

1882, when Prof. Orton, of Columbus, Ohio, sent me some specimens from the Erian shales of that State, which on comparison seemed undistinguishable from *Sporangites Huronensis*.* Prof. Orton read an interesting paper on these bodies, at the meeting of the American Association in Montreal, in which were some new and striking facts. One of these was the occurrence of such bodies throughout the black shales of Ohio, extending "from the Huron River, on the shore of Lake Erie, to the mouth of the Scioto, in the Ohio Valley, with an extent varying from ten to twenty miles in breadth," and estimated to be three hundred and fifty feet in thickness. I have since been informed by my friend Mr. Thomas, of Chicago, that its thickness, in some places at least, must be three times that amount. About the same time, Prof. Williams, of Cornell, and Prof. Clarke, of Northampton, announced similar discoveries in the State of New York, so that it would appear that beds of vast area and of great thickness are replete with these little vegetable discs, usually converted into a highly bituminous, amber-like substance, giving a more or less inflammable character to the containing rock.

Another fact insisted on by Prof. Orton was the absence of Lepidodendroid cones, and the occurrence of filamentous vegetable matter, to which the Sporangites seemed to be in some cases attached in groups. Prof. Orton also noticed the absence of the trigonal form, which belongs to the spores of many Lepidodendra, though this is not a constant character. In the discussion on Prof. Orton's paper, I admitted that the facts detailed by him shook my previous belief of the lycopodiaceous character

* These shales have been described, as to their chemical and geological relations, by Dr. T. Sterry Hunt, "American Journal of Science," 1863, and by Dr. Newberry, in the "Reports of the Geological Survey of Ohio," vol. i., 1863, and vol. iii., 1878.