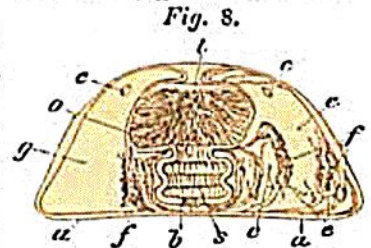


which is traversed along its lower surface by radiating tubes. It requires but little familiarity with the Medusæ to know that the marginal fringes vary greatly in number, as well as in structure; some being hollow, while others are solid. These appendages are not even present in all Medusæ; for neither the Rhizostomata nor the Cassiopeiæ nor the Cephææ have them. The central opening presents also marked differences in its outward termination. In some it has a simple rim, while in others, four or more prominent angles may extend outward and assume the shape of very complicated appendages. But in no Medusa is the margin of the central opening inverted into the digestive cavity.

Not so with the Actiniæ (*Fig. 8*) and the other Actinoid Polyps. Here the walls of the body, whether soft, or hardened by calcareous deposits, enclose a wide cavity, which is divided by radiating partitions into a number of chambers, communicating freely with the so-called tentacles or marginal fringes. The central opening does not communicate directly with the main cavity of the body, but leads into a distinct digestive sac, suspended in the main cavity. It is as if the upper part of the hollow cylindrical body had been turned into the cavity below, its edge hanging free and open in that cavity, though capable of closing by contraction. We have here, then, two distinct types; but they are homologous in all their parts. The outer wall of the Actiniæ corresponds to the gelatinous disk of the Medusæ, only that the centre of its outer surface is so constructed as to enable these animals to attach themselves by it, while in the Medusæ it is uniformly rounded off, and affords no point of attachment. The marginal fringes of the Actiniæ correspond to the marginal fringes of the Medusæ, only that in the Medusæ they communicate directly with the marginal circular tube, and through this with the radiating tubes, while in Actiniæ they open directly into the radiating chambers. The radiating tubes of the Medusæ correspond, it is true, to the radiating chambers of the Actiniæ; but in Actiniæ these chambers open freely for their whole length into the centre of the main cavity of the body, while in the Medusæ the radiating tubes are closed cylinders, opening only at their inner end into the main cavity. The central opening leads, in both, into the main cavity of the body; but in Medusæ the margin of that opening is turned outward, and may be prolonged into large appendages, between the inner surfaces of which a cavity is formed leading into the main cavity, while in the Actiniæ the outer margin of the central opening is turned inward and extends to a considerable length into the main cavity, so that the inner surface of the sac so formed corresponds to the outer surface of the wall of the main cavity; and it is



ACTINIA MARGINATA, LeSueur.
(Contracted and the tentacles drawn in.)

" a Base of the animal. — b Opening of the digestive sac leading into the main cavity of the body. — c c Radiating partitions. — f f Bunches of eggs hanging from the inner margin of the radiating partitions. — g One of the largest radiating partitions, to which the digestive sac is attached. — o Tentacles. — s Digestive sac.