Verrill[1] added the genus *Euplexaura* for forms of which *Euplexaura capensis* may be taken as a type, and in which the form of the spicules differs widely from those met with in the other genera; the same author in his Notes on Radiata (*loc. cit.*) describes the family as having a "Corallum usually dichotomous and more or less arborescent. Axis horn-like, or more or less calcareous, especially at base. Longitudinal ducts equal, arranged regularly all round the axis. Cœnenchyma usually thick. Cells scattered over all parts of the surface, flat, or elevated on prominent verrucæ. Tentacles at base and sides of the polyps stiffened with large fusiform spicula. Spicula of the cœnenchyma usually large, of various forms, most frequently there are large warty spindles mingled with clubs or crosses."

Verrill makes a new genus *Psammogorgia*, for *Gorgonia fucosa*, Val., &c., and further, in his Critical Remarks on Polyps[2] he establishes another new genus *Eunicella*, for *Gorgonia verrucosa*, P., and many allied forms.

The genera belonging to the family as it now stands certainly require revision, but to do this effectually it would be necessary to re-examine not only a very large number of described species, but to investigate them in a well-preserved state, as there are not wanting indications that differences exist in the minute structure of the axis and of the polyps, in addition to the manifold differences in the form of the spicules; the species found during the voyage of the Challenger were but few in number, and it would be premature to revise the group on the materials at our disposal. We therefore accept the family as containing among others the following genera:—*Eunicea*, Lamk., *Plexaura*, Lamx., *Psammogorgia*, Verrill, *Plexaurella*, Köll., *Eunicella*, Verrill, and *Euplexaura*, Verrill, this last genus being very nearly related to the Gorgonidæ. Klunzinger would refer the genus *Plexaurella* to the Gorgonellidæ, on account of the structure of the axis, but the axis in this latter family would appear to differ somewhat in the arrangement of the longitudinal canals.

Two new genera we have felt obliged to make for already known species, *Plexauroides* and *Pseudoplexaura*, and, from an examination of numerous species in the Museums of Paris and Turin, we think it very probable that still further divisions of the genera *Eunicea* and *Plexaura* will have to be made.

Species of the following genera have been found during the cruise of the Challenger:—

*Plexaura*, Lamx.
*Plexauroides*, n. gen.
*Plexaurella*, Kölliker.
*Pseudoplexaura*, n. gen.
*Euplexaura*, Verrill.
*Eunicella*, Verrill.

[1] *Proc. Essex Inst.*, vol. vi. p. 74, August 1869.

[2] *Amer. Journ. Sci. and Arts*, November 1869, p. 426.