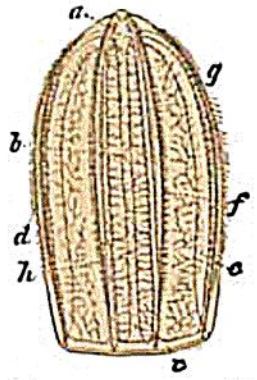
since Quoy[1] and Vogt[2] would remove the Beroids not only from that class, but even from the type of Radiata, and refer them to the lower Mollusks in the vicinity of the Ascidians. It seems hardly credible, that the author of an extensive and highly valuable monograph upon the swimming Ascidians[3] should entertain such an opinion. Every idea of typical plans of structure, as a guide in the general classification of the animal kingdom, must be given up by those who would associate animals that are so distinctly radiated as the Ctenophoræ with others in which the bilateral type is so evident as in the Tunicata, and place them in an intermediate position between the latter and the Bryozoa. A general comparison will be sufficient to show that the Ctenophoræ or Beroid Medusæ are truly Radiata. This may best be seen in our Idyia (*Fig.* 9), where the central mouth, surrounded by a circular tube, leads into a vast digestive cavity, above which arise two horizontal tubes, each dividing into four branches. These branches follow the surface of the cylindrical, slightly compressed walls of the animal, and unite again with the circular tube encircling the mouth. On the outer surface of the body extend eight vertical rows of flappers, whose upper ends converge to a central knob at the summit of the animal. The rows of flappers, the hollow tubes, the central mouth, the rosette at the summit, every essential feature in the structure of these animals, is as strictly radiated as in any other Radiata in which indications of a bilateral arrangement are subordinate to the general plan of radiation. These subordinate features in the genus Idyia consist of two additional radiating tubes along the sides of the animal, in the flattening of the digestive cavity which exists also in all the Polyps, and in the eccentric position of the double anus. This eccentricity of the terminal end of the alimentary canal occurs, however, in the majority of Echinoderms, as well as in the Ctenophoræ, only that in Echinoderms the anus is simple. But the Ctenophoræ are not only radiated; they, in fact, are radiated after the fashion of the other Acalephs, and ought to remain associated with the common Medusæ, as they have been ever since Cuvier distinguished these animals as a class.

*Fig.* 9.




IDYIA ROSEOLA, Ag.

*a* Anal opening. — *b* Lateral radiating tube. — *c* Circular tube. — *d e f h* Vertical rows of locomotive fringes. — *g* The locomotive fringes seen in profile.

The special homologies of the Ctenophoræ and true Medusæ are most striking. A comparison with Aurelia will at once show this. From the main cavity arise,

[1] QUOY et GAIMARD, Voyage de l'Astrolabe, Zoologie, vol. 4, p. 36.

[2] VOGT (C.), Zoologische Briefe, Frankfurt a. M., 1851, vol. 1, p. 254.

[3] VOGT (C.), Recherches sur les animaux inférieurs de la Méditerranée; 2d. Mémoire, sur les Tuniciers nageants de la mer de Nice, Mém. de l'Institut national genevois, Genève, 1854, vol. 2.