

As to the dimensions of *Cestum*, Vogt calls width what is truly the height of the animal; LeSueur, Cuvier, Blainville, Mertens, and Gegenbaur apply the same designation of width to the surface which has the longest diameter, and which Vogt correctly calls length; the transverse diameter, or that which measures the thickness of the tape-like body, being the shortest diameter. A comparison with *Pleurobrachia* or *Bolina*, taking the relative positions of the actinal and abactinal poles and of the interambulacral tubes into consideration, will at once set this matter right. But it is obvious that this genus requires reëxamination with reference to the general course of its chymiferous tubes and the number of rows of its locomotive flappers. I have no doubt that the chymiferous tubes which follow the rows of locomotive flappers on both sides of the elongated abactinal pole are the two anterior and the two posterior ambulacral tubes, and those which Eschscholtz has described as median tubes, the four lateral ambulacral tubes; but it remains to be ascertained whether these tubes are entirely destitute of locomotive flappers or not. From the figure of Eschscholtz, I suspect that each row of locomotive flappers may correspond to a double row, as in young *Cydippidæ*. If this should be the case, *Cestum* would truly form a fourth sub-order, characterized, in addition to these structural peculiarities, by the trend of its tentacular sac, and the extraordinary development of its anterior and posterior pairs of spheromeres. The natatory flappers of the actinal margins described and figured by Vogt are likely to be homologous to the auricular fringes of the *Mnemiidæ*.

As to *Callianira*, judging from the descriptions and figures thus far published, it would seem to be but slightly different from *Pleurobrachia*, and therefore to belong to the sub-order of *Cydippidæ*; but as no recent investigator had an opportunity of examining any species of that genus since the structure of the *Ctenophoræ* has begun to be better known, it is impossible to form a decided opinion upon its affinities. I merely infer its *Cydippian* relationship from the position of the tentacles in *Callianira triploptera*. The most striking character assigned to it consists in the wing-like projection of the rows of locomotive flappers, of which there are three pairs, according to the descriptions, though the figures show that there must be four pairs.

Thus far, I have designated the different sub-orders of the *Ctenophoræ* by the name of the best-known family belonging to each; but as these names will have to be retained for the families themselves, it is necessary now to select some others for the sub-orders. For the *Beroidæ* the name *Eurystomæ*, or *Eurystomata*, applied to them by Leuckart, may be retained; for the *Cydippidæ* I would propose that of *Saccatæ*, on account of the deep pouch in which the tentacular apparatus is received; and with Eschscholtz (*Isis*, 1825, p. 741), that of *Lobatæ* for the *Mnemiidæ*, on account of the lobe-like prolongation of the spherosome. Should *Cestum*