

distant from each other, the intervening furrows being two or three lines deep. The inner wall of the cup is exceedingly thin, apparently less than half a line.

"In none of the specimens is the outer wall preserved except in spots, and there only partially. The large individuals appear to have attained a length of more than one foot with a diameter of from two to four inches."

Having received from the Geological Survey of Canada some fragments of limestone containing specimens of this species, several thin sections were prepared, from which illustrations have been taken that show most beautifully the manner of growth and the minute structure of the organism so far as preserved. The vesiculose character of portions of the structure give it the appearance of a Cystiphylloid coral. Beside the cup-shaped mode of growth, there are small stems 5^{mm} to 10^{mm} in diameter that are solid to the center, and one piece 20^{mm} in diameter has no central opening. In such examples the septa and dissepiments are thicker than in the examples with a central opening.

In the enlarged section of a sponge, shown by fig. 1, pl. i, and fig. 3, pl. iv, the growth has been a combination of the regular double walls with vertical septa and the vesiculose structure shown by fig. 1*d*, pl. i. The septa exist between several different, more or less entire, inner walls, and the thin arched dissepiments crowd all the open places between the septa and the irregular breaks in the walls. The specimens represented by figs. 1*b*, 1*c*, pl. i, show the irregular vesiculose structure carried to the extreme, the central cup being filled up for some distance. The outer wall, with its attached vertical septa, appears to have been broken or worn off of the specimens represented by figs. 1, 1*b*, of pl. i. This is not an uncommon feature of the specimens from L'Anse au Loup, and is very misleading in studying cross sections, as the irregular vesiculose interior often resists destruction better than the exterior, and an entirely different species appears to exist. Mr. Meek was misled by this in proposing *E. gracile* for the center of *E. Whitneyi*.

Formation and locality.—Middle Cambrian. L'Anse au Loup, Straits of Belle Isle, Labrador.

ETHMOPHYLLUM RENSSELAERICUM Ford.

Plate v, figs. 1, 1*e-f*.

Archæocyathellus? Rensselaericus Ford, 1873. Amer. Jour. Sci. and Arts, 3d ser., vol. v, p. 211, fig. 1. Genus *Archæocyathellus* proposed at end of description.

Original description.—"The only specimen clearly belonging to this species that has come under my notice is exceedingly small, being only 0.30 of an inch in length and having a diameter of not more than 0.16 of an inch at the larger extremity, when perfect. This specimen is, in appearance, a slender, delicately-fluted cone, about one-third of which,