

1b. The occurrence of pre-colonial maize on Cape Cod, Massachusetts.

In the course of palynological investigations of a fresh water bog, Small Swamp, on Cape Cod a number of pollen grains identifiable as maize, *Zea Mays*, have been encountered at significantly deep levels in the deposit. They were first found at a depth of 92 inches and more recently at a depth of 150 inches. The grains after acetylation, range in size from 84 μ to 97 μ along their long axes, and hence are well within the size range of maize pollen. It has been postulated by Barghoorn and Wolfe, above, that a further criterion for the distinction of maize pollen from that of other large grass pollen is the ratio between pore diameter and the long axis of the grain. This ratio in the case of maize fluctuates between 1:6.0 and 1:7.3 with a very consistent mean value of 1:6.5. The Cape Cod fossil grass pollen meets both the criterion of large size and that of the pore:axis ratio typical of maize, the fossil grains showing a pore ratio in two cases of 1:6.7 and in two others 1:7.0.

The antiquity of the maize pollen from Small Swamp cannot be determined until the pollen spectrum of the deposit has been completely analyzed. However, if a maximum value of the rate of accretion of the peat is accepted as 12 inches per century it can be concluded that the fossil corn pollen is on the order of 1200 years old. If this estimate be correct, it indicates the presence of agriculture in New England at a surprisingly early date.

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