

water. More especially they resemble the sporocarps of the genus *Salvinia*. This fact opened up an entirely new field of investigation, and I at once proceeded to compare the specimens with the fructification of modern Rhizocarps, and found that substantially these multitudinous spores embedded in the Erie shales may be regarded as perfectly analogous to the larger spores of the modern *Salvinia natans* of Europe, as may be seen by the representation of them in Fig. 16.

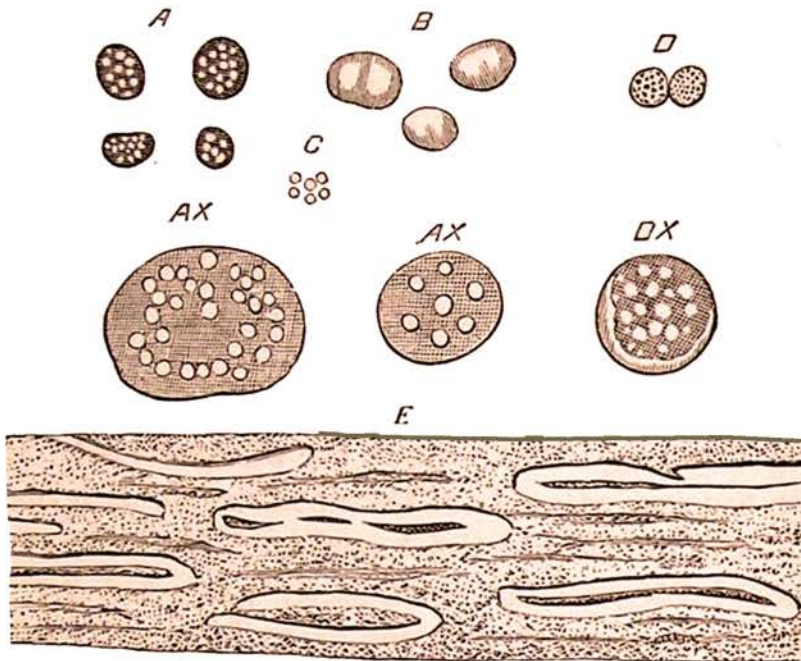


FIG. 16.—*Sporangites* (*Protosalvinia*). A, *Sporangites Braziliensis*, natural size. AX, Same, magnified. B, *Sp. biloba*, natural size. C, Detached macrospores. D, Spore-cases of *Salvinia natans*. DX, Same, magnified. E, Shale with sporangites, vertical section, highly magnified.

The typical macrospores from the Erian shales are perfectly circular in outline, and in the flattened state appear as discs with rounded edges, their ordinary diameter being from one seventy-fifth to one one hundredth of an inch, though they vary considerably in size. This, however, I do not regard as an essential character. The edges, as seen in profile, are smooth, but the flat surface often presents minute dark spots, which at first I mis-