SECTION II.

SUB-ORDERS OF THE DISCOPHORÆ PROPER.

Having pointed out the typical differences which distinguish the Discophoræ Cryptocarpæ and the Phanerocarpæ, I feel justified in maintaining that these two groups of Acalephs ought to be considered as belonging to different orders of their class; and that, while the Phanerocarpæ constitute an order by themselves, for which I retain the name of Discophoræ, the Cryptocarpæ must be united with the Siphonophoræ and the Hydroids proper, with which they agree much more closely in their structure than with the Phanerocarpæ. There can be no doubt that the Discophoræ proper are superior to the Hydroidæ and Siphonophoræ, and Eschscholtz has already pointed out their affinity to the Ctenophoræ, arising from the fact that their body has generally eight prominent segments; that is to say, the Discophoræ, like the Ctenophoræ, are built of eight spheromeres, while the Hydroidæ generally number only four.

We have now to consider the natural subdivisions of the Discophoræ proper. Thus far, the many and most diversified representatives of this beautiful order of Acalephs have generally been divided into two families only, the Medusidæ and the Rhizostomidæ, first characterized by Eschscholtz; or, when further subdivisions have been proposed, as was done by Tilesius, Brandt, Lesson, and Gegenbaur, these were also considered as families, the characters upon which the new groups were founded being of the same kind as those adduced by Eschscholtz. But while I believe with Gegenbaur, that the Acraspeda (Discophoræ proper) include a larger number of families than were admitted by Eschscholtz, I am further satisfied that this order contains not only well-marked families, but also several structural types of a higher rank than that to which natural families are entitled.

Assuming for the present, that the groups of Discophoræ called by Tilesius, Rhizostomeæ, Cepheæ, and Cassiopeæ, are natural families; that those he has designated as Pelagiæ and Aureliæ are also natural families; and that to these the Cyaneæ and Charybdeæ must also be added as natural families, the natural limits of which we shall consider hereafter,—it should not be overlooked that the Rhizostomeæ, the Cepheæ, and the Cassiopeæ have certain characters in common which separate them more distinctly from the Aureliæ, Pelagiæ, and Cyaneæ, than the characters by which they are distinguished from one another, and that the Charybdeæ are again very distinct from these two groups. Admitting further, what every naturalist at all familiar with the Acalephs will readily concede, that, whatever may be the