

- II. "On the Genera *Heterophyllia*, *Battersbyia*, *Palæocyclus*, and *Asterosmilæa*; the Anatomy of their Species, and their Position in the classification of the Sclerodermic Zoantharia." By Dr. P. M. DUNCAN, Sec. G.S. Communicated by Prof. HUXLEY. Received March 30, 1867.

(Abstract).

Although the practical and natural classification of the Madreporaria (Sclerodermic Zoantharia) which has been submitted by MM. Milne-Edwards and Jules Haime is very generally admitted to be the best, still there are great gaps in the succession of the genera, and, moreover, some genera cannot be placed.

The "break" between the Turbinolides and the Astræides is so great as to render the classification rather artificial; but Dr. Duncan's discovery of a genus *Asterosmilæa*, comprising several species, unites these great divisions. The new genus has the peculiarities of the Trochocyathi, but in addition it is furnished with an endotheca. The species are described.

The genera *Heterophyllia*, McCoy, and *Battersbyia*, Milne-Edwards and Jules Haime, are amongst those *incertæ sedis*. The discovery of several new species of *Heterophyllia* enables Dr. Duncan to determine the anatomy of the genus, to offer for consideration the most extraordinary coral form he has ever seen, and to ally the genus with *Battersbyia*, which he proves had no cœenchyma. The species of both of the genera are described shortly, and the development and reproduction of *B. gemmans* also. The genera are placed amongst the Astræidæ.

The genus *Palæocyclus*, M.-E. & J. H., supposed to be one of the Fungidæ, is proved to be a vesiculo-tubulate coral genus, and to be one of the Cyathophyllidæ.

One Mesozoic family is therefore removed from the Palæozoic coral-fauna, and two genera of a Mesozoic division are introduced. They foreshadow the Thecosmilæ of the Trias.

- III. "Contribution to the Anatomy of *Hatteria* (*Rhynchocephalus*, Owen)." By ALBERT GÜNTHER, M.A., Ph.D., M.D. Communicated by Prof. OWEN. Received April 4, 1867.

(Abstract.)

The skull of *Hatteria* is distinguished by the following characters:—

1. Persistence of the sutures, especially of those between the lateral halves of the skull, combined with great development of its ossified parts, as it appears in the expanse of the bones forming the upper surface of the facial portion, in the completeness of an orbital ring with a temporal and zygomatic bar (Crocodylia), in the much expanded columella, in the nearly completely osseous bottom of the orbit, and roof of the palate.