

rocks of this country, with a view to determine the presence of organisms analogous to those well known to exist in the flints of the Chalk. This research has been rewarded by the discovery of abundant organisms referable to the Desmidiæ, besides a few Diatomacææ, numerous spicula of sponges, and also fragments of the teeth of Gasteropods. Among the Desmids, there is a large variety of forms of Xanthidia supposed to be the Sporangia of Desmids, besides an occasional duplicated Desmid; also lines of cells, some of which appear to be sparingly branched. The researches have been mostly confined to the hornstone of the Corniferous limestone; though extended also to the hornstone from the Black River limestone and that of the sub-Carboniferous limestone of Illinois, both of which contain some organisms.

The hornstone nodules from the Black River limestone (as well as the Corniferous) have been since examined also by Mr. F. H. Bradley with similar results.

These observations will be regarded with much interest by geologists as well by microscopists: They carry back to a very early epoch forms of life which have hitherto been looked upon as belonging only to a much more recent era in the life of our planet.

The analogy of these hornstone nodules to the flints of the Chalk is obvious; and the discoveries here announced may be regarded as establishing their similarity in origin. The organisms figured so closely resemble those of the flint that they might be taken for them; it is difficult in all cases to make out a difference of species.

The extreme abundance of the hornstone nodules in our palæozoic limestones will render it easy to multiply observations in this new field of research, which presents an interesting addition to the labors of the microscopist. It will be remembered by those who undertake such examinations that the use of turpentine renders the chips of chert almost as transparent as glass.—

TO THE EDITORS,—Having recently been engaged in examining the microscopic structure of hornstone from Palæozoic rocks, I send you the accompanying sketches of organic forms which I have discovered. They consist of spicules and gemmules of sponge and fragments of sponges; Desmidiæ, several species of Xanthidia, and disks which probably are to be considered as Diatoms. Hornstone from the corniferous limestone of central and western New York contains the greatest variety of these organic forms. A few specimens have been found in hornstone of the Black River Limestones from Watertown, N. Y. * * * *