SECTION III.

THE GENUS IDYIA AND OTHER TRUE BEROIDS.

I find it very difficult to trace the natural limits of the genera belonging to the family of the Beroidæ proper. With the exception of Milne-Edwards's illustrations of Beroe Forskåli, all the descriptions and figures of these animals are so imperfect that they afford very indifferent means of comparison; and the circumstance that it is absolutely impossible to preserve specimens of these Acalephs for prolonged examination after their death, necessarily limits all comparative investigations within very narrow bounds. There is another obstacle to a thorough revision of the family, arising from the fact that most species known have only been observed for a short time, and therefore only in one condition of their natural development. Availing myself of the opportunities I have had of studying for the last three years one species of this family in every stage of growth, I am able to state positively that the genus Medea is founded on the peculiarities of the young before they have reached half their size. Several naturalists have already suspected that the genus Medea could not be retained, and that it was based upon the examination of immature specimens. I am able to state with confidence that this is really the case. The genus Medea is characterized by the shortness of its rows of locomotive flappers, which do not extend more than half way from the abactinal side toward the mouth, while in the genus Beroe the ambulacral rows are said to extend all the way to near the margin of the mouth. Now it may be seen (Pl. I.), that, in the smaller specimens of the Idyia of our shore (*Fig.* 6), the rows of locomotive flappers approach less closely to the margin of the mouth in proportion as the specimens are younger; and that, while in the largest (*Figs.* 1 and 2) they extend comparatively much nearer to the edge of the mouth, in the smallest they are so limited as already to answer to the generic character of Medea. I may add, that, in still younger specimens, the difference is even greater. Indeed, in very young specimens, almost too small to be detected by the naked eye, the locomotive flappers are so little developed as to occupy, on the abactinal side of the body, only one third of its height. There can be no doubt, therefore, that the extent of the rows of locomotive flappers does not constitute a generic character among the Beroids proper, without the special qualification that their extent is increasing with age. Eschscholtz mentions the great length of the cilia as another generic character of Medea; but this also is only a peculiarity of the earlier periods of growth, all Ctenophoræ when very young having their rows of locomotive flappers much further