it seems to have the widest dimensions, judging from the illustrations of the *Beroe punctata* and *Forskåli* published by Eschscholtz and Milne-Edwards. That cavity begins with a wide mouth occupying the whole length of the actinal side, where the walls of the spherosome are thinnest, and extends very nearly to the abactinal pole. Its outline, as seen from the broad side of the body, may faintly be traced, especially on the actinal side, through the transparent spherosome, in Pl. I. *Figs. 2 and 7*, and more distinctly in *Fig. 10*, Pl. II., in which the cavity is laid open; while in *Figs. 1 and 8* of Pl. I. the anterior or posterior ambulacra are so projected upon it as to hide its outlines. In *Figs. 3 and 4* its outlines are faintly visible from the actinal and the abactinal side. In these specimens the digestive cavity is gorged with chyme, so that the general outline of the body is ovate, and the interambulacra are as turgescient as possible; but the figure is not deformed by the presence of irregular pieces of food as in *Fig. 10*. In such a condition it may be seen how uniform the thickness of the spherosome is in every part of the body. In *Fig. 10* the outline of the digestive cavity may also be seen distinctly on the actinal side of that specimen, where it is contracted above the mouth, and beyond which it closes over the larger Bolina which fills it. It thus appears, that while the digestive cavity is always wider in the direction of its longitudinal diameter in consequence of its structure, its transverse diameter may