

Edwards' section "Polycliniens." Giard's memoir contributed largely to the knowledge of the Compound Ascidiæ, especially in regard to methods of gemmation, but his classification did not make much advance upon that of Milne-Edwards.

Della Valle, writing in 1877, accepts Giard's arrangement with one change which is of importance. In the Catenatæ he places *Diazona* as a third family, the Diazonidæ, in addition to the three, Perophoridæ, Clavelinidæ, and Botryllidæ, recognised by Giard.

We come now to Dr R. von Drasche, the latest authority on the Compound Ascidiæ, who, both in his preliminary note published in 1882 and in his detailed memoir on the Synascidiæ of the Gulf of Rovigno, wisely abstains from any attempt to form great divisions, and merely groups the genera in a series of carefully chosen families. Of these, the Botryllidæ correspond to Milne-Edwards' old section "Botrylliens," while the Didemnidæ and Diplosomidæ are identical with Giard's families bearing the same names. The Polyclinidæ and the Distomidæ do not correspond exactly to any of Giard's families, but the former are Milne-Edwards' "Polycliniens" without change.

A new family, the Chondrostachyidæ, has been formed for the reception of Macdonald's *Chondrostachys* and von Drasche's *Oxycorynia*, remarkable forms in which the Ascidiozooids are all placed upon a common peduncle penetrated by large vascular canals. I am not inclined to admit the necessity for this new family, and a number of the most interesting new forms obtained during the Challenger Expedition are intermediate, I believe, between von Drasche's *Oxycorynia* and Della Valle's *Distaplia*, and so bridge over the gap between the Chondrostachyidæ and the Distomidæ as defined by von Drasche. The two remaining families of von Drasche's system, the Clavelinidæ and the Perophoridæ, are, I consider, more closely allied to the Simple than to the Compound Ascidiæ. The genus *Diazona* I regard as a connecting link between the Clavelinidæ and the Chondrostachyidæ, and I find myself unable to decide whether it should be placed amongst the Simple or the Compound Ascidiæ. After all it is a matter of secondary importance where exactly the artificial line separating the two groups should be drawn.

Several new genera have been added by the Challenger investigations, but they nearly all find places in some of the above mentioned families. One of the most remarkable is *Cælocormus*, for which a new family, the Cælocormidæ, must be instituted. I have added, also, a second new family, the Polystyelidæ, formed for the reception of Giard's genera *Polystyela* and *Synstyela*, and some allied forms, all of which have up till now been regarded as Simple Ascidiæ, along with some new species obtained during the Challenger Expedition. My reasons for taking this step, and an account of the probable affinities of the group, will be given further on in the Report (p. 322, and Summary).

Dr von Drasche does not define the Synascidiæ, and from one or two passages in his memoir it seems probable that he is in very much the same position in which I now find myself, viz., unable to detect any character or combination of characters which will serve