

Middendorf beds across the border in South Carolina have a varied display of oaks, rivaling in this respect the Dakota Group of the west. Both *Sequoia heterophylla* Velen. and *Sequoia minor* Velen. of the Black Creek were first described from the Cenomanian of Bohemia, and the former also persists into the Senonian of that country. It is a characteristic and widespread species throughout the Magothy formation, making its first appearance in American strata in the uppermost Raritan at South Amboy, New Jersey. *Pistia Norden-skioldi* (Heer) Berry occurs, often in great abundance, at 8 of the plant localities in the Black Creek, its only other known occurrences being near the top of the Magothy formation in Maryland and in the Atane beds of Greenland, supposedly of Cenomanian age, but closely related, according to the observations of White and Schuchert, with the overlying Patoot beds (Senonian?). The only other fossil representatives of this genus are *Pistia Mazelii*, described by Saporta and Marion from the Senonian lignites of Fuveau, France, and *Pistia corrugata*, described by Lesquereux from the Montana formation of Wyoming, both very distinct from the Black Creek plant. Among the common plant remains in the Black Creek are certain characteristic fruits which have been described by the writer as *Cephalotaxospermum carolinianum*. They are a marked feature of these deposits, occurring at 5 of the localities. Outside the State they are found in the Black Creek shales of South Carolina and at the top of the Tuscaloosa in Alabama.

"Recently a single species of fossil plant, the only one known from this formation, was collected by Dr. H. P. Little in a carbonate of iron nodule in the Woodbury clays (Matawan) at Lorillard, New Jersey. It proves to be very close to the common Magothy and Dakota Group form *Ficus reticulata* (Lesq.) Knowlton,¹ which Hollick also recorded recently from the supposed Magothy formation of Marthas Vineyard and which he regards as also identical with *Myrtophyllum schubleri*, described by Heer from the Cenomanian of Moravia.² Furthermore, *Dammara cliffwoodensis* Hollick, a characteristic Magothy plant closely related to *Dammara borealis* Heer of the Raritan and Tuscaloosa, has been collected in the Matawan formation of Maryland. These occurrences clearly indicate, what has long been suspected, that the Magothy flora persisted well into Matawan time.

"Similar conditions are shown by a recent collection of fossil plants made by Dr. L. W. Stephenson near Buena Vista in western Georgia. In beds said to be above the Blufftown or Snow Hill horizon of the Lower Ripley the writer has identified *Araucaria bladenensis* Berry, *Andromeda novae-caesareae* Hollick, and *Manihotites* sp., 3 characteristic Black Creek forms out of a total flora of but 6 species, 1 other of which, *Eucalyptus angusta* Velen., occurs in the Middendorf beds of South Carolina, the evident equivalent of the Black Creek, and in the upper Raritan of New Jersey.

"Comparing this flora as a whole with that of related formations, it may be noted that 28 of the Black Creek plants occur in the Raritan formation. While this seems like a large percentage, it is to be remembered that only 13 of these were described originally from the Raritan, and that all but one or two of the remainder are species described from higher horizons, from the Dakota Group of the west, and from the Cenomanian and Senonian of Green-

¹Berry, N. Y. Bot. Garden, vol. 3, 1903, p. 73, pl. lli, fig. 5; pl. liii, figs. 1, 4.

²Hollick, Mon. U. S. Geol. Survey, vol. 1, 1907, p. 96, pl. xxxvi, fig. 6.