

but always tentacles, the *Cestidæ* and *Cydippidæ*; and 3°, those without lobes and without tentacles, the *Beroïdæ*.

Here, as everywhere in our science, the total absence of a principle in assigning a rank to the divisions adopted by different authors is painfully felt. While Eschscholtz considers the Beroïds as an order, to which he first applied the name of CTENOPHORÆ, Lesson considers the whole group simply as a family, with which he unites most heterogeneous animals, belonging to several distinct classes; and Leuckart, whom Gegenbaur has followed in that respect, regards them as a distinct class. The three families distinguished by Eschscholtz coincide very closely with the three more comprehensive groups into which Gegenbaur arranges the five families which he admits. Mertens, again, separates *Cestum* from *Cydippe*, as a distinct family, unfortunately retaining the name *Beroe* for the family of the latter genus, and applying that of *Idyia* to the family called *Beroïdæ* by Eschscholtz and that of *Callianira* to the family called *Mnemiidæ* by Eschscholtz, who had already used the name *Callianiridæ* for the family to which he refers the genera *Cestum*, *Cydippe*, and *Callianira*. It is in view of this confusion, probably, that Gegenbaur has again changed the family name of *Mnemiidæ* *Esch.* to *Calymnidæ* *Gegenb.*; but in so doing he has only made the matter worse, since his family *Calymnidæ* again differs from the tribe called *Calymnææ* by Lesson. This affords another evidence of the absolute necessity of strictly adhering to the law of priority. The family names first proposed by Eschscholtz cannot be discarded so long as there remains a natural group of Ctenophoræ to which they can be applied. We shall see presently what is the value of the eight tribes distinguished by Lesson. The first question that should now engage our attention is, whether the families adopted by Eschscholtz and Gegenbaur bear family characters or not; since I have already shown that the Ctenophoræ, as a natural group, are neither a class, as Leuckart and Gegenbaur admit, nor a family, as Lesson would have it, but a natural order of the class of *Acalephs*.

Eschscholtz assigns the following characters to his three families of Ctenophoræ: *Callianiridæ*, with small digestive cavity and tentacles; *Mnemiidæ*, with small digestive cavity, but without tentacles; *Beroïdæ*, with large cavity of the body acting as digestive cavity. Gegenbaur characterizes his families as follows: *Callianiridæ*, with lateral, wing-like appendages supporting the locomotive flappers; *Calymnidæ*, with two lobe-like appendages upon the sides of the mouth; *Cestidæ*, body riband-like, expanding transversely; *Cydippidæ*, body oval or rounded; *Beroïdæ*, body ovally elongated. The characters assigned by Eschscholtz to his families are entirely derived from their structure, without reference to form: Gegenbaur, on the contrary, distinguishes some of his families by anatomical characters, others by their form. Which of these two methods is correct? for I mean, at present, only