

ramifications, by the means of lateral buds arising from the individual members, but in which the colonies are always without an axial skeleton.

The various modifications of growth exhibited by the *Cornularidæ* show that the group is a very diverse one. But though the forms are numerous enough, they are usually linked closely together, and have been readily derived from one another. The simplest representatives are to be met with in *Cornularia* proper, in *Rhizoxenia*, and in one division of the genus *Clavularia*. In these we distinguish (*a*) individual polyps in which the anterior portion of the body is either not retractile into a posterior part (as in *Rhizoxenia*), or can be drawn into a region definable as the calyx (as in *Cornularia* and *Clavularia*), and (*b*) where the cylindrical tubes or stolons arise from the bases of the polyps and unite the latter. The formation of new polyps by budding takes place on stoloniferous prolongations which are simple projections of the three body-layers of the polyps and include continuations of their alimentary cavities. In one group of *Clavularia*, which we distinguish as "*Membranipoda*," instead of there being cylindrical stolons between the polyps there is a flat basal expansion into which the prolongations of the polyps are continued as endodermic tubes. The basal expansion may present the form of a thin plate on which the polyps are seated, or it may be thickened as a cœnenchymatous mass enclosing a portion of the polyps, with the bases of their alimentary cavities sunk therein. In this case the endodermal tubes arise not only from the base of the alimentary cavities themselves, but also from the lateral walls so far as they are enclosed by the cœnenchyma, which is thus penetrated by a network of nutritive canals. This is the case in *Anthelia*, Sav., *Sympodium*, Ehrbg., *Erythropodium*, Köll., *Callipodium*, Verr., *Surcolictyon*, Forbes, where, however, the cœnenchyma is still narrow and stolon-like. Another mode of growth is exhibited by *Telesto*, Lam., and *Calogorgia*, M.-Edw. In these a polyp rises to a definite height from its basal surface or from a stolon; this implies a considerable thickening of the polyp walls in order to afford the requisite support. Into this thickened wall fine endodermal canals penetrate from the alimentary cavities of the polyps, and from these buds may develop, rising at various levels on the lateral wall of the original polyp, but without direct connection with its alimentary cavity. These buds may again develop into long polyp-tubes and then give off secondary buds until a ramified arborescent form is the result. This attains its highest development in *Calogorgia*. A remarkable specialisation of this last type leads to the Pennatulid-like structures found in *Pseudogorgia*, Köll.

As regards the skeleton very diverse conditions prevail. *Cornularia* forms only an ecto-skeleton of a horny substance, surrounding the calyx tubes. In others spicules are developed in the mesoderm. These may at times enter into such close mutual connection that rigid calyx tubes are produced. This is well seen in *Cyathopodium*, Verrill, where the condition of the Tubiporidæ is shadowed out.