Siphonodendron sexdecimale (*Phill. Sp.*)

Ref. and Syn.—Lithodendron id. Phil. Geol. York. t. 2. f. 11, 13.

Sp. Ch.—Corallum forming loosely branched masses; cell-tubes slightly flexuous, subparallel, averaging slightly more than one line in diameter, and usually rather less than their diameter apart, branching at an acute angle, the branches attaining their full diameter at about four lines long; outer wall very thick, smooth, with faint transverse lines of growth, without distinct costal striæ; axis strong, solid, persistent; transverse diaphragms nearly horizontal, strong, three interdiaphragmatal spaces in one line; radiating lamellæ of moderate thickness, sixteen long, reaching quite to the axis, or a few occasionally uniting branch-wise with their neighbours; an equal number of very short marginal ones, one between each pair of primary.

The very small size of the branches, and small number of the lamellæ, easily distinguish this rare species from its congeners.

Position and Locality.—Not uncommon in the carboniferous limestone of Kendal, Westmoreland; impure carboniferous limestone of Lowick, Northumberland; also at Burdiehouse; and carboniferous limestone of Derbyshire.

Family. ASTRÆIDÆ. See page 36.

Subfamily. EUSMILINÆ. See page 36.

Genus. CYATHAXONIA. See page 36.

Cyathaxonia cornu (*Mich.*)

Ref.—Michelin, Icon. Zooph. t. 59. f. 9.

Sp. Ch.—Corallum very small, slightly curved when young, nearly straight when old, the adult diameter of about three and half lines, is reached at about six lines from the apex; sometimes an inch in length with the same diameter; axis prominent, thick, solid, cylindrical, about one fourth the diameter of the tube; radiating lamellæ appearing in small terminal cups as thirty-five or thirty-six alternately larger and smaller lamellæ, which unite in pairs near the axis: *horizontal section* of larger specimens shew twenty-four radiating lamellæ, extending from the axis a short way, and then splitting into a pair of slender ones, extending to the walls; no connecting vesicular plates; external surface with distinct, obtuse, close vertical striæ (about five in one line) branching not unfrequently; no transverse vesicular plates.

I have compared the specimens described with one from the original locality of Tournay, and find the coincidence exact.

Position and Locality.—Rare in the carboniferous limestone of Derbyshire; and Kendal, Westmoreland.

Cyathaxonia costata (*M'Coy*). Pl. 3. C. fig. 2.

Ref.—M'Coy, Ann. Nat. Hist. 2nd Series, Vol. III. p. 6.

Sp. Ch.—Elongate-conic, generally about one inch long and half an inch in diameter at the cup, which is circular and horizontal; surface irregularly wrinkled transversely, and marked longitudinally with remarkably, thick, strong, sharply-defined striæ, about seven in one-fourth of an inch; central solid axis very thick (often one line in diameter), and from it twenty-five thick, wedge-like, vertical lamellæ, radiate to the walls; transverse versicular plates connecting the lamellæ exceedingly delicate; in the sections the vertical lamellæ are seen to dichotomize upwards, and the large curved plates of the loose vesicular structure incline upwards and inwards towards the axis.