

a very scanty account of their structure, and no species of this family have thus far been found within reach of sedentary observers, the only ones known being those described by Péron and LeSueur.

The largest number of species belonging to the family of Rhizostomidæ, are foreign to the shores where observers could investigate them with the degree of care and precision which, of late, has been bestowed upon all Medusæ inhabiting the seas of Europe and North America. It has, however, appeared to me very desirable to compare all these species with ours, as far as the materials on hand would permit, and to revise their arrangement in the light of our present knowledge of the Acalephs. In order to derive as much information as possible from these materials, I have read, over and over again, every description, and compared every figure relating to these animals, which has been published since the days of Pallas and Forskål, weighing every word and trying to find out its true meaning. I feel confident that I have in this way acquired an acquaintance with these Medusæ, and arrived at a knowledge of their true relations, more full and more accurate than the observers who described them seem themselves to have possessed. I have, therefore, ventured to express, in another chapter, the results of these comparisons, in the shape of a tabular view, in the hope of presenting, as far as practicable, a complete systematic review of all the Medusæ known at present, and also of showing what may be done by a careful comparative study of old, and apparently antiquated, materials.

If I have read these data aright, the Rhizostomidæ are not simply a family among the other Discophoræ, but constitute a distinct structural type among them, of equal importance and value as the other Phanerogamous Discophoræ of Eschscholtz. This type appears to me to have the value of a sub-order, inasmuch as it shares the general complication of its structure with *Aurelia*, *Pelagia*, *Cyanea*, and other Discophoræ, while it differs from them in such structural complications as affect only the organization of some of its parts. These differences consist chiefly in the absence of marginal tentacles along the edge of the disk, though the eyes are present, and in the structure of the arms, the margins of which are soldered together, for a greater or less extent, leaving only minute holes or short fissures along their edge, which communicate with the main digestive cavity. The structure of the lower floor, the formation and connection of the arms with that floor, the structure of the genital pouches, the ramification of the main cavity in radiating chymiferous channels extending to the margin of the disk, the structure of the eyes, in fact all the leading structural features of these Acalephs are the same as in the other Discophoræ; they belong, therefore, to one and the same order. But as they differ greatly in form among themselves, they constitute a number of distinct families, which I have attempted to characterize in the next chapter, under the names of