ADDITIONS TO THE MIDDLE DEVONIAN AND CARBON-IFEROUS CORALS IN THE AUSTRALIAN MUSEUM.

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(Plates xxxvii. - xl.)

1. MIDDLE DEVONIAN.

Genus DIPHYPHYLLUM, Lonsdale, 1845. (Murchison's Geol. Russia in Europe, 1845, i., p. 622.)

DIPHYPHYLLUM GEMMIFORMIS,¹ sp. nov.

(Plates xxxvii., fig. 1; xxxix., figs. 1 and 2; xl., fig. 1).

Sp. Char.-Corallum composed of fasciculate to sub-compound corallites, forming more or less large globose colonies. Corallites radiating from a common centre, comparatively short, but the heighth of the corallum increased by repeated gemmation; straight or slightly flexuous, often laterally united into clusters by a partial union of the walls, but without exothecal outgrowths, circular when single, imperfectly polygonal when united, and with an average diameter of eight millimetres; walls thin; calices deep. Septal area as a very distinct peripheral ring, from a quarter to one fifth the width of a corallite, forming a flat border around each calice; septa 30 - 40, all primary, proximally straight, distally flexuous, delicate, and at times laterally denticulate, extending inwards for about one quarter the width of the Interseptal loculi occupied either by complete transcorallites. verse dissepiments forming several cycles, particularly towards the distal portions of the loculi, or incomplete, forming irregular vesicles within the transverse dissepiments, peripheral portions of the loculi sometimes quite devoid of dissepiments, leaving clear spaces. Tabulate area comparatively large; tabulæ very variable both in their distance apart and in character; they may be moderately close, very close, or distant from one another, horizontal, rather oblique, slightly concave, or inosculating, when vesicles are formed, semilunate, lenticular, or even globular in form. Gemmation parietal and frequent.

1 Formed of buds,

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