

(*Figs. 6, a b*, and *7, a b c*) near the base of the cup appears to be a separate layer from the wall on which it rests, and is composed of two strata; the upper one of which extends from the edge of the median aperture to the wall of the calycle, and (*c'*) along the inner face of the same, toward its mouth, while the lower, or abactinal side of the semi-partition, projects from the edge of the central aperture, in the form of a narrow rim (*b*), toward the base of the calycle, and also extends along the inner face (*c''*) of the latter into the pedicel. In an empty calycle (*Fig. 6*) there may be observed, with a low power, a row of dots (*a*) along the outer edge of the partition; these, when more highly magnified (*Figs. 6^b* and *7, a*), prove to be the papillæ of a fringe which projects from the exterior margin, and is a direct continuation of the same. It is quite evident that these papillæ have to do with the attachment of the hydra to the calycle, although they would not seem to be absolutely necessary, as they are not present in *Obelia commissuralis* and some other allied species. The space between the partition and the base of the calycle is twice as broad as deep, and but little broader than the proximate point of the pedicel.

The reproductive calycle stands on a four or five-ringed pedicel (*Figs. 15* and *18, k*), which rises from the base of each hydra pedicel, just without the fork; its shape, when mature (*Fig. 18*), is elongate oval, and opens by an aperture no larger than the entrance from the pedicel at its base. It is about four times longer, and one half broader than the calycles of the hydræ. The wall is of the same thickness throughout, and equal to that of the base of the hydra calycle. The sterile hydra (Pl. XXX. *Figs. 4* and *5*) has at least thirty tentacles, and it appears to be essentially the same in structure with that of the genus *Obelia*. The axis (*Fig. 15, β γ*) of the reproductive hydra bears the same relations to the calycle (*k*) as in *Obelia* and *Eucope*, but the medusæ (*k¹*), although developing in exactly the same manner, do not become so highly complicated, nor are they ever freed, to live an independent life, but reproduce their kind through planulæ, and then wither.

Embryology. Proles medusoides.—The highest degree of development to which the medusa attains, corresponds to the very early stage of those medusæ which become free; in fact, the medusa of this species is nothing more than a double-walled hernia (Pl. XXX. *Figs. 15, k¹*, *16*, and *17, k¹ k²*; Pl. XXXI. *Figs. 2, 5, 5^a, 6, 6^a, 7*, and *8, k¹ k²*), with a space between its outer and inner walls, in which either the egg (Pl. XXX. *Figs. 15* and *16, ac*) or the spermatie particles (*Fig. 17, ac*) are developed. In the female medusa (*Fig. 15, k¹*) the egg (*ac*) begins to develop before the inner wall of the medusa has risen above the level of the axis. Presently, however, the inner wall also projects, and forms an elevated floor upon which the egg rests (see the upper *ac, Fig. 15*); and, finally, the two walls,