

Family X. GORGONIDÆ.

Gorgonidæ, Dana (*pro parte*), Zoophytes, p. 651.

Gorgoniaceæ, Milne-Edwards (*pro parte*), Hist. Nat. des Coralliaires, t. i. p. 144.

Gorgoniaceæ, Kölliker (*pro parte*), Icones histiologicæ, pt. ii. p. 139.

Gorgonidæ, Verrill, Trans. Connect. Acad., vol. i. p. 386, and footnote (reprint), 1869.

The colonies are upright and branched, usually in one plane. The axis is horny, rarely horny and calcareous. The polyps arise from the stem and twigs in a bilateral or biradiate manner, and a corresponding symmetry may also be observed in the canalicular system. The anterior portion of each polyp is retractile either into projecting calyces or into the cœnenchyma. The latter has externally a smooth appearance. The spicules are small, predominantly spindle-shaped, and are not disposed in two layers.

Kölliker¹ was the first to employ characters drawn from the spicules for the revision of the numerous genera into which Milne-Edwards had divided up the old genus *Gorgonia*, Auct. He showed that among the species of the genera *Leptogorgia*, *Lophogorgia*, *Pterogorgia*, *Xiphigorgia*, *Rhipidogorgia*, *Hymenogorgia*, *Phyllogorgia*, *Phycogorgia*, and in part *Gorgonia*, many exhibited in regard to their spicules a great resemblance, but that others, e.g., some species of *Pterogorgia*, *Leptogorgia*, and *Rhipidogorgia*, showed such dissimilarity that they had to be referred even to distinct families. The allied species he united into a single genus, for which he retained the old name *Gorgonia*, of which, according to the form of the spicules, Kölliker distinguished three divisions. First, those which had only spindles; second, those which had both spindle-shaped and scaphoid spicules; third, those which have spindles, and in addition a special cortical layer of clubs.

Verrill² agrees generally with the conclusions of Kölliker, but differs in distinguishing the three divisions as so many independent genera. For the first division, the species of which are spindles only, the name *Litiyorgia*, afterwards that of *Leptogorgia*, was proposed; for the second, with spindles and scaphoids, the name *Pterogorgia*, and subsequently *Gorgonia* was proposed; while for the third division, the name *Gorgonia*, and subsequently *Eunicella*, was given. To these three there was added a fourth genus (*Eugorgia*), in which the spicules were double spindles and double wheels. In the memoir cited it was shown by Verrill that *Eunicella* should be placed in nearer relationship with the Plexauridæ, and to this family Verrill subsequently³ referred the genus. However natural and easily understood is such a distinction of genera, yet this subdivision of this family can be based on other characters in addition to the form of the spicules.

Among the Gorgonidæ one may observe in the disposition of the polyps a tendency towards a biradial arrangement. The same thing is indicated even in the form of the

¹ Icones histiologicæ, pt. ii. p. 139.

² Notes on Radiata, Trans. Connect. Acad., vol. i. p. 384.

³ Amer. Journ. Sci. and Arts, vol. xlviii. p. 425, 1869.