

Fam. 2. *Amplexidae* :—Corallites tubular or reed-like, typically with short or marginal septa and extended tabulæ.

Amplexus, Sowerby, Sil., Dev., Carb.

Calophyllum, Dana (including *Cyathophylloides*), Sil.

Chonophyllum, E. & H., Sil., Dev.

Fam. 3. *Zaphrentidae* :—Corallum simple, turbinate or horn-like, with well developed tabulæ and septa.

Group A.—*Corniculati* (simple, horn-like forms) :

Zaphrentis, Raf. (including *Anisophyllum* and *Pentaphyllum*), Up. Sil., Dev., Carb.

Ptycophyllum, E. & H., Sil., Dev.

Streptelasma, Hall. Under this genus, the forms of *Zaphrentis* with marked pseudo-columella may be appropriately placed. Sil.

Group B.—*Columniferi* (with distinct columella) :

Lophophyllum, E. & H., Dev., Carb.

Group C.—*Cruciferi* (primary septa forming a distinct rectangular cross) :

Phryganophyllum, de Kon., Carb.

Group D.—*Bi-formes* (septa showing a twofold mode of arrangement) :

Menophyllum E. & H., Carb.

§ 5. VESICULO-STELLATA.

This section is more or less closely connected with section 4, but is distinguished especially by the contracted dimensions of the tabulæ, and the replacement of the outer portion of these by an area of vesicular tissue. Hitherto, many genera of these corals have been made to include both simple and compound forms, as well as types of very dissimilar configuration; but in the present distribution I have ventured upon an innovation in this respect—believing, from the examination of numerous examples, that a generic separation of the compound tessellated forms on the one hand, and the sub-aggregated, reed-like and cylindrical types on the other, from the essentially simple forms, is warranted on natural grounds, and is conducive to a more ready determination of genera, as well as to clearer and sharper definitions.

In the present distribution these vesiculo-stellate corals are arranged under four families, comprising : (1.) *Cyathophyllidae*, distinguished by the absence of a columella and by the absence of a distinctly cruciform arrangement of septa; (2.) *Lonsdalidae*, in which a distinct columella is present; (3.) *Stauridae*, characterized by the primary septa forming a distinct rectangular cross; and (4.) *Halliade*, with distinctly twofold arrangement of septa.