

in Ohio by Prof. Edward Orton, and at Chicago by Dr. H. A. Johnson and Mr. B. W. Thomas, also in New York by Prof. J. M. Clarke.

The macrospores collected by Mr. Thomas from the Chicago clays and shales conform closely to those of Kettle Point, and probably belong to the same species. Some of them are thicker in the outer wall, and show the pores much more distinctly. These have been called by Mr. Thomas *S. Chicagoensis*, and may be regarded as a varietal form. Specimens isolated from the shale and mounted dry, show what seems to have been the hilum or scar of attachment better than those in balsam.

Sections of the Kettle Point shale show, in addition to the macrospores, wider and thinner shreds of vegetable matter, which I am inclined to suppose to be remains of the sporocarps.

2. *Protosalvinia (Sporangites) Braziliensis*, Dawson, "Canadian Record of Science," 1883.—Macrospores, round, smooth, a little longer than those of the last species, or about one seventy-fifth of an inch in diameter, enclosed in round, oval, or slightly reniform sporocarps, each containing from four to twenty-four macrospores. Longest diameter of sporocarps three to six millimetres. Structure of wall of sporocarps hexagonal cellular. Some sporocarps show no macrospores, and may possibly contain microspores. The specimens are from the Erian of Brazil. Discovered by Mr. Orville Derby. The formation, according to Mr. Derby, consists of black shales below, about three hundred feet thick, and containing the fucoid known as *Spirophyton*, and probably decomposed vegetable matter. Above this is chocolate and reddish shale, in which the well-preserved specimens of *Protosalvinia* occur. These beds are very widely distributed, and abound in *Protosalvinia* and *Spirophyton*.

3. *Protosalvinia (Sporangites) bilobata*, Dawson, "Canadian Record of Science," 1883.—Sporocarps, oval or reniform, three to six millimetres in diameter, each showing two rounded prominences at the ends, with a depression in the middle, and sometimes a raised neck or isthmus at one side connecting the prominences. Structure of sporocarp cellular. Some of the specimens indicate that each prominence or tubercle contained several macrospores. At first sight it would be easy to mistake these bodies for valves of *Beyrichia*.

Found in the same formations with the last species, though, in so far as the specimens indicate, not precisely in the same beds. Collected by Mr. Derby.

4. *Protosalvinia Clarkei*, Dawson, *P. bilobata*, Clarke, "American Journal of Science."—Macrospores two-thirds to one millimetre in