

slightly retractile pedicels, disposed in a single row all along each side of that surface, or round its posterior half, or only on the margin of a brim surrounding the hindmost extremity of the body; the odd ambulacrum naked; the dorsal surface with a smaller number of sometimes very long, sometimes rather short or nearly rudimentary processes commonly disposed on its anterior part, or with a large branched or unbranched lobe-like appendage, situated anteriorly or forming a brim round the foremost extremity of the body; calcareous deposits; straight or slightly curved, C-shaped and horseshoe-shaped spicula, three- or four- armed bodies, more seldom a few minute, net-like plates, minute wheels, rosette-shaped or elliptical bodies; calcareous ring composed of only five spicule-shaped pieces, each consisting of a number of long, slender rods, diverging in opposite directions from a small central part.

This family presents a great number of forms of the most variable appearance. At first sight it seems almost impossible to comprise under the same family two genera so different from one another in their external appearances as, for instance, *Parelpidia* and *Peniagone*, but, after comparing all the thirty-one forms with one another, those scruples vanish totally, and give place, on the contrary, to some difficulty in finding satisfactory generic characters. The interval between those two extreme forms is filled up by such a series of gradations as to make a strict definition of the genera rather troublesome.

In defining the genera of this family, we have in the first place to consider the number of the tentacles, which, as characteristic of the family, may be regarded as being ten, only three forms being exceptions to this rule: *Enypniastes eximia*, *Achlyonice paradoxa*, and *Achlyonice lactea*, the first of which has about twenty tentacles, and the two latter only eleven or twelve. *Enypniastes* being an extremely characteristic form, and greatly different from the other genera of this family, I have felt somewhat doubtful with regard to its place in the system; its unexpectedly great number of tentacles, and several other peculiarities indicate a closer alliance with the family Psychropotidæ, but the individuals which have been at my disposal were in such a lacerated condition as to render it impossible to state anything concerning them. Likewise, on account of the number of its tentacles, I believe the genus *Achlyonice* to be justified. *Achlyonice paradoxa* being the typical form, seems, by its constant twelve tentacles, by the form of its body, and by other distinctions, to be easily distinguished from other genera, while the other species, *Achlyonice lactea*, having either eleven or twelve tentacles, approaches more to the genus *Elpidia*. Besides, the genus in question may easily be discerned by its calcareous bodies. In addition, I have tried to find out suitable generic characters from the shape of the body, as well as from the forms of the dorsal appendages, and, above all, from the construction of the calcareous deposits. *Parelpidia* differs from all other genera by its unusual length; it bears some similitude to the *Synaptæ* in its narrow cylindrical shape, with the mouth and anus at the opposite ends of the body, this resemblance being the more striking, as the dorsal surface is almost