

inches in length, measured along all the curves. It is 15 lines in diameter at 5 inches from the base, and about 18 lines at the cup. The septal costæ are very distinctly defined at the base but become more flattened and obscure upwards. In external characters it resembles *A. exilis*, but the much greater development of the septa distinguishes it therefrom.

To *A. mirabilis*, I add, provisionally, a specimen which when perfect, must have been 2 feet in length. It is 17 lines in diameter at the calice and about 11 lines at 12 inches below. There are about 45 large septa at the base of the cup, with an equal number of smaller ones. Depth of the larger, 3 to 5 lines, and of the smaller, 1 or 2 lines. As in the former specimen all the septa are more or less curved.

Both specimens occur in the Corniferous.

#### Genus ZAPHRENTIS.

4. *Z. INVENUSTA*.—Corallum somewhat slender, expanding to a diameter of 16 lines in a length of 7 inches. Surface with numerous rounded rings of growth, of all sizes up to 3 lines in width. Costal striæ about 8 in the width of 3 lines, where the diameter is 10 or 12 lines. Where the diameter is 15 lines there are about 50 large and the same number of small septa. The larger have a depth of about 5 lines and the smaller 4 lines. They seem all to be slightly flexuous at their inner edges. The cup is about 1 inch in depth, the bottom smooth, flat or slightly concave and 4 lines wide. There is a small septal fossette. Occurs in the Corniferous.

5. *Z. ERIPHYLE*.—Corallum turbinate, slightly curved, expanding to a width of 2 inches in a length of about 4 inches. Surface with numerous small, mostly sharp-edged rings of growth. Near the base there are 7 or 8 costal striæ in the width of 3 lines; near the calice there appear to be 4 or 5. There are about 60 large septa, at a diameter of 2 inches. Many of these extend inwards to the centre. There are also 60 small septa, of a depth of from 5 to 7 lines. Bottom of the cup nearly flat, about 10 lines wide. The septal fossette is of an ovate form, its outer edge not reaching the margin, its inner extremity about half way to the centre.

This species is allied to *Z. invenusta* in having about the same numbers of septa in the same width. It differs in having a much greater diameter, and the large septa reaching the centre. Occurs in the Corniferous.