all the formations from the Laurentian upwards, often with characteristic fossils. I have also made sections of many of the fossiliferous pebbles in these conglomerates without finding any certain remains of such organisms, though the fragments of the crusts of some of the Primordial trilobites, when their tubuli are infiltrated with dark carboniferous matter, are so like the supplemental skeleton of Eozoön that but for their forms they might readily be mistaken for it, and associated with them are broken pieces of other porous organisms which may belong to Protozoa, though this is not certain."

Zittel thinks that the genus may possibly be referred to his family Euretidæ (Handbuch der Pal., 1880, p. 173), and Hinde considers their relations as doubtful (Cat. Foss. Sponges, 1883, p. 10).

From the material we have for examination I am inclined to consider Ethmophyllum a sponge, the spiculæ of which, in several of the species, have been lost in the crystallization of the calcite now forming the skeleton. Its mode of growth and the development of the septa point to the cyathophylloid corals; the interior skeleton recalls some of the foraminifera, but the presence of spiculæ in *E. Minganensis* and the intimate relationship between all the species and *E. Minganensis* associate it with the Spongiæ, close to the family Euretidæ of Zittel. It may be necessary to establish a new family to receive this and allied genera.

Dr. Zittel defines the family Euretidæ as follows (Handbuch der Pal., p. 173, 1880): "Sponge-body cup-shaped, cylindrical, clavate or branching, fixed. Skeleton reticulate, the crossing nodes of the six-rayed, cemented spiculæ imperforate. External surface naked or protected by a thickening of the outer layer of the skeleton; sometimes covered with a very delicate network of cemented spiculæ which differ but little from those of the rest of the skeleton. This mesh-like covering also extends over the ostia (mouths). Structure of the root like that of the rest of the sponge. Spiculæ of the sarcode wanting or present."

I have recently become acquainted with the work of Dr. J. G. Bornemann of Eisenach, on the Paleontology of the Cambrian District of Canalgrande in Sardinia. That writer discusses the character of the fossils referred to the genus Archæocyathus and proposes a new class of Cœlenterata which he calls Archæocyathinæ. The genus Archæocyathus, as defined by Dr. Bornemann, is the genus Ethmophyllum of Meek. Nine species are described under it, most of which, it appears to me, are founded on varietal rather than specific characters.

The second genus, Coscinocyathus, is separated from Ethmophyllum (=Archæocyathus) by the presence of quite regular cross-septa, in addition to the longitudinal radial septa. This definition would include our species *E. Billingsi*. Fifteen species are described under Coscinocyathus, many of which are based on external form.

The third genus is Anthomorpha, in which there are irregular cross septa between the radial septa.