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XLIII.—On some families and genera of corals

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allowed me to examine during my short stay in London. This instance of a sexual glandular apparatus in the Cheiroptera does not however stand isolated, since the observations of the late Dr. J. Natterer have made us acquainted with a gland on the males of at least many species of *Dysopes*, provided with an opening, and situated on the throat.

Copenhagen, Sept. 1848.

XLIII.—On some Families and Genera of Corals. By WILLIAM KING, F.G.S. France.

Fam. CYATHOPHYLLIDÆ, Dana.

Gen. *Polycælia**, King.

A (?) simple Cyathophyllidia. *Form* conical. *Walls* solid. *Primary vertical plates* converging to within a short distance of the centre. *Secondary vertical plates* reaching about half way to the centre. *Transverse plates* horizontal, at irregular distances from each other, and extending quite across the cavity. *Chambers or lamellar interspaces* capacious compared with those of other Cyathophyllidias. *Reproduction* within the polypiferous cup.

Type, *Turbinolia Donatiana*, King, 'Catalogue of the Organic Remains of the Permian Rocks of Northumberland and Durham,' p. 6.

This genus differs from most *Cyathophyllidæ* in its structural characters; but it appears to be nearest related to *Cyathophyllum*, taking as its type the (?) tri-areal *C. plicatum* of Goldfuss, which is the first species described under the genus (vide 'Petrefacta,' pl. 15. fig. 12).

Fam. FENESTELLIDÆ, King.

Setting down as the type of *Fenestella* the *F. antiqua* of Lonsdale, it is proposed to place all those palæozoic genera in the present family agreeing with this genus in being reticulated, and having the cellules planted on a basal plate composed of vertical capillary tubuli as first discovered by Mr. Lonsdale. Besides the typical genus above-named, *Fenestellidæ* includes the *Polypora* and *Ptylopora* of Mr. McCoy, and the two genera next to be described.

Gen. *Synocladia*†, King.

A foliaceous or frondiferous infundibuliform Fenestellidia. *Fronds* consisting of numerous connected stems or ribs. *Stems*

* Etym. πολὺς, many; κοῖλος, a cavity.

† Etym. σύν, with; κλάδος, a branch.

bifurcating; radiating from a small root; running parallel to, and at a short distance from each other, on one plane; and giving off bilaterally numerous, short, simple branches, of which opposite pairs conjoin midway between the stems arcuately or at an ascending angle. *Branches* occasionally modified into stems. *Cellules* on the inner or upper surface of the fronds, on both stems and branches, imbricated, and distributed in longitudinal series. *Series of cellules* separated from each other by a dividing ridge. (?) *Gemmiferous vesicles* on the dividing ridges.

Type, *Retepora virgulacea*, Phillips: a Permian species.

Gen. *Phyllopora**, King.

A Fenestellidia, consisting of infundibuliform, folded, perforated fronds or foliaceous expansions. *Cellules* on the whole of the outer or under surface of the fronds, and planted more or less approximating to a position at right angles to the plane of the capillary-tubular basal plate. *Cellule-apertures* with plain margins, and parallel to the surface of the fronds.

Type, *Gorgonia Ehrenbergi*, Geinitz (= *Fenestella permiana*, King, Catalogue, p. 6).

Fam. THAMNISCIDÆ, King.

It is proposed to include in this family certain shrub-like genera of palæozoic ciliobrachiata corals possessing the bi-structural and polyidomial characters of *Fenestellidæ*, but having free stems and branches. It embraces the two following genera, and apparently Mr. M'Coy's *Ichthyorachis*.

Gen. *Thamniscus*†, King.

The typical Thamniscidia. *Stems* frequently and irregularly bifurcating more or less on one plane: celluliferous on the side overlooking the imaginary axis of the coral. *Cellules* imbricated, and arranged in quincunx. *Gemmiferous vesicles* overlying the cellule-apertures.

Type, *Ceratophytes dubius*, Schlotheim: a Permian species.

Gen. *Acanthocladia*‡, King.

A Thamniscidia. *Stems* symmetrically and bilaterally branched more or less on one plane, rarely bifurcating. *Branches* short, simple, occasionally elongated and becoming bilaterally branched. *Stems and branches* celluliferous on the side overlooking the imaginary axis of the coral. *Cellules* imbricated, and arranged in

* Etym. φύλλον, a leaf; πόρος, a perforation.

† Etym. θάμνισκος, a little shrub.

‡ Etym. ἄκανθα, a spine; κλάδος, a branch: in reference to the spine-like branches of the coral.

longitudinal series. *Series of cellules* separated from each other by a dividing ridge. (?) *Gemmuliferous vesicles* on the dividing ridges.

Type, *Ceratophytes anceps*, Schlotheim : a Permian species.

This genus, which differs from *Thamniscus* in its mode of branching and some other characters, is proposed for certain corals usually bearing the obsolete name *Glauconome*, proposed by Goldfuss for some species previously placed in *Vincularia* by De France.

Fam. ELASMOPORIDÆ, King.

This group agrees with *Escharidæ* in the structure of its polypidoms or cellules, but differs therefrom in being uni-lamello-celluliferous and reticulated. Only the following genus is known to the writer.

Gen. *Elasmopora**, King.

The typical Elasmoporidia, consisting of infundibuliform, folded, perforated fronds or foliaceous expansions, which are entirely celluliferous ; the cellules opening on their inner or upper surface. *Cellules* arranged alternately, and running more or less parallel to the plane of the fronds ; their front and dorsal walls forming the two faces of the fronds. *Cellule-apertures* approximating more or less to a position at right angles to the plane of the fronds, furnished with tubular and other processes on their inferior or projecting margin. *Gemmuliferous vesicles* overlying the cellule-apertures. *Both surfaces of the fronds* foraminated. *Outer or under surface of the fronds* marked with distant waved lines, forming the boundaries of the cellules.

Type, *Millepora cellulosa*, Linnæus : a species occurring in the Mediterranean. An allied species (*Elasmopora Beaniana*, King) inhabits the British seas.

The type given above is usually placed in *Retepora* (= *Krusensternia*, Lamouroux, and *Froncipora*, Blainville) ; but this genus, considering the structure of its typical species, the *Millepora reticulata* of Linnæus, is not only distinct from *Elasmopora* in a generic point of view, but it evidently belongs to a different family group. *Elasmopora* externally resembles *Phyllopora* ; but the want of a basal plate composed of vertical capillary tubuli in the former, and the presence of some important differential characters in the latter, completely and widely separate both genera from each other.

Further details on the foregoing groups and some of their species are given in the author's forthcoming monograph.

* Etym. *πλασμα*, a plate ; *πόρος*, a perforation.