

longer possible. Consequently, I feel compelled to arrange the large number of species composing the family in a series of closely allied groups which may be considered either as genera or as subgenera, and which are in some cases not very clearly separated from one another. The Polyclinidæ exhibit peculiarly well the difficulties in classifying which are the natural result of the origin of species by evolution: most of the groups pass gradually into one another, and strict lines of demarcation are almost always absent.

The subgenera proposed by Giard and by von Drasche have been retained, and along with the older genera of Savigny, Milne-Edwards, and others, and the new groups rendered necessary by some of the Challenger specimens, constitute the sets of species represented by the names in the Table below, and treated, for the sake of convenience, as genera in the following pages. In the Table (p. 152) the relative positions of the names do not always indicate the degree of affinity, and the distinguishing characters of the groups are stated in the briefest possible manner. The detailed characteristics and the genetic relationships are discussed under the head of each genus further on. I have avoided making use of the relative length of the post-abdomen as a distinguishing feature, as I am convinced that in some forms at least it is liable to very great variability, and even differs in size at different times in the life of the same Ascidiozoid.

Three of the groups in the Table—*Sigillina*, *Synoicum*, and *Sidnyum*—are Savigny's genera unchanged. Two of them—*Aplidium* and *Polyclinum*—are genera founded by Savigny, but now used in a more restricted sense. Four—*Aurantium*, *Circinalium*, *Fragarium*, and *Morchellium*—were subgenera proposed by Giard. *Amaroucium* and *Parascidia* were established by Milne-Edwards, and *Polyclinoides* by von Drasche; while the remaining five—*Pharyngodictyon*, *Tylobranchion*, *Atopogaster*, *Morchellioides*, and *Psammaplidium*—are new groups founded for the reception of Challenger species.

*Pharyngodictyon* is more clearly distinguished than any of the others, and is certainly worthy of distinct generic rank. In fact, it differs so markedly from all the other Polyclinidæ in the structure of the branchial sac, that possibly it might be placed in a distinct family by itself. In regard to the others, it must be left an open question whether they are genera or subgenera. They are all tolerably closely allied, and some species present intermediate characters between two or more of them, thus rendering precise definition exceedingly difficult, if not impossible. On the other hand, it would be very inconvenient to regard the whole family, with the exception of *Pharyngodictyon*, as constituting a single enormous genus. I believe it will be found useful to retain the divisions as genera, at least until a much more complete knowledge of the species from all parts of the world of this variable and apparently very large family of the Compound Ascidiæ permits of a new and more natural classification.

*Circinalium*, Giard, *Fragarium*, Giard, *Parascidia*, Milne-Edwards, *Synoicum*, Phipps, *Sigillina*, Savigny, and *Polyclinoides*, von Drasche, do not occur in the Challenger collection, but the other eleven genera of the family are all represented.