has mistaken the base of the tentacles for ovaries. To this family belong the genera Mertensia *Less.* (Beroe compressa *Mert.*), Owenia *Köll.*, Gegenbauria *Ag.* (Eschscholtzia cordata *Köll.*), and Martensia *Ag.* (Beroe octoptera *Mert.*).

We have thus three families of the Ctenophoræ Saccatæ: the CALLIANIRIDÆ, the CYDIPPIDÆ proper, and the MERTENSIDÆ, the first of which is still very imperfectly known.

CESTIDÆ. Whether the genus Cestum constitutes a sub-order by itself or not, it is unquestionably the type of a distinct family, for which the names Cestoideæ and Cestidæ have been proposed by Lesson and by Gegenbaur. These names are objectionable so far as they resemble too much that of the Helminths called Cestoidea, and a mere grammatical difference in the termination of a systematic name hardly constitutes a satisfactory distinction. Eschscholtz united Cestum with Cydippe and Callianira; but, leaving the peculiar arrangement of the rows of locomotive flappers out of consideration, the tendency of the Cydippidæ, and especially of the Mertensidæ, to elongate in the direction of the transverse or diacœliac diameter, while in the Cestidæ the prominent diameter is the longitudinal or cœliac diameter, seems to indicate different affinities and a closer relation to the Ctenophoræ Lobatæ. This relation seems further supported by the position and termination of the tentacular apparatus, which trends in the direction of the cœliac cavity, and protrudes on the sides of the actinostome, and not in the direction of the abactinal pole, as in the Cydippidæ and Mertensidæ. It is true, McCrady has noticed that a change in the direction of the tentacular tubes takes place with the growth of Bolina; but this does not militate against the importance of the course of the tentacular apparatus in adult Ctenophoræ, since in all the Lobatæ known it protrudes from the sides of the actinostome in their adult state, and in all the Saccatæ examined with reference to this point its opening is turned towards the abactinal pole. Among the less known species, Cydippe dimidiata *Esch.*, and Beroe glandiformis *Mert.*, are the only ones in which it is represented as trending in the opposite direction. But Grant also represents that of Beroe Pileus as trending in the direction of the mouth, when its real position is certainly the reverse. We may, therefore, well consider the direction of the tentacles as characteristic of the sub-order of the Ctenophoræ Saccatæ and Lobatæ; and, making due allowance for the possibility of mistakes with reference to a structural feature thus far not sufficiently noticed among the characters of these animals, allow it its due weight in the estimation of the affinities of Cestum.

If I am not greatly mistaken, the singular animal described by Gegenbaur as a distinct genus, under the name of Sicyosoma, is a young Cestum; for what he takes to be the ovaries reminds me rather of the remnants of the yolk of an egg. When it is remembered that Cestum is the largest of all the Ctenophoræ, and