

dont le tissu est lisse ou subéreux chez ces derniers, tandis qu'ici il est hérissé d'une multitude de petites pointes, formées, soit par des sclérites squammiformes, soit par des épines naviculaires." Dr. Gray excluded the forms with fusiform or spiniform scales, and in this he has been followed by Professor Verrill, who says he would include in Primnoidæ "only those genera in which the spicules of the cœnenchyma and calicles are scale-like and the axis more or less calcareous at least on the main stem," thus excluding Muriceidæ. With this decision we agree, but the discovery of forms among the family Isidæ with scale-like spicules leaves this character no longer solely characteristic of the Primnoidæ, and the absence of the otherwise very diagnostic opercular scales in the new genus *Primnoides* also excludes this otherwise fairly constant character from being one of family value.

The diagnosis of the family may be as follows:—Axis calcareous, flexible or rigid, simple or branched. Polyps prominent, arranged either alternate, opposite, in spirals or verticils on the axis. Cœnenchyma of the axis thin, with scale-like spicules. Polyps with scale-like or annular spicules. Tentacles completely retractile, in most with a series of several (mostly eight) triangular scale-like spicules, closing over the tentacles and forming an operculum—or the scales of the base of the tentacles of the polyp forming a quasi operculum over the infolded tentacles (*Primnoides*).

The family may for convenience be divided into the following four subfamilies:—

1. Callozostrominæ.—Axis flexible. Polyps prominent, with well-marked opercular spicules.
2. Calyptrophorinæ.—Axis rigid. Polyps prominent, with large annular body-spicules and with opercular spicules.
3. Primnoinæ.—Axis rigid. Polyps prominent, with scale-like spicules and with well-marked opercular spicules.
4. Primnoeidinæ.—Axis rigid. Polyps prominent, with scale-like spicules but with no opercular spicules.

Subfamily 1. CALLOZOSTROMINÆ.

This subfamily is established for a deep-sea species, with a flexible, feebly calcareous axis, around the greater portion of which the very prominent polyps are arranged in a bilateral manner in tightly packed rows of twelve or more. The naked space of the axis, caused by the divergence of the polyps, forms a narrow ridge extending along almost the whole length of the axis up to the very apical region, where the polyps budding from a central stolon-like mass are at least temporarily arranged in complete verticils. As no basal portion was dredged, it is impossible to be sure whether the colony was rooted or free. The spicules are scale-like. The tentacles are retractile and covered by a variable number of opercular scales.