

times coalesce and sometimes are free. The cœnenchyma forms a continuous sheath over the whole axis and its ramifications, so that the colony has a leaf-like appearance. The polyps are scattered over the face of the expanded folia, not seated on their edges.

The longitudinal canals follow in the course of the ramifications of the axis, while the polyps in the leaf-like cœnenchymatous extension communicate with each other by a reticulated canal-system, which finally opens into the longitudinal canals.

12. *Phycogorgia*, Valenciennes, Comptes rendus, t. xli. p. 13; Milne-Edwards, Hist. Nat. des Coralliaires, t. i. p. 182; Verrill, Trans. Connect. Acad., vol. xlviii. p. 413.

The colony is ramified, with a horny axis dividing into a number of thin leaf-like expansions, which are covered with a thin cœnenchyma. The polyp openings are sunk within the cœnenchyma.

#### Family XI. GORGONELLIDÆ.

*Gorgonellaceæ*, Valenciennes, Comptes rendus, t. xli. p. 14; Milne-Edwards, Hist. Nat. des Coralliaires, t. i. p. 182; Kölliker (*pars*), Icones histiologicæ, pt. ii. p. 140.  
*Elliselladæ*, *Calligorgiadæ* (*pars*), Gray, Cat. Lithophytes Brit. Mus., pp. 24, 34.

In the species of this family the cœnenchyma is thin, smooth on the surface, with small spicules in the form of warty double-clubs and stellate forms. The polyps have more or less well-developed verrucæ, and are usually biradially disposed. The axis is lamellar and calcareous, but retains its shape after the extraction of the calcareous matter.

The family Gorgonellidæ is here accepted as diagnosed by Kölliker, the genus *Herophila*, Steenstrup (*Riisea*, D. and M.), being, however, excluded.

The colonies in Gorgonellidæ form simple or branched masses whose calcareous axis gives to the whole a rigid appearance. The branches and twigs are frequently flattened and the polyps are either distributed in two rows on the edges thereof, or are so disposed in lateral bands that a free space is left in the middle, in which are to be found one or more longitudinal furrows. The longitudinal canals are partly of small diameter, partly large. Two usually occur on the surfaces of the stem which are destitute of polyps. On the surface of the cœnenchyma in dried specimens their position is marked by longitudinal grooves.

Gray divided this family into a large number of genera and arranged these in subfamilies. The majority he included within his family Elliselladæ, while others, *Nicella* and *Scirpearia*, are referred by him to the entirely heterogeneous family of the Calligorgiadæ. The genus *Hypnogorgia*, Duch. and Mich., which Gray refers to the Elliselladæ, is most probably a Muriceid, as seems apparent from the representation<sup>1</sup> and

<sup>1</sup> Suppl. Coral. des Antilles, pl. v. p. 1.