THE PLEISTOCENE PLANT REMAINS OF THE COASTAL PLAIN OF EASTERN NORTH AMERICA

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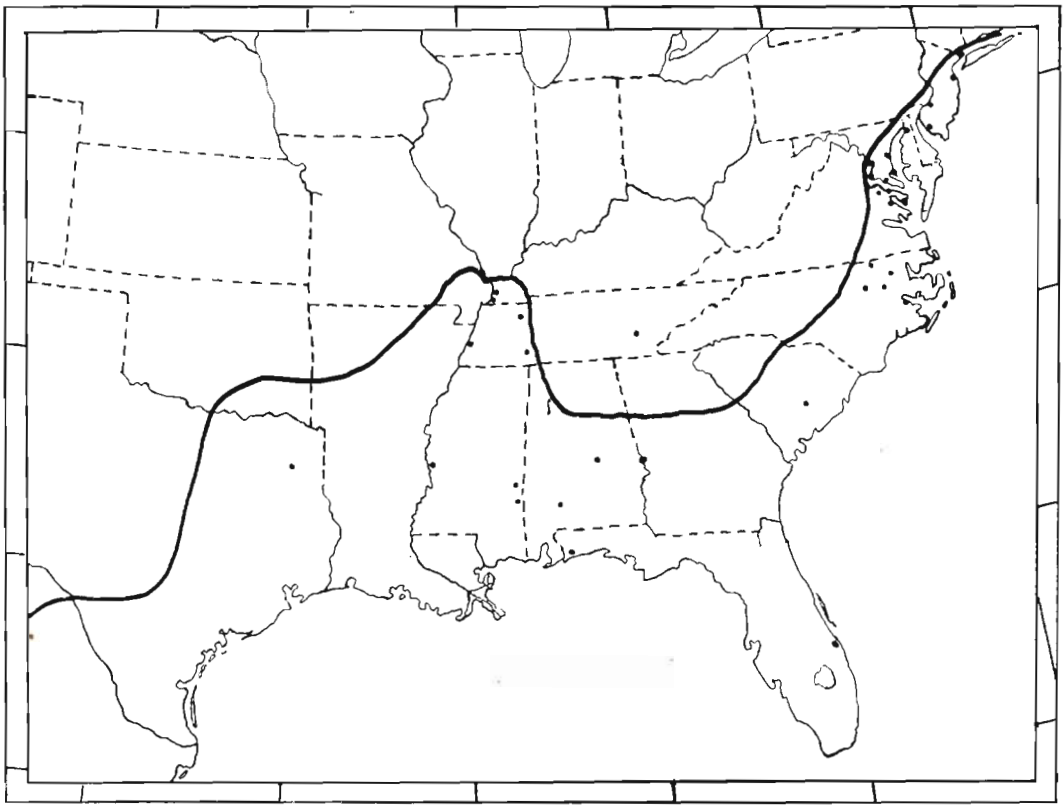
FROM 1859 to date there have been accumulating records of fossil plants from the Pleistocene of North America. Most of the records have been published during the past fifty years. From a glance at the map (TEXT-FIG. 1), which shows the distribution of the localities, it would seem to indicate that fossil plants are more abundant in the New Jersey-North Carolina area. My interpretation of this local abundance is that in the Baltimore, Maryland-Washington D.C. region we had for the past forty or fifty years more active students of fossil flora than there were south of that region and hence more observant eyes were active in the search for plant fossils. Also numerous excavations and active building of large structures exposed more deposits with their entombed remains. At the present time I get scattered reports of Pleistocene plants but often after it is too late to collect at the site or else you are sent dried out wood or dust of leaves, etc. It was only through other work that I learned of the plant deposits under the present Santee Dam in South Carolina. Several



TEXT-FIG. 1 — MAP OF EASTERN PART OF UNITED STATES SHOWING DISTRIBUTION OF PLANT FOSSIL LOCALITIES.

collecting trips to that site have given me sizable flora which is still under study, although I have reported on the fossils before the Geological Society of America at the last two meetings. With the renewed interest being shown in the Pleistocene, especially with reference to pollen remains, I hope more plant-remains will be discovered, both leaves and seeds. I am gradually educating a younger generation on the interest in fossil plants and it is to be hoped more localities will be reported.

At the present time the known Pleistocene flora has such a long geological range and such a localized geographic distribution that they do not lend temselves to dividing the Pleistocene into the various terraces or formations that Shattuck and Cooke have discussed. It is not impossible that with additional information we may be able to recognize these terraces by their fossil flora instead of by their physiographical location, or at least to be able to sort them out in time and space on a botanical basis.

This flora which we are considering has some 192 species falling into 92 genera and 59 families. These 192 species were collected from some 53 localities scattered over the Coastal Plain from Manhattan Island, New York to the Rio Grande on the Mexican border, except in the States of Louisiana, Arkansaw and Oklahoma. I feel very certain that we should be able to find Pleistocene plants in these regions from undiscovered localities. A number of the genera are represented by only one species or represented by material which cannot be definitely determined except as to the genus. Some of the families have only one genus identified so far. Here again additional collections should change this picture.

A large percentage of the known fossils are swamp, pond and/or river bank species, but most, if not all, of these Coastal Plain deposits represent buried swamps and upland and arid region plants would not be normal in such deposits. The several arid and/or upland plants which must have blown or floated into the deposits stand out very noticeably. A survey of the present range of the still living species shows that except for a few species all are well in their expected places. It would seem that the Pleistocene plants occupied about the same place then as their living descendants do today.

From these floral remains there is no definite evidence of any climatic changes from any of the known 53 locations. The pollen picture at its present stage of development shows rather great climatic changes with changes from mixed hardwoods to spruce-pine and back to mixed hardwoods. We find fossil pine needles and cones but nowhere do they make an appreciable part of the flora. As far as I can see the fossil plants are about the same in distribution and range as the living forms and that the climate was about the same then as now.

There are one or two species whose present range is more restricted than it was in the Pleistocene. The bald cypress ranged farther north in the Pleistocene than it does today but the distance is not great enough to show any appreciable climatic difference. Outside of one or two species they are all in balance.

The oaks are by far the most abundant but as they tend to cross and hybridize there may be more apparent than true species.

This is not the place to attempt to clear up the various ideas put forth in regards the several Pleistocene Terrace levels and ages.

PLEISTOCENE LOCALITIES

NEW YORK STATE

Manhattan Island

NEW JERSEY

Talbot Formation — Long Branch, Monmouth County.

Pleistocene — Fish House, Camden County; Bridgeton, Cumberland County.

MARYLAND

Talbot Formation — Grove Point, Cecil County; Baltimore County; Bodkin Point, Anne Arundel County; Pond Neck, Anne Arundel County; Tolly Point, Anne Arundel County; Drum Point, Calvert County; 1 mile south, Chesapeake Beach, Calvert County.

Sunderland Formation — Point of Rocks, Calvert County; Island Creek, Calvert County.

Pleistocene—Indian Head, Charles County; Cornfield Harbor, St. Mary's County.

WASHINGTON D.C.

Talbot Formation — Bellevue Hotel site; Government Printing Office site.

Wicomico Formation — Walker Hotel site; Capital and Pierce Streets.

Pleistocene — North-west Branch Anacostia River and 17 and K Streets.

VIRGINIA

Talbot Formation — 1½ miles below Taft, Lancaster County; Port Royal, Carolina County; Tappahanock, Essex County; Westmorland County.

NORTH CAROLINA

Pamlico Formation — Bertie County; Craven County; Pitt County.
Chowan Formation — Wayne County.
Wicomico Formation — Northampton County.
Pleistocene — Dupres Landing, Pitt County.

SOUTH CAROLINA

Pleistocene — Santee Dam, Berkley County.

GEORGIA

Pleistocene — Along Chickaswhay River.

FLORIDA

Pleistocene — Vero, Indian River County; Milton, Santa Rosa County.

ALABAMA

Talbot (?) *Formation* — Abercrombie's Landing, Chattahoochee River.
Pleistocene — 3 miles west Monroeville, Monroe County; L. & N. RR, Mountain Creek, Chilton County; 12 miles above Montgomery on Alabama River, Elmore County; Steels Bluff, 311½ miles above Mobile on Warrior River; 328½ miles above Mobile, Warrior River; 342 miles above Mobile, Warrior River; 356 miles above Mobile, Warrior River.

MISSISSIPPI

Pleistocene — Loess at Vicksburg; 4 miles north Waynesboro, Wayne County; Chicoria, Wayne County.

TEXAS

Pleistocene — 2 miles north-west Jacksonville, Cherokee County.

KENTUCKY

Pleistocene — Bluffs at Columbus, Hickman County; Bluffs at Hickman, Fulton County.

TENNESSEE

Pleistocene — 500 ft. terrace, Adamsville, McNairy County; between Paris and Whitlock, Henry County; 5½ miles north-west of Covington, Tipton County; 5 miles east of Dayton, Rhea County (not in Coastal Plain).

MUSCI

Anomodon attenuatus (Schreb.) Huben

Williams in Berry, *Jour. Wash. Acad. Sci.*, **23**, 1933, p. 7, Figs. 1, 2.

This moss is from the Talbot formation (Cooke's Pamlico) from the sites of the Government Printing Office and the Bellevue Hotel in Washington D.C., and would be expected to be found in fossil swamps of the region.

Thuidium delicatulum (L.) Mitt. or
T. recognitum (L.) Lindb.

Williams in Berry, *Jour. Wash. Acad. Sci.*, **23**, 1933, p. 7, Figs. 3, 4.

This moss is from the same localities as the above.

Brachythecium plumosum (Sw.) Bry. Eur.

Williams in Berry, *Jour. Wash. Acad Sci.*, **23**, 1933, p. 7, Figs. 5, 6.

This moss is from the same localities as the above.

Hygrohypnum eugyrium mackayi (Schp.) Broth.

Williams in Berry, *Jour. Wash. Acad. Sci.*, **23**, 1933, p. 7, Figs. 7-10.

This moss is from the same localities as the above.

Taxiphullum geophilum (Anst.) Fleisch

Williams in Berry, *Jour. Wash. Acad. Sci.*, **23**, 1933, p. 7, Figs. 11-13.

This moss is from the same localities as the above.

OSMUNDACEAE

Osmunda spectabiles Willd.

Berry, *Am. Jour. Sci.*, **29**, 1910, p. 391.

Steels Bluff, Warrior River, Alabama, 311½ miles above Mobile, Ala.
This fern seems not to be out of place here in the Pleistocene.

Osmunda sp.

Hollick, *Md. Geol. Survey*, Pleistocene, 1906, p. 217, Pl. 67, Fig. 3.

Talbot formation, Tolly Pt., Anne Arundel County, Maryland.

Osmunda sp.

Berry, *Torreya*, **19**, 1919, p. 9.

Adamsville, McNairy County, Tennessee.

EQUISETACEAE

Equisetum cf. *nyemale* L.

Hollick, *Am. Mus. Novitales*, **213**, 1926, Pleistocene, Manhattan Island, N.Y.

Equisetum has been recorded from the Pleistocene of West Virginia and New Brunswick, Canada, as well as the Don River area near Toronto, Canada. This is the only one from the Coastal Plain, however.

PINACEAE

Pinus taeda L.

Berry, *Torreya*, **10**, 1910, p. 263; *Am. Jour. Sci.*, **29**, 1910, p. 391; *Jour. Geol.*, **25**, 1917, p. 662; *Fla. Geol. Survey*, 9th Ann. Rept. 1917, p. 20; *Torreya*, **27**, 1927, p. 23, Figs. 8, 9.

This loblolly pine has been found in the Talbot formation at Long Branch, New Jersey; at Steels Bluff and Abercrombie's Landing, Warrior River, Alabama; at Vero, Florida, and in the Pleistocene beds exposed between Paris and Whitlock, Tennessee. It is a Coastal Plain species widely distributed now on sandy and clay soils.

Pinus serotina Mich.

P. rigida Berry (not Miller), Berry, *Jour. Geol.*, **15**, 1907, p. 339; *U.S. Geol. Survey*, Prof. Paper **140** C, 1925 (1926), p. 105, Pl. 45, Fig. 9.

This pond pine is only known as fossil from North Carolina. From the Chowan Terrace in Wayne County and at Dupree Landing in Pitt County and the Pamlico Terrace on the Neuse River (Station 850) Craven County.

Outside the Coastal Plain from the Port Kennedy, Pennsylvania Pleistocene Cave and from the Don River deposits in Ontario, Canada.

Today it ranges in the Coastal Plain from New Jersey southward to the Gulf States about sandy swampy ponds and the like.

Pinus glabra Walt.

Berry, *Torreya*, **22**, 1922, p. 10.

This cedar pine has been found fossil only along the Louisville and Nashville railroad near Mountain Creek, Chilton County, Alabama, in Pleistocene beds.

The cedar pine today grows in bottoms in the Coastal Plain from South Carolina to Louisiana.

Pinus echinata Miller

Hollick, *Md. Geol. Survey*, Pleistocene, 1906, p. 217, Pl. 67, Fig. 1.

Berry, *Am. Jour. Sci.*, **29**, 1910, p. 387; *Torreya*, **27**, 1927, p. 22.

Fossils of this short-leaf pine have been found in the Talbot formation of Bodkin Point, Anne Arundel County, Maryland; in the bluffs on Warrior River, Alabama, 342 miles above Mobile and in the Talbot formation on the left bank of the Rappahannock River, 1½ miles below Taft Post Office, Lancaster County, Virginia.

The short-leaf pine now grows in dry sterile soil along the Coastal Plain from southern New York to Texas.

Pinus sp.

Hollick, *Md. Geol. Survey*, Pleistocene, 1906, p. 218.

In the Talbot formation at Bodkin Point and Grace Point, Anne Arundel County, Maryland.

Pinus sp.

Berry, *Torreya*, **14**, 1914, p. 160.

This pine is found at Milton, Santa Rosa County, Florida in Pleistocene beds.

Strobus strobus (L.) Small

Hollick, *Md. Geol. Survey*, Pleistocene, 1906, p. 218, Pl. 67, Fig. 2.

Brown, *Jour. Wash. Acad. Sci.*, **25**, 1935, p. 443.

This white pine is found fossil in the Talbot formation at Bodkin Point, Anne Arundel County, Maryland, and from the region of the North-west Branch of the Anacostia River, Washington D.C.

The white pine ranges from Newfoundland southward to Georgia on sandy soils.

Tsuga canadensis (L.) Carr.

Brown, *Jour. Wash. Acad. Sci.*, **25**, 1935, p. 443.

This spruce pine is found fossil on the North-west Branch of the Anacostia River, Washington D.C., and would seem to be south and east of the present range, as it normally is confined to the Alleghenies or their vicinity south of Delaware, although it extends from Nova Scotia, Canada to Georgia in the mountains.

Taxodium distichum (L.) L. C. Richard

Holmes, *Jour. Elisha Michell Soc.*, 1884-85, **2** (1885), p. 92.
Berry, *Torreya*, **6**, 1906, p. 88.
Hollick, *Md. Geol. Survey*, Pleistocene, 1906, pp. 218, 237, Pl. 68, Figs. 1, 2.
Berry, *Jour. Geol.*, **15**, 1907, p. 339; *Am. Naturalist*, **43**, 1909, pp. 432-434, Figs. 1, 2; *Am. Jour. Sci.*, **29**, 1910, p. 391; *Torreya*, **10**, 1910, p. 263; *Plant World*, **14**, 1911, pp. 39-45, Figs. 1, 2; *Am. Jour. Sci.*, **34**, 1912, p. 219, Figs. 1, 2; *Torreya*, **14**, 1914, pp. 160, 162; *U.S. Nat. Mus. Proc.*, **48**, 1915, p. 296; *Torreya*, **15**, 1915, p. 206; *Jour. Geol.*, **25**, 1917, p. 662; *Fla. Geol. Survey*, 9th Ann. Rept. 1917, p. 21; *Jour. Wash. Acad. Sci.*, **14**, 1924, p. 51, Pl. 1, Figs. 37-42; *U.S. Geol. Survey*, Prof. Paper **140**, 1925 (1926), p. 105, Pl. 45, Figs. 1-8; *Torreya*, **27**, 1927, p. 22; *Jour. Wash. Acad. Sci.*, **23**, 1933, p. 3, Fig. 14.
Sequoia angustifolia Lesq. Hollick, *Md. Geol. Survey*, Pleistocene, 1906, p. 219, Pl. 71, Figs. 16, 17.

The bald cypress is one of the most widely found of the Pleistocene plants in the Coastal Plain deposits. It is recorded from Maine to the Gulf. It is found at Long Branch, New Jersey; at Bodkin and Grace Points and Pond Neck in Anne Arundel County, and at Indian Head and Island Creek, Calvert County, Maryland; at the Walker Hotel site, the Talbot formation at the Government Printing Office and Bellevue Hotel sites, and the Wicomico formation at North Capital and Pierce Streets, Washington D.C.; at Port Royal and in the Talbot along the Tappahannock, Virginia; from the Pamlico formation below New Bern Craven County, and at Old Mill Landing Roanoke River and the Chowan formation in Wayne County, North Carolina; along the Chickasawhay River in Georgia; at Vero and in Santa Rosa County, Florida; and at Hickman Bluffs, Fulton County, Kentucky.

The present range of the bald cypress is along the Coastal Plain in swamps and along river plains from New Jersey along the Gulf to Texas. The Pleistocene range was more to the north.

Juniperus communis L.

Hollick, *Am. Mus. Novitales*, **213**, 1926.

This juniper is found fossil only in the Pleistocene of Manhattan Island, New York. Its present range is in general farther back from the coast, although it extends in the mountains from Canada to Georgia.

Juniperus cf. *virginiana* L.

Berry, *Torreya*, **10**, 1910, pp. 261-267; *Torreya*, **27**, 1927, p. 21

This species is recorded from the Talbot at Long Branch, New Jersey; and the Pleistocene of Cornfield Harbor, St. Mary's County, Maryland. It seems to be in its range.

SPARGANIACEAE

Sparganium androcladum Nutt.

Brown, *Jour. Wash. Acad. Sci.*, **25**, 1935, p. 443.

This bur-reed is reported from the Talbot (?) of the North-west Branch of the Anacostia River, Washington D.C. The present range is along the Coastal Plain from Newfoundland to Florida.

Sparganium eurycarpus Engel.

Berry, *Jour. Wash. Acad. Sci.*, **14**, 1924, p. 16, Pl. 1, Fig. 36.

This species is found at the Walker Hotel site in Washington D.C., while its present range is the same as *S. androcladum*.

Sparganium sp.

Berry, *Torreya*, **14**, 1914, p. 160; *U.S. Geol. Survey*, Prof. Paper **140**, 1925 (1926), p. 106.

This undeterminable *Sparganium* is from the Chowan formation in Wayne County, North Carolina.

ZANNICHELLIACEAE

Zannichellia palustris L.

Berry, *Jour. Wash. Acad. Sci.*, **28**, 1938, p. 59, Fig. 1.

This horned pond weed, which ranges throughout the United States and southern Canada, is found fossil in the Talbot formation of Westmorland County, Virginia.

Potamogeton nuttallii Cham & Schlecht.

Brown, *Jour. Wash. Acad. Sci.*, **25**, 1935, p. 443.

This pond weed is found in the Pleistocene on the North-west Branch of the Anacostia River, Washington D.C. Its present range is from Canada to South Carolina.

NAIADACEAE

Naias sp.

Berry, *Jour. Wash. Acad. Sci.*, **14**, 1924, p. 17, Pl. 1, Figs. 1-3; *Jour. Wash. Acad. Sci.*, **23**, 1933, p. 9, Figs. 15-20.

This fresh-water herb is recorded from the Wicomico formation at the Walker Hotel site and the Talbot formation at the

Government Printing Office and Bellevue Hotel sites in Washington D.C. The genus today grows in ponds and marshes from New York to Florida.

Naias sp.

Berry, *Jour. Wash. Acad. Sci.*, **28,** 1938, p. 59.

This is from the Talbot formation in Westmorland County, Virginia, and may be the same as the *Naias* referred to above.

POACEAE

Chaelochloa sp.

Berry, *Torreya*, **14,** 1914, p. 160 ; *U.S. Geol. Survey*, Prof. Paper **140,** 1925 (1926), p. 106.

This fossil is found in the Chowan formation in Wayne County, North Carolina. There are some 65 species of *Chaelochloa* with a worldwide distribution, in the warm-tropical and tropical regions.

Arundinaria macrosperma Mich.

Berry, *Torreya*, **14,** 1914, p 161 ; *Torreya*, **22,** 1922, p. 10.

This cane is found only in Alabama Pleistocene at the following localities : 3 miles west of Monroeville, Monroe County ; on the Louisville-Nashville railroad near Mountain Creek, Chilton County ; at Abercrombie's Landing on the Chattahoochee River, and on the Warrior River, 311½ miles and 356 miles above Mobile, Alabama.

The recent range is much greater as it grows in alluvial soils of the Coastal Plain from Virginia to Texas.

CYPERACEAE

Dulichium arundinaceum (L.) Britt.

Berry, *Jour. Wash. Acad. Sci.*, **14,** 1924, p. 18, Pl. 1, Figs. 17, 18.

This plant is found in the Pleistocene beds at the Walker Hotel site in Washington D.C. Today it grows in swamps and bogs from Nova Scotia to Florida and west to Texas.

Scirpus cf. *americanus* Pers.

Berry, *Jour. Wash. Acad. Sci.*, **14,** 1924, p. 18, Pl. 1, Figs. 13, 14.

This sword grass is from the Pleistocene of the Walker Hotel site, Washington D.C. Today it grows along the border of ponds and streams from Newfoundland to Florida, and along the Gulf Coast to Texas.

Scirpus cf. *lacustris* L.

Berry, *Jour. Wash. Acad. Sci.*, **14,** 1924, p. 18, Pl. 1, Fig. 12.

The remains of the giant bulrush is from the Pleistocene of the Walker Hotel site in Washington D.C. Today it lives in ponds and swamps and along streams throughout the entire south-eastern United States.

Scirpus or *Cyperus* ?

Berry, *Torreya*, **27,** 1927, p. 23.

This bulrush is found in the Pleistocene between Whitlock and Paris, Tennessee.

Cladium sp.

Berry, *Jour Wash. Acad. Sci.*, **14,** 1924, p. 18, Pl. 1, Fig. 16.

This pond rush is from the Walker Hotel site, Washington D.C. Its present range is from Canada to Florida, and into Alabama.

Carex cf. *collinsii* Nutt.

Berry, *Jour. Wash. Acad. Sci.*, **14,** 1924, p. 17, Pl. 1, Figs. 4-8.

This *Carex* is from the Walker Hotel site, Washington D.C., and grows today in acid swamps and the like along the Coastal Plain from southern New England to Georgia.

Carex cf. *intumescens* Rudge

Berry, *Jour. Wash. Acad. Sci.*, **14,** 1924, p. 17, Pl. 1, Figs. 9-11.

This sedge is from the Walker Hotel site, Washington D.C., and now grows from Newfoundland to Texas along the coast.

Carex sp.

Berry, *Jour. Wash. Acad. Sci.*, **28,** 1938, p. 60.

This species is very like *C. collinsii* Nutt. and is from the Talbot formation in Westmorland County, Virginia.

Carex sp.

Berry, *Jour. Wash. Acad. Sci.*, **23,** 1933, p. 9, Fig. 21.

From the Talbot formation at the Government Printing Office site, Washington D.C.

Carex sp.

Berry, *Torreya*, **22,** 1922, p. 11.

From 5½ miles north-west of Covington, Tipton County, Tennessee.

Carex sp.

Brown, *Jour. Wash. Acad. Sci.*, **25,** 1935, p. 443.

From the Pleistocene North-west Branch of the Anacostia River, Washington D.C.

SMILACACEAE

Smilax (?) sp.

Berry, *Torreya*, **27,** 1927, p. 24, Figs. 10-13.

This greenbrier is from the Pleistocene deposits between Paris and Whitlock, Tennessee. At present the genus grows in woods and along stream banks from Canada to Mexico.

JUGLANDACEAE

Juglans cinera L.

Brown, *Jour. Wash. Acad. Sci.*, **25,** 1935, p. 443.

This butternut is from the Pleistocene of the North-west Branch of the Anacostia River, Washington D.C. It has been found fossil in Mass. and I have two specimens from South Carolina. Its present range is in rich soil from Canada to Georgia, but back from the coast from North Carolina to Georgia.

Juglans nigra L.

Berry, *Am. Jour. Sci.*, **29,** 1910, p. 387 , *Torreya*, **9,** 1919, pp. 96-98.

These black walnuts are from the Talbot, 1 mile south of Chesapeake Beach, Calvert County, Maryland, and from the Warrior River, 311½ miles above Mobile, Alabama. I have several from the Pleistocene of South Carolina. The present range is in rich soils and woods from New England to the Gulf States.

Juglans acuminata Al. Br. ?

Hollick, *Md. Geol. Survey*, Pleistocene, 1906, p. 220, Pl. 72, Fig. 15.

This species is from the Sunderland formation at Island Creek, Calvert County, Maryland.

Hicoria pecan (Marsh) Britt.

Carya olivaeformis Nutt. Lesquereux, *Am. Jour. Sci.*, **27,** 1859, p. 365 ; Berry, *Proc. U.S. Nat. Mus.*, **48,** 1915, p. 297.

This pecan represented by both leaves and nuts is from the Chalk Banks, near Columbus, Kentucky. I have one from Pleistocene of South Carolina. Its recent range is in woods and river bottoms from Indiana, Kansas, south to the Gulf States.

Hicoria aquatica (Mich.) Britt.

Salix sp. Berry, *Jour. Geol.*, **15,** 1907, p. 340.
Hicoria aquatica Berry, *Torreya*, **9,** 1909, p. 71 ; *Torreya*, **14,** 1914, pp. 161, 162 ; *U.S. Geol. Survey*, Prof. Paper **140,** 1925 (1926), p. 106, Pl. 46, Fig. 5.

This water hickory has been found on the Neuse River and in the Chowan formation in Wayne County, North Carolina ; 3 miles west of Monroeville, Monroe County, Alabama ; and 4 miles north of Waynesboro, Wayne County, Mississippi. Its present range is in river swamps of the Coastal Plain.

Hicoria sp. cf. *minima* (Marsh) Britt.

Berry, *Torreya*, **22,** 1922, p. 10

From the deposits along the Louisville and Nashville railroad near Mountain Creek, Chilton County, Alabama. The present range of the swamp hickory is from Canada to the Gulf of Mexico in river bottoms and swamps.

Hicoria ovata (Mill.) Britt.

Berry, *Jour. Geol.*, **15,** 1907, p. 340 ; *U.S. Geol. Survey*, Prof. Paper **140,** 1925 (1926), p. 106, Pl. 46, Figs. 6, 7 ; *Torreya*, **27,** 1927, p. 22, Figs. 5-7.
Brown, *Jour. Wash. Acad. Sci.*, **25,** 1935, p. 443.

This shag-bark hickory has been found in the Chowan formation in Wayne County, North Carolina ; in deposits at 17 and K Streets, Washington D.C., and along the North-west Branch of the Anacostia River, Washington D.C. Its present range is from Canada to the Gulf of Mexico, especially in rich soils.

Hicoria glabra (Milli) Britt.

Hicoria pseudoglabra Hollick, *Md. Geol. Survey*, Pleistocene, 1906, p. 221, Pl. 72, Figs. 1, 16, 17.
Hicoria glabra Berry, *Torreya*, **6,** 1906, p. 89 ; *Jour. Geol.*, **15,** 1907, p. 340 ; *Torreya*, **9,** 1909, p. 97, Figs. 1-5 ; *Torreya*, **10,** 1910, p. 204, Fig. 1 ; *Proc. U.S. Nat. Mus.*, **48,** 1915, p. 297 ; *U.S. Geol. Survey*,

Prof. Paper **140**, 1925 (1926), p. 106, Pl. 46, Figs. 1-4; *Jour. Wash. Acad. Sci.*, **23**, 1933, p. 9, Figs. 22, 23. Brown, *Jour. Wash. Acad. Sci.*, **25**, 1935, p. 443.

The pignut is found in the Talbot formation at Long Branch New Jersey; at Island Creek and below Chesapeake Beach, Calvert County, Maryland; in the Talbot at the Government Printing Office site and the North-west Branch of the Anacostia River in Washington D.C.; in the Talbot on the Tappahannock River in Virginia; in the Chowan formation in Wayne County, North Carolina; and at Hickman and Columbus, Kentucky. At the present time it ranges from Maine to Florida in dry woods with acid soils.

Hicoria villosa (Sarg.) Ashe.

Berry, *Am. Jour. Sci.*, **29**, 1910, p. 387.

This hickory has been found fossil along the Warrior River, 311½ miles above Mobile, Alabama. At the present time it occurs in open woods in Arkansaw and vicinity.

Hicoria sp.

Hollick, *Md. Geol. Survey*, Pleistocene, 1906, p. 222, Pl. 70, Fig. 4.

From the Sunderland formation at Point of Rocks, Calvert County, Maryland.

Hicoria sp.

Hollick, *Md. Geol. Survey*, Pleistocene, 1906, p. 222.

From the Talbot formation at Drum Point, Calvert County, Maryland.

Pterocarya denticulata (Web.) Heer

Hollick, *Md. Geol. Survey*, Pleistocene, 1906, p. 222, Pl. 72, Figs. 6-10.

From the Sunderland formation at Island Creek, Calvert County, Maryland.

MYRICACEAE

Myrica carolinensis Mill.

Brown, *Jour. Wash. Acad. Sci.*, **25**, 1935, p. 443

This bayberry is found in the deposits of the North-west Branch of the Anacostia River, Washington D.C. Its present range is from Canada to Florida in low or wet acid areas.

SALICACEAE

Populus balsamifera L.

Populus deltoides Marsh. Berry, *Torreya*, **14**, 1914. p. 10; *Am. Jour. Sci.*, **29**, 1910, p. 387.

This common poplar is found in the Chowan formation in Wayne County, North Carolina, in the Pleistocene along the Warrior River, 311½ miles and 328 miles above Mobile, and at Abercrombie's Landing, Chattahoochee River, Alabama. It is the common river poplar ranging from Canada to Florida in the eastern United States.

Populus cf. *heterophylla* L.

Berry, *U.S. Geol. Survey*, Prof. Paper **140**, 1925 (1926), p. 107.

This swamp cotton wood is from the Chowan formation in Wayne County, North Carolina. Today it grows from southern New England to northern Florida.

Populus sp.

Berry, *Proc. U.S. Nat. Mus.*, **48**, 1915, p. 298.

This specimen from Hickman, Kentucky, is probably referable to *P. balsamifera*.

Populus clarkiana Hollick

Hollick, *Md. Geol. Survey*, Pleistocene, 1906, p. 223, Pl. 70, Fig. 6.

From the Sunderland formation, Island Creek, Calvert County, Maryland.

Populus lation Al. Br.?

Hollick, *Md. Geol. Survey*, Pleistocene, 1906, p. 224, Pl. 70, Fig. 7.

Same locality as last. Possibly should be referred to *P. balsamifera*.

Populus pseudo-tremuloides

Hollick, *Md. Geol. Survey*, Pleistocene, 1906, p. 224, Pl. 70, Fig. 5.

Same locality as last. May be *P. tremuloides* Mich.

Salix viminafolia Berry

Berry, *Proc. U.S Nat. Mus.*, **48**, 1915, p. 297; *U.S. Geol. Survey*, Prof. Paper **140**, 1925 (1926), p. 107, Pl. 47, Figs. 1-4.

This willow has been found in the deposits at Hickman, Kentucky, and in the Chowan formation in Wayne County, North Carolina.

Salix bebbianaformis Berry

Berry, *U.S. Geol. Survey*, Prof. Paper **140**, 1925 (1926), p. 107, Pl. 46, Fig. 8.

This willow is only known from the Chowan formation in Wayne County, North Carolina.

Salix sp.

Berry, *Jour. Geol.*, **15**, 1907, p. 340.

From the Chowan formation in Wayne County, North Carolina. It may represent *Hicoria aquatica*.

CORYLACEAE

Carpinus caroliniana Walt.

Carpinus pseudocaroliniana Hollick, *Md. Geol. Survey*, Pleistocene, 1906, p. 225, Pl. 71, Fig. 10. *Carpinus caroliniana*, Berry, *Jour. Geol.*, **15**, 1907, p. 340; *Am. Nat.*, **41**, 1907, p. 692, Pl. 1, Figs. 8, 9; *Am. Jour. Sci.*, **29**, 1910, p. 395; *U.S. Geol. Survey*, Prof. Paper **140**, 1925 (1926), p. 108, Pl. 47, Figs. 5-7. Brown, *Jour. Wash. Acad. Sci.*, **25**, 1935, p. 443.

This horn-beam has been described from the Sunderland formation at Island Creek, Calvert County, Maryland; from the North-west Branch of the Anacostia River, Washington D.C., the Chowan formation in Wayne County, North Carolina; from questionable Talbot at Abercrombie's Landing, Chattahoochee River and on the Warrior River, 311½ miles above Mobile, Alabama.

Ostrya virginica (Mill.) Willd.

Berry, *Am. Jour. Sci.*, **29**, 1907, p. 447.

This hop-horn-beam, which now lives in rich dry woods from Canada to the Gulf, is found fossil on the Warrior River, 311½ miles above Mobile, Alabama.

Corylus americana Walt.

Brown, *Jour. Wash. Acad. Sci.*, **25**, 1935, p. 443.

This hazel-nut is found in the deposits of the North-west Branch of the Anacostia River, Washington D.C., and today grows in low thickets from Maine to Georgia.

BETULACEAE

Betula nigra L.

Berry, *Jour. Geol.*, **15**, 1907, p. 341; *Am. Nat.*, **41**, 1907, p. 692, Pl. 2, Figs. 2-4; *Am. Nat.*, **43**, 1909, p. 435; *Am. Jour. Sci.*, **29**, 1910, p. 393; *Torreya*, **14**, 1914, p. 162, *Proc. U.S. Nat. Mus.*, **48**, 1915, p. 298; *U.S. Geol. Survey*, Prof. Paper **140**, 1925 (1926), p. 107, Pl. 47, Figs. 8-19.

The river birch is a common fossil and is found in the Talbot formation at Port Royal, Virginia; in the Chowan formation in Wayne County and the Pamlico formation at Old Mill Landing in Pitt County, North Carolina; from questionable Talbot at Abercrombie's Landing on the Chattahoochee River and 311½ miles, 328½ miles and 356 miles above Mobile on the Warrior River, Alabama; at Hickman Bluff, Kentucky; and Chicoria in Wayne County, Mississippi. I have also found it in the Pleistocene of South Carolina. The present range is from New England to the Gulf in swamps and along stream banks.

Betula pseudo-fontinales Berry

Berry, *Jour. Geol.*, **15**, 1907, p. 341; *U.S. Geol. Survey*, Prof. Paper **140**, 1925 (1926), p. 108, Pl. 48, Figs. 1, 2.

From the Chowan formation in Wayne County, North Carolina.

Betula sp.

Berry, *Proc. U.S. Nat. Mus.*, **48**, 1915, p. 298.

A few catkins of birch have been found at Hickman and Columbus, Kentucky.

Alnus rugosa (Du Roi) K. Koch.

Hollick, *Md. Geol. Survey*, Pleistocene, 1906, p. 225, Pl. 69, Figs. 1-3.
Berry, *Jour. Wash. Acad. Sci.*, **23**, 1933, p. 10, Figs. 24-27

This alder seems to be confined to the Talbot at Drum Point, Calvert County, Maryland, and at the Government Printing Office site and Bellevue Hotel site in Washington D.C. It inhabits swamps and stream banks at the present time from Maine to the Gulf.

FAGACEAE

Fagus grandifolia Ehrh.

Fagus americana Sweet. Berry, *Torreya*, **6**, 1906, p. 88. Hollick, *Md. Geol. Survey*, Pleistocene, 1906, p. 226. Berry, *Jour. Geol.*, **15**, 1907, p. 341; *Am. Nat.*, **41**, 1907, p. 692, Pl. 2, Fig. 7; *Am. Nat.*, **43**, 1909, p. 435; *Am. Jour. Sci.*, **29**, 1910, p. 393; *Torreya*, **15**, 1915, p. 206; *Proc. U.S. Nat. Mus.*, **48**, 1915, p. 229; *U.S. Geol. Survey*, Prof. Paper **140**, 1925 (1926), p. 108, Pl. 48, Figs. 3-13; *Torreya*, **27**, 1927, p. 25; *Jour. Wash. Acad. Sci.*, **23**, 1933, p. 11.

The beech has been found leaves, nuts and burrs in the Talbot at Bodkin Point, Anne Arundel County, Grace Point, Baltimore County, and Grove Point, Cecil

County, Maryland, in the Talbot at the Government Printing Office site, Washington D.C.; in Talbot at Port Royal and along the Tappahannock River, Virginia; from the Chowan in Wayne County, North Carolina; at 311½ miles above Mobile on the Warrior River and 12 miles above Montgomery in Alabama, and in questionable Talbot at Abercrombie's Landing; at Columbus, Kentucky; 4 miles north-west of Waynesboro, Wayne County, Mississippi; and 2 miles north-west of Jacksonville, Cherokee County, Texas. The beech today ranges in low woods and stream banks from Canada to northern Florida westward through Texas.

Fagus sp.

Hollick, *Md. Geol. Survey*, Pleistocene, 1906, p. 226, Pl. 7, Fig. 3.

From the Sunderland formation, Point of Rocks, Calvert County, Texas.

Castanea pumila (L.) Mill.

Lesquereux, *Am. Jour. Sci.*, **27,** 1859, p. 365. Berry, *Proc. U.S. Nat. Mus.*, **48,** 1915, p. 293; *Torreya*, **19,** 1919, p. 9.

This species is found fossil in the Mississippi valley at the Bluffs at Columbus, Kentucky, and in the 500 ft. terrace at Adamsville, McNairy County, Tennessee. At the present time it lives from New Jersey to Florida and Texas on dry sandy soil, usually in thickets.

Quercus alba L.

Quercus pseudoalba Hollick, *Md. Geol. Survey*, Pleistocene, 1906, p. 227, Pl. 70, Fig. 2; Pl. 71, Figs. 1-6.
Quercus alba Berry, *Jour. Geol.*, **15,** 1907, p. 342; *U.S. Geol. Survey*, Prof. Paper **140,** 1925 (1926), p. 108, Pl. 50, Figs. 1-5. Brown, *Jour. Wash. Sci.*, **25,** 1935, p. 443.

This white oak is reported from the Sunderland formation at Point-of-Rocks and Island Creek, Calvert County, Maryland; the North-west Branch of the Anacostia River, Washington D.C., and the Chowan formation in Wayne County, North Carolina. Today it grows from Canada to North Florida and Texas.

Quercus lyrata Walt.

Berry, *Jour. Geol.*, **15,** 1907, p. 342; *U.S. Geol. Survey*, Prof. Paper **140,** 1925 (1926), p. 110, Pl. 50, Figs. 6-9; *Torreya*, **27,** 1927, p. 25.

This overcup oak is found fossil in the Chowan formation of Wayne County, North Carolina, and 2 miles north-west of Jacksonville, Cherokee County, Texas. Today it ranges from New Jersey to Texas in Coastal Plain swamps.

Quercus platanoides (Lam.) Sudw.

Berry, *Jour. Geol.*, **15,** 1907, p. 343.

This swamp oak is from the Chowan (?) of Wayne County, North Carolina. It ranges in swamps and along streams from Canada to Georgia in the Coastal Plain.

Quercus prinus L.

Berry, *Jour. Geol.*, **15,** 1907, p. 342; *Am. Nat.*, **41,** 1907, p. 693, Pl. 1, Fig. 1; *Am. Jour. Sci.*, **29,** 1910, p. 394; *Pan-Am. Geol.*, **41,** 1924, p. 106; *U.S. Geol. Survey*, Prof. Paper **140,** 1925 (1926), p. 110, Pl. 52, Figs. 5-8; Pl. 54, Fig. 9.

This cow oak is found in the Chowan formation of Wayne County, North Carolina; on the Warrior River, 311½ miles above Mobile, and at Abercrombie's Landing, Alabama. Its present range is on the Coastal Plain from New Jersey south to Florida and west into Texas in swamps and bottoms.

Quercus michauxii Nutt

Quercus prinoides Berry, *Jour. Geol.*, **15,** 1907, p. 343.
Quercus platanoides Berry, *Jour. Geol.*, **15,** 1907, p. 343.
Quercus michauxii Berry, *Torreya*, **9,** 1909, p. 71; *Torreya*, **15,** 1915, p. 207; *U.S. Geol. Survey*, Prof. Paper **140,** 1925 (1926), p. 110, Pl. 52, Figs. 1-4.

This oak is in the Chowan formation of Wayne County, North Carolina. Its present range is the same as the last species.

Quercus virginiana Mill.

Berry, *Torreya*, **14,** 1914, p. 161; *Am. Nat.*, **41,** 1907, p. 693, Pl. 1, Fig. 2.

The live oak is from the Pleistocene of Alabama at Abercrombie's Landing and 3 miles west of Monroeville. Today it ranges in the damp woods of the Coastal Plain from Virginia into Texas.

Quercus nigra L.

Quercus marylandica Berry, *Jour. Geol.*, **15,** 1907, p. 342.
Quercus nigra Berry, ibid., p. 342; *Am. Nat.*, **41,** 1907, p. 693, Pl. 1, Figs. 3, 4; *Am. Jour. Sci.*, **29,** 1910, p. 394; *U.S. Geol. Survey*, Prof. Paper **140,** 1925 (1926), pp. 110, 111, Pl. 51, Figs. 1-7.

The water oak is found in the Chowan formation in Wayne County, North Carolina;

at Abercrombie's Landing and on the Warrior River, 311½ miles and 356 miles above Mobile. Its range today is the Coastal Plain from New Jersey southward in swamps and damp places.

Quercus phellos L.

Berry, *Jour. Geol.*, **15,** 1907, p. 342 , *Am. Nat.*, **41,** 1907, p. 694, Pl. 1, Fig. 1 ; *Am. Jour. Sci.*, **29,** 1910, p. 394 ; *Torreya*, **10,** 1910, p. 264 ; ibid., **14,** 1914, pp. 161, 162 ; *U.S. Geol. Survey*, Prof. Paper **140,** 1925 (1926), p. 110, Pl. 51, Figs. 8-23.
Brown, *Jour. Wash. Acad. Sci.*, **25,** 1935, p. 443.

The willow oak is found in deposits along the North-west Branch of the Anacostia River, Washington D.C. ; the Chowan in Wayne County, and at Dupree Landing in Pitt County, North Carolina ; 3 miles west of Monroeville, 311½ miles and 342 miles above Mobile on the Warrior River, Alabama ; and at Chicoria and Waynesboro, Mississippi. Its present range is the Coastal Plain from New York to the Rio Grande in swamps and wet places.

Quercus palustris Du Roi

Berry, *Jour. Geol.*, **15,** 1907, p. 342 ; *Torreya*, **15,** 1915, p. 207 ; *U.S. Geol. Survey*, Prof. Paper **140,** 1925 (1926), p. 109, Pl. 49, Figs. 4-6.

This swamp Spanish oak is found in the Chowan formation of Wayne County, North Carolina ; and at Indian Head, Maryland. Today it lives from New England to Tennessee in woods and swamps.

Quercus rubra L.

Brown, *Jour. Wash. Acad. Sci.*, **25,** 1935, p. 443.

The red oak is only reported from the North-west Branch of the Anacostia River, Washington D.C. Its living range is from New Jersey to the Rio Grande in the Coastal Plains.

Quercus predigitata Berry

Berry, *Jour. Geol.*, **15,** 1907, p. 342 ; *Am. Jour. Sci.*, **34,** 1912, p. 22, Figs. 4, 6 ; *Torreya*, **14,** 1914, p. 162 ; *Torreya*, **19,** 1919, p. 9 ; *U.S. Geol. Survey*, Prof. Paper **140,** 1925 (1926), p. 109, Pl. 53, Figs. 1-6.

This probable ancestor of *Quercus digitata* (Marsh.) Sudw. is found in the Chowan formation of Wayne County, North Carolina, the Pleistocene of Waynesboro, Mississippi, and the 500 ft. terrace at Adamsville, McNairy County, Tennessee.

Quercus glenii Hollick

Hollick, *Md. Geol. Survey*, Pleistocene, 1906, p. 226, Pl. 72, Figs. 3-5.

From the Sunderland formation, Island Creek, Calvert County, Maryland.

Quercus abnormalis Berry

Berry, *Jour. Geol.*, **15,** 1907, p. 342 ; *U.S. Geol. Survey*, Prof. Paper **140,** 1925 (1926), p. 109, Pl. 51, Fig. 24.

This probably hybrid oak has been found only in the Chowan formation of North Carolina.

Quercus imbricaria Michx.

Berry, *Jour. Wash. Acad Sci.*, **24,** 1934, p. 482.

The fossils of the shingle oak are from the Pleistocene, 5 miles east of Dayton, Tennessee. It seems to range outside the Coastal Plain today, from Georgia to Arkansaw.

Quercus sp.

Berry, *Jour. Wash. Acad Sci.*, **28,** 1938, p. 60.

From the Talbot of Westmorland County, Virginia.

Quercus sp.

Berry, *Proc. U.S. Nat. Mus.*, **48,** 1915, p. 299.

Two acorns from the Pleistocene of Columbus, Kentucky ; may be *Quercus alba* L.

URTICACEAE

Pilea pumila (L.) A. Gray

Berry, *Jour. Wash. Acad. Sci* , **23,** 1933, p. 12, Fig. 33.

This " clear-weed ", which today grows along the Atlantic seaboard from New Hampshire to Florida, is found fossil at the Government Printing Office site, Washington D.C.

ULMACEAE

Ulmus alata Michx.

Lesquereux, *Am. Jour. Sci.*, **27,** 1859, p. 365.
Berry, *Jour. Geol.*, **15,** 1907, p. 343 ; *Am. Nat.*, **41,** 1907, p. 694, Pl. 1, Figs. 6, 7 ; *Am. Jour. Sci.*, **29,** 1910, p. 396 ; *Proc. U.S. Nat. Mus.*, **48,** 1915, p. 299, Pl. 12, Fig. 6 , *U.S. Geol. Survey*, Prof. Paper **140,** 1925 (1926), p. 111, Pl. 54, Figs. 1, 2 ; *Jour. Wash. Acad. Sci.*, **23,** 1933, Pl. 12, Fig. 34.

This winged elm has been found in the Talbot at the Government Printing Office

site and Bellevue Hotel site, Washington D.C. ; the Chowan of Wayne County, North Carolina ; at Chalk Bluffs and Hickman, Kentucky ; at Abercrombie's Landing and 311½ miles above Mobile on the Warrior River, Alabama. The present range is river banks, swamps and woods of the Coastal Plain from Virginia to Texas.

Ulmus betuloides Hollick

Hollick, *Md. Geol. Survey*, Pleistocene, 1906, p. 228, Pl. 70, Fig. 1

From the Sunderland formation at Point of Rocks, Calvert County, Md.

Ulmus pseudo-racemosa Hollick

Hollick, *Md. Geol. Survey*, Pleistocene, 1906, p. 228, Pl. 71, Figs. 11-13.

From the Sunderland formation at Island Creek, Calvert County, Maryland.

Ulmus sp.

Hollick, *Md. Geol. Survey*, Pleistocene, 1906, p. 229, Pl. 69, Fig. 10.

This fragment is close to *Ulmus racemosa* Thomas and is from the Talbot at Grove Point, Cecil County, Maryland.

Planera aquiatica (Wolt.) Gmel.

Planera gmelin Michx. Lesquereux, *Am. Jour. Sci.*, **27,** 1859, p. 365.
Planera aquiatica Hollick, *Torry Bot. Club Bull.*, **19,** 1892, p. 332. Berry, *Jour. Geol.*, **15,** 1907, p. 343 ; *Proc. U.S. Nat. Mus.*, **48,** 1915, p. 300 , *U.S. Geol. Survey*, Prof. Paper **140,** 1925 (1926), p. 111, Pl. 54, Figs. 4, 5.

This water elm is found in the Pleistocene of Bridgetown, New Jersey ; the Chowan of Wayne County, North Carolina ; and the Bluffs at Hickman and Columbus, Kentucky. Today it lives in the swamps and river bottoms of the Coastal Plain south of North Carolina.

Planera ungeri Ett.

Hollick, *Md. Geol. Survey*, Pleistocene, 1906, p. 229, Pl. 71, Figs. 14, 15.

From the Sunderland formation, Island Creek, Calvert County, Maryland.

Celtis occidentalis L.

Berry, *Am. Nat.*, **43,** 1909, p. 435 ; *U.S. Geol. Survey*, Prof. Paper **140,** 1925 (1926), p. 111, Pl. 54, Fig. 3.

This species is from the Talbot of Port Royal, Virginia, and the Chowan of Wayne County, North Carolina. This is outside its present range as it seldom grows in the Coastal Plain and ranges from South Carolina to Alabama and Oklahoma.

Celtis mississippi Bosc.

Berry, *Torreya*, **19,** 1919, p. 10.

From the Pleistocene loess at Vicksburg, Mississippi, while now living from Washington D.C. to Florida and Texas.

Celtis pseudo-crassifolia Hollick

Hollick, *Md. Geol. Survey*, Pleistocene, 1906, p. 230, Pl. 71, Fig. 9.

This form from the Sunderland of Island Creek, Calvert County, Maryland, might be referred to *C. occidentalis* L. and probably should be.

POLYGONACEAE

Polygonum hydropiperoides Michx.

Berry, *Jour. Wash. Acad. Sci.*, **14,** 1924, p. 19, Pl. 1, Figs. 19, 20.
Brown, *Jour. Wash. Acad. Sci.*, **25,** 1935, p. 443.

Only fossil from the Pleistocene of the Walker Hotel site and the North-west Branch of the Anacostia River, Washington D.C. Living today in swamps and wet places of almost entire North America.

Polygonum sp.

Berry, *Jour. Wash. Acad. Sci.*, **14,** 1924, p. 19, Pl. 1, Fig. 23.

From the Walker Hotel site, Washington D.C.

Polygonum sp.

Berry, *Jour. Wash. Acad. Sci.*, **23,** 1933, p. 14, Figs. 39, 40.

From the Talbot of the Bellevue Hotel site, Washington D.C.

Polygonum sp.

Berry, *Jour. Wash. Acad. Sci.*, **23,** 1933, p. 14, Fig. 41

From the Talbot of the Government Printing Office site, Washington D.C.

Polygonum sp.

Berry, *Torreya*, **14,** 1914, p. 160 ; *U.S. Geol. Survey*, Prof. Paper **140,** 1925 (1926), p. 112.

From the Chowan of Wayne County, North Carolina.

Polygonum sp.

Hollick, *Md. Geol. Survey*, Pleistocene, 1906, p. 231

From the Talbot of Grove Point, Cecil County, and Grace Point, Baltimore County, Maryland.

Polygonum sp.

Brown, *Jour. Wash. Acad. Sci.*, **25**, 1935, p. 443.

From the North-west Branch of the Anacostia River, Washington D.C.

Persicaria pennsylvanicum (L.) Small

Berry, *Jour. Wash. Acad. Sci.*, **23**, 1933, p. 13, Figs. 37, 38.

From the Talbot of the Government Printing Office site, Washington D.C., while today it grows in waste places from Canada to the Rio Grande.

Persicaria sp.

Berry, *Torreya*, **22**, 1922, p. 11

From the Pleistocene, 5½ miles north-west of Covington, Tipton County, Tennessee.

CHENOPODIACEAE

Cycloloma atriplicifolium (Spren.) Coult.

Berry, *Jour. Wash. Acad. Sci.*, **23**, 1933, pp. 14, 15, Fig. 42.

From the Government Printing Office site, Washington D.C.; today ranges from New England to the Gulf.

Chenopodium sp.

Berry, *Jour. Wash. Acad. Sci.*, **14**, 1924, p. 19, Pl. 1, Fig. 24.

From the Walker Hotel site, Washington D.C., which today is common in most of all waste places.

PHYTOLACCACEAE

Phytolacca decandra L.

Berry, *Torreya*, **14**, 1914, p. 21; *Jour. Wash. Acad. Sci.*, **14**, 1924, p. 19, Pl. 1, Figs. 26-28, ibid., **23**, 1933, p. 14; ibid., **28**, 1938, p. 60
Brown, ibid., **25**, 1935, p. 443.

This species is recorded from the Walker Hotel site and the North-west Branch of the Anacostia River, Washington D.C.; the Talbot of Westmorland County, Virginia; and at Abercrombie's Landing, Alabama. Recently I found it fossil in South Carolina. Today the pokeweed grows from Maine to Texas in waste places.

PORTULACACEAE

Claytonia virginica L.

Brown, *Jour. Wash. Acad. Sci.*, **25**, 1935, p. 443.

From the North-west Branch of the Anacostia River, Washington D.C., which today range the Coastal Plain from Virginia to Georgia and Texas.

CERATOPHYLLACEAE

Ceratophyllum demersum L.

Berry, *Jour. Wash. Acad. Sci.*, **14**, 1924, p. 20, Pl. 1, Figs. 33-35.

This hornweed is known from the Walker Hotel site in Washington D.C. and is living from Canada to the Gulf Coast in shallow ponds and slow streams.

RANUNCULACEAE

Ranunculus sp.

Berry, *Jour. Wash. Acad Sci.*, **14**, 1924, p. 20, Pl. 1, Figs. 29-31

From the Walker Hotel site, Washington D.C., possible Wicomico formation.

Ranunculus sp.

Berry, *Jour. Wash. Acad. Sci.*, **23**, 1933, p. 15, Fig. 43 and Fig. 14.

Two different species from the Talbot of the Government Printing Office site, Washington D.C.

There are some 275 species of *Ranunculus* growing in temperate and cold climates.

MAGNOLIACEAE

Liriodendron tulipifera L.

Berry, *Am. Nat.*, **41**, 1907, p. 695; *Torreya*, 9, 1909, p. 71, Fig. 1; *Am. Jour. Sci.*, **29**, 1910, p. 396; *Torreya*, **15**, 1915, p. 208, Fig. 1; *U.S. Geol. Survey*, Prof. Paper **140**, 1925 (1926), p. 112, Pl. 54, Figs. 6-8; *Jour. Wash. Acad.*, **23**, 1933, p. 18, Figs. 28-32, 45-47.
Brown, *Jour. Wash. Acad. Sci.*, **25**, 1935, p. 443.

The tulip tree has been found fossil at Indian Head, Maryland, from the Talbot at the Government Printing Office and Bellevue Hotel sites and the North-west Branch of the Anacostia River, Washington D.C.; from the Wicomico of Northampton County

North Carolina and Abercrombie's Landing, Alabama.

MENISPERMACEAE

Cebatha carolina (L.) Britt.

Berry, *Proc. U.S Nat. Mus.*, **48,** 1915, p. 300, Pl. 12, Figs. 3-5.

From the river bluffs at Hickman and Columbus, Kentucky.

CABOMBACEAE

Brasenia schreberi Gmel.

Brasenia purpurea (Michx.) Casp. Berry, *Jour. Geol.*, **25,** 1917, p. 662 ; *Fla. Geol. Survey*, 9th Ann. Rept. 1917, p. 26 ; *Torreya*, **27,** 1927, p. 24, Figs. 1-4.

This water shield has been found in the Pleistocene deposits at Vero, Florida, and between Paris and Whitlock, Tennessee. I have specimens from South Carolina. It lives today in ponds and still water from Canada to the Gulf of Mexico.

NYMPHAEACEAE

Castalia sp.

Berry, *Jour. Wash. Acad. Sci.*, **14,** 1924, p. 19, Pl. 1, Fig. 25.

From the Walker Hotel site, Washington D.C. There are some 40 species of *Castalia* with a very wide range.

ALTINGIACEAE

Liquidamber styraciflua L.

Hollick, *Bull. Torrey Bot. Club.*, **19,** 1892, p. 331. Berry, *Jour. Geol.*, **15,** 1907, p. 343 ; *Am. Jour. Sci.*, **29,** 1910, p. 397 ; *U.S. Geol. Survey*, Prof. Paper **140,** 1925 (1926), p. 113, Pl. 56, Figs. 9, 10 ; *Jour. Wash. Acad. Sci.*, **23,** 1933, p. 18.

The sweet gum has been recorded from the Pleistocene of Bridgetown, New Jersey ; the Talbot of the Government Printing site, Washington D.C. ; the Chowan of Wayne County, North Carolina ; and on the Warrior River, 311½ miles above Mobile, Alabama. Today it ranges in good soils throughout the Coastal Plain.

PLATANACEAE

Platanus occidentalis L.

Platanus aceroides Hollick not Goeppert. Hollick, *Md. Geol. Survey*, Pleistocene, 1906, pp. 231, 232, Pls. 73, 74.

Platanus occidentalis Berry, *Jour. Geol.*, **15,** 1907, p. 344 ; *Am. Nat.*, **41,** 1907, p. 695, Pl. 2, Fig. 5 ; *Am. Jour. Sci.*, **29,** 1910, p. 397 ; *Torreya*, **14,** 1914, p. 161 ; ibid., **16,** 1915, p. 207 ; *U.S. Geol. Survey*, Prof. Paper **140,** 1925 (1926), p. 112, Pl. 55, Figs. 1-9 ; *Jour. Wash. Geol. Sci.*, **23,** 1933, p. 11. Brown, *Jour. Wash. Acad. Sci.*, **25,** 1935, p. 443.

This sycamore is recorded from the Sunderland of Island Creek and the Pleistocene of Indian Head, Maryland ; the North-west Branch of the Anacostia River, and the Talbot of the Government Printing Office site, Washington D.C. ; the Chowan of Wayne County, North Carolina ; from 3 miles west of Monroeville, at Abercrombie's Landing, 328½ miles and 356 miles above Mobile on the Warrior River and 12 miles above Montgomery on the Alabama River, Alabama. Today it ranges from Maine to the Rio Grande on low ground near streams. It will also stand the adverse conditions along city streets.

Platanus sp.

Hollick, *Md. Geol. Survey*, Pleistocene, 1906, p. 232, Pl. 75.

From the Sunderland of Point of Rocks, Calvert County, Maryland.

ROSACEAE

Rubus sp.

Berry, *Jour. Geol.*, **15,** 1907, p. 344.

Neuse River, N.C.

Berry, *Torreya*, **14,** 1914, p. 161

Abercrombie's Landing, Alabama.

Berry, *Jour. Wash. Acad. Sci.*, **14,** 1924, p. 20, Pl. 2, Fig. 1.

Wicomico at Walker Hotel site, Washington D.C.

Berry, *U.S. Geol. Survey*, Prof. Paper **140,** 1925 (1926), p. 113, Pl. 56, Fig. 8.

Chowan formation, Wayne County, North Carolina.

Berry, *Jour. Wash. Acad. Sci.*, **23,** 1933, p. 19, Figs. 48, 49.

Talbot, Government Printing Office site, Washington D.C.

Brown, *Jour. Wash. Acad. Sci.*, **25,** 1935, p. 443.

North-west Branch of the Anacostia River, Washington D.C.

As there are some 200 species of black berries known in the north Temperate Region, it is impossible to determine these half-dozen collections.

MALACEAE

Malus coronariafolia Berry

Berry, *Jour. Geol.*, **15,** 1907, p. 344; *U.S. Geol. Survey*, Prof. Paper **140,** 1925 (1926), p. 113, Pl. 56, Fig. 3.

From the Chowan formation of Wayne County, North Carolina. This apple is very close to *Malus coronaria* (L.) Mill. which grows from North Carolina to Canada.

Malus pseudoangustifolia Berry

Berry, *U.S. Geol. Survey*, Prof. Paper **140,** 1925 (1926), p. 113, Pl. 56, Figs. 1, 2.

Known only from the Chowan of Wayne County, North Carolina.

Crataegus spathulatoides Berry

Berry, *Jour. Geol.*, **15,** 1907, p. 344, *U.S. Geol. Survey*, Prof. Paper **140,** 1925 (1926), p. 114, Pl. 56, Fig. 4.

Known only from the Chowan of Wayne County, North Carolina.

Crataegus coccineafolia Berry

Berry, *Jour. Geol.* **15,** 1907, p. 345; *U.S. Geol. Survey*, Prof. Paper **140,** 1925 (1926), p. 114, Pl. 56, Figs. 5-7.

Known only from the Chowan of Wayne County, North Carolina.

AMYGDALACEAE

Prunus serotina Ehrh.?

Berry, *Jour. Wash. Acad. Sci.*, **24,** 1924, p. 20, Pl. 2, Figs. 2, 3.
Brown, ibid., **25,** 1935, p. 443.

From the Walker Hotel site and the North-west Branch of Anacostia River, Washington D.C.

Prunus merriami Knowlton

Hollick, *Md. Geol. Survey*, Pleistocene, 1906, p. 233, Pl. 77, Fig. 2.

From the Sunderland at Island Creek, Calvert County, Maryland.

CASSIACEAE

Cercis canadensis L.

Berry, *Torreya*, **11,** 1909, p. 72, Fig. 2; *U.S. Geol. Survey*, Prof. Paper **140,** 1925 (1926), p. 114, Pl. 57, Figs. 10, 11.

The redbud is found on the Neuse River and the Wicomico of Northampton County, North Carolina. This tree ranges from southern New England to the Gulf Coast.

Cassia sp.?

Hollick, *Md. Geol. Survey*, Pleistocene, 1906, p. 233, Pl. 71, Fig. 20.

From the Sunderland of Island Creek, Calvert County, Maryland.

FABACEAE

Robina pseudocacia L.

Hollick, *Md. Geol. Survey*, Pleistocene, 1906, p. 234, Pl. 69, Fig. 4.

From the Talbot of Bodkin Point, Anne Arundel County, Maryland.

Meibomia paniculata (L.) Kuntze

Berry, *Torreya*, **22,** 1922, p. 11.

From 5½ miles north-west of Covington, Tipton County, Tennessee. These "stick-tights" range from Maine to Texas on dry soil.

BALSAMINACEAE

Impatiens biflora Walt.

Brown, *Jour. Wash. Acad. Sci.*, **25,** 1935, p. 443.

This water-loving Jewel weed, which ranges from Newfoundland to Florida, is found fossil on the North-west Branch of the Anacostia River, Washington D.C.

EUPHORBIACEAE

Acalypha virginica L.

Berry, *Jour. Wash. Acad. Sci.*, **14,** 1924, p. 21, Pl. 2, Fig. 10.

From the Walker Hotel site, Washington D.C. Today it grows in woods and along stream banks from central New England to Georgia and Texas.

SPONDIACEAE

Rhus glabra L.

Brown, *Jour. Wash. Acad. Sci.*, **25,** 1935, p. 443.

This red sumac is found fossil on the North-west Branch of the Anacostia River, Washington D.C., and living from Canada to northern Florida and Louisiana.

AQUIFOLIACEAE

Ilex cassine L.

Berry, *Am. Nat.*, **43**, 1909, p. 436.

This holly is found in the Talbot of Port Royal, Virginia. Its living range is the Coastal Plain from southern Virginia to Florida in swamps and along stream banks.

Ilex vomitoria Ait.

Berry, *Jour. Wash. Acad. Sci.*, **23**, 1933, p. 20, Figs. 55, 56.

From the Talbot at the Government Printing Office site, Washington D.C., and living in the Coastal Plain on sandy areas from Virginia to the Gulf of Mexico.

Ilex opaca Ait.

Hollick, *Bull. Torrey Bot. Club*, **19**, 1892, p. 331. Berry, *Jour. Geol.*, **15**, 1907, p. 345 ; *Am. Nat.*, **41**, 1907, p. 696, Pl. 2, Fig. 1 ; *Jour. Wash. Acad. Sci.*, **14**, 1924, p. 21, Pl. 2, Figs. 4, 5 ; *U.S. Geol. Survey*, Prof. Paper **140**, 1925 (1926), p. 115, Pl. 56, Figs. 11, 12.

This common holly is recorded from Bridgetown, New Jersey ; the Walker Hotel site, Washington D.C. ; the Chowan formation of Wayne County, North Carolina ; and from Abercrombie's Landing, Alabama. Its living range is from New England to the Gulf Coast along river banks and in damp places.

Ilex sp.

Berry, *Proc. U.S. Nat. Mus.*, **48**, 1915, p. 300.

This species (?) is recorded from the river bluffs at Hickman, Kentucky.

STAPHYLEACEAE

Staphylea trifolia L.

Brown, *Jour. Wash. Acad. Sci.*, **25**, 1935, p. 443.

This bladdernut is recorded from the North-west Branch of the Anacostia River, Washington D.C. Its present range is from Canada to Georgia and westward.

ACERACEAE

Acer saccharum L.

Berry, *Am. Jour. Sci.*, **29**, 1910, p. 397.

This maple is recorded from 356 miles above Mobile on the Warrior River and at Abercrombie's Landing, Chattahoochee River, Alabama. Today it ranges from Newfoundland to Georgia and Texas outside the Coastal Plain.

Acer rubrum L.

Berry, *Am. Jour. Sci.*, **29**, 1910, p. 397.

This swamp maple is only recorded from 328½ miles above Mobile on the Warrior River, Alabama. Today it ranges from Canada to the Gulf of Mexico.

Acer sp. ?

Hollick, *Md. Geol. Survey*, Pleistocene, 1906, p. 234, Pl. 71, Figs. 7, 8.

From the Sunderland formation on Island Creek, Calvert County, Maryland.

SAPINDACEAE

Sapindus marylandicus Hollick

Hollick, *Md. Geol. Survey*, Pleistocene, 1906, p. 234, Pl. 72, Figs. 11-14.

From the Sunderland formation of Island Creek, Calvert County, Maryland.

FRANGULACEAE

Zizyphus sp.

Berry, *Torreya*, **10**, 1910, p. 261

From the Talbot at Long Branch, New Jersey. It may belong to some other genus as *Zizyphus* is considered an introduced genus.

VITACEAE

Vitis cordifolia Michx.

Berry, *Jour. Wash. Acad. Sci.*, **14**, 1924, p. 21, Pl. 2, Figs. 6-9 ; ibid., **23**, 1933, p. 20, Figs. 51, 52.

The fossil sand grape is recorded from the Walker Hotel site and the Talbot of the Government Printing Office site, Washington D.C. Today it lives from Pennsylvania to Texas outside the Coastal Plain.

Vitis cf. *aestivalis* Michx.

Berry, *Torreya*, **10**, 1910, p. 262.

From the Talbot of Long Branch, New Jersey. Today it ranges from New Hampshire to the Gulf Coast.

Vitis pseudo-rotundiflora Berry

Berry, *Torreya*, **10**, 1910, p. 262.

From the Talbot of Long Branch, New Jersey.

Vitis sp.

Berry, *Torreya*, **6**, 1906, p. 18.

Talbot, Tappahannock, Virginia.

Hollick, *Md. Geol. Survey*, Pleistocene, 1906, p. 235.

Talbot, Bodkin, Grove and Drum Points, Maryland.

Berry, *Jour. Geol.*, **15**, 1907, p. 345; *U.S. Geol. Survey*, Prof. Paper **140**, 1925 (1926), p. 115, Pl. 57, Fig. 6.

Chowan of Wayne County, North Carolina.

Berry, *Jour. Wash. Acad. Sci.*, **23**, 1933, p. 20, Figs. 53, 54.

Talbot, Government Printing Office site, Washington D.C.

Brown, *Jour. Wash. Acad. Sci.*, **25**, 1935, p. 443.

North-west Branch, Anacostia River, Washington D. C.

Berry, *Jour. Wash. Acad. Sci.*, **28**, 1938, p. 60.

Talbot, Westmorland County, Virginia. This last is a series of tendrils which are common as well in the Pleistocene of South Carolina.

Ampelopsis (?) sp.

Berry, *Jour. Wash. Acad. Sci.*, **14**, 1924, p. 22, Pl. 2, Fig. 19.

This is from the Walker Hotel site, Washington D.C., and may be *Vitis*.

TILIACEAE

Tilia americana L.

Brown, *Jour. Wash. Acad. Sci.*, **25**, 1935, p. 444.

Recorded from the North-west Branch of the Anacostia River, Washington D.C., although it ranges today from Canada to Georgia and west into Texas.

Tilia dubia (Newb.) Berry

Berry, *Torreya*, **7**, 1907, p. 80.

From the Pleistocene of Fish House, New Jersey.

CISTACEAE

Helianthemum sp.

Berry, *Jour. Wash. Acad. Sci.*, **23**, 1933, p. 21, Figs. 57-59.

From the Talbot, Government Printing Office site, Washington D.C.

LAURACEAE

Persea pubescens (Pursh.) Sarg.

Berry, *Jour. Geol.*, **15**, 1907, p. 345; *U.S. Geol. Survey*, Prof. Paper **140**, 1925 (1926), p. 115, Pl. 57, Fig. 5, *Torreya*, **14**, 1914, p. 161

This is recorded from the Chowan of Wayne County, North Carolina, and the Pleistocene, 3 miles west of Monroeville, Alabama.

Persea borbonia Spreng. (?)

Berry, *Torreya*, **27**, 1927, p. 27.

From 2 miles north-west of Jacksonville, Texas.

Sassafras variifolium L.

Brown, *Jour. Wash. Acad. Sci.*, **25**, 1935, p. 443.

From the North-west Branch of the Anacostia River, Washington D.C.

NYSSACEAE

Nyssa sylvatica Marsh

Berry, *Proc. U.S. Nat. Mus.*, **48**, 1915, p. 301; *Jour. Wash. Acad. Sci.*, **23**, 1933, p. 22, Fig. 63. Brown, ibid., **25**, 1935, p. 443.

This black gum is reported from the Bellevue Hotel site and the North-west Branch of the Anacostia River, Washington D.C., and from the Bluffs at Hickman, Kentucky. I have found it in the Pleistocene of South Carolina. It seems to grow in wet or dry places from Maine to Texas.

Nyssa biflora Walt.

Nyssa caroliniana Poir. Hollick, *Bull. Torrey Bot. Club*, **19**, 1892, p. 331
Nyssa biflora Hollick, *Md. Geol. Survey*, Pleistocene, 1906, p. 235, Pl. 60, Fig. 5. Berry, *Torreya*, **6**, 1906, p. 90; *Jour. Geol.*, **15**, 1907, p. 345, *Am. Jour. Sci.*, **29**, 1910, p. 398, *Torreya*, **10**, 1910, p. 266; *U.S. Geol. Survey*, Prof. Paper **140**, 1925 (1926), p. 115. Pl. 57, Fig. 4.

This tupelo is recorded from Bridgetown and Fish House, New Jersey; the Talbot of Drum and Bodkin Points, Maryland; the Talbot of Tappahannock, Virginia; the Chowan of Wayne County, and the Pamlico of Bertie County, North Carolina. Today it ranges from New Jersey and Delaware south to the Gulf in swamps and pond margins.

Nyssa sp.

Hollick, *Md. Geol. Survey*, Pleistocene, 1906, p. 236.

Talbot of Bodkin, Grace and Drum Points, Maryland.

Cornus amomum Mill.

Berry, *Jour. Wash. Acad. Sci.*, **14**, 1924, p. 22, Pl. 2, Figs. 15-18.
Brown, ibid., **25**, 1935, p. 443.

Recorded from the Walker Hotel site and the North-west Branch of the Anacostia River, Washington D.C. Now growing along stream banks and in wet places from Newfoundland to the Gulf.

Cornus florida L.

Berry, *Jour. Wash. Acad. Sci.*, **23**, 1933, pp. 21, 22, Figs. 61, 62.
Brown, ibid., **25**, 1935, p. 443.

Recorded from the Talbot of the Government Printing Office site and the North-west Branch of the Anacostia River, Washington D.C., now ranging from Maine to Florida and Texas.

Cornus paniculata L.

Brown, *Jour. Wash. Acad. Sci.*, **25**, 1935, p. 443.

From the North-west Branch of the Anacostia River, Washington D.C.

ERICACEAE

Dendrium pleistocenicum Berry

Berry, *Jour. Geol.*, **15**, 1907, p. 346 ; *Am. Nat.*, **43**, 1909, p. 436 ; *U.S. Geol. Survey*, Prof. Paper **140**, 1925 (1926), p. 116, Pl. 57, Figs. 1, 2.

Recorded from the Talbot of Port Royal, Virginia, and the Chowan of Wayne County, North Carolina.

Leucothoe racemosa (L.) A. Gray

Berry, *Jour. Wash. Acad Sci.*, **14**, 1924, p. 22, Pl. 2, Figs. 11-14.

Recorded from the Walker Hotel site, Washington D.C.

Xolisma ligustrina (L.) Britt.

Hollick, *Md. Geol. Survey*, Pleistocene, 1906, p. 236, Pl. 69, Fig. 16.
Berry, *Jour. Geol.*, **15**, 1907, p. 346 ; *Am. Nat.*, **41**, 1907, p. 696, Pl. 2, Fig. 6 ; *Am. Jour. Sci.*, **29**, 1910, p. 398 ; *Proc. U.S. Nat. Mus.*, **48**, 1915, p. 301, Pl. 12, Fig. 1 ; *U.S. Geol. Survey*, Prof. Paper **140**, 1925 (1926), p. 116, Pl. 57, Fig. 12.

Recorded from the Talbot of Bodkin Point, Maryland ; the Chowan of Wayne County, North Carolina ; the Talbot (?) of Abercrombie's Landing and 311½ miles above Montgomery on the Warrior River, Alabama ; and the Bluffs at Hickman, Kentucky. Today it grows from Canada to Florida.

VACCINIACEAE

Vaccinium corymbosum L.

Hollick, *Md. Geol. Survey*, Pleistocene, 1906, p. 236, Pl. 69, Figs. 7-9.
Berry, *Jour. Geol.*, **15**, 1907, p. 346 ; *Am. Jour. Sci.*, **29**, 1910, p. 398 ; *U.S. Geol. Survey*, Prof. Paper **140**, 1925 (1926), p. 116, Pl. 57, Figs. 8, 9.

Recorded from the Talbot of Drum Point, Maryland ; the Chowan of Wayne County and the Pamlico of Bertie County, North Carolina ; and the Pleistocene at 311½ miles above Mobile on the Warrior River, Alabama. Today it ranges from Canada to Florida and Louisiana in swamps and moist woods.

Vaccinium arboreum Marsh.

Berberis sp. Berry, *Jour. Geol.*, **15**, 1907, p. 343. *Vaccinium arboreum* Berry, *Torreya*, **9**, 1909, p. 73 ; *Am. Jour. Sci.*, **29**, 1910, p. 398 ; *U.S. Geol. Survey*, Prof. Paper **140**, 1925 (1926), p. 116, Pl. 57, Fig. 7.

Recorded from the Chowan of Wayne County, North Carolina, and 12 miles above Montgomery, Alabama, on the Alabama River.

Vaccinium spatulatum Berry

Berry, *Jour. Geol.*, **15**, 1905, p. 346 ; *U.S. Geol. Survey*, Prof. Paper **140**, 1925 (1926), p. 116, Pl. 57, Fig. 3.

Recorded from the Chowan of Wayne County, North Carolina.

SAPOTACEAE

Bumelia pseudo-lanuginosa Hollick

Hollick, *Md. Geol. Survey*, Pleistocene, 1906, p. 236, Pl. 71, Figs. 18, 19.

Recorded from the Sunderland, Island Creek, Calvert County, Maryland.

OLEACEAE

Fraxinus americana L.

Berry, *Proc. U.S. Nat. Mus.*, **48**, 1915, p. 301.

Recorded from the Bluffs at Hickman, Kentucky. Living today from Nova Scotia to the Gulf of Mexico.

BIGNONIACEAE

Tecoma preradicans Berry

Berry, *Proc. U.S. Nat. Mus.*, **48**, 1915, p. 302, Pl. 13, Figs. 1-5.

Recorded from the Bluffs at Columbus and Hickman, Kentucky.

LORANTHACEAE

Phoradendron flavescens (Pursh.) Nutt.

Berry, *Am. Jour. Sci.*, **29,** 1910, p. 387.

Recorded from Ambercrombie's Landing, and 356 miles above Mobile on the Warrior River, Alabama. I have found it in the Pleistocene of South Carolina.

RUBIACEAE

Galium sp.

Berry, *Jour. Wash. Acad. Sci.*, **14,** 1924, p. 23, Pl. 2, Fig. 20.

Recorded from the Walker Hotel site, Washington D.C. One of some 250 widely distributed species.

CAPRIFOLIACEAE

Sambucus canadensis L.

Berry, *Jour. Wash. Acad. Sci.*, **14,** 1924, p. 23, Pl. 2, Figs. 21-24; ibid., **23,** 1933, pp. 22, 23, Fig. 60.
Brown, *Jour. Wash. Acad. Sci.*, **25,** 1935, p. 443.

Recorded from the North-west Branch of the Anacostia River, the Wicomico of the Walker Hotel site and the Talbot of the Government Printing Office site, Washington D.C. I have found it in the Pleistocene of South Carolina. It ranges today from New Brunswick to Georgia and Texas.

Viburnum acerifolium L.

Brown, *Jour. Wash. Acad. Sci.*, **25,** 1935, p. 443.

Recorded from the North-west Branch of the Anacostia River, Washington D.C. Ranges living from New Brunswick to Georgia.

Viburnum nudum L. (?)

Berry, *Torreya*, **14,** 1914, p. 160; *Jour. Geol.*, **25,** 1917, p. 662; *Fla. Geol. Survey*, 9th Ann. Report 1917, p. 29; *Torreya*, **22,** 1922, p. 11; *Jour. Wash. Acad. Sci.*, **14,** 1924, p. 23, Pl. 2, Fig. 25; *U.S. Geol. Survey*, Prof. Paper **140,** 1925 (1926), p. 117.

Recorded from the Walker Hotel site, Washington D.C.; the Chowan of Wayne County, North Carolina; Vero, Florida; near Mountain Creek, Alabama; and 5½ miles north-west of Covington, Tennessee. Today ranges the Coastal Plain from New England to Mexico.

Viburnum prunifolium L. (?)

Brown, *Jour. Wash. Acad. Sci.*, **25,** 1935, p. 443.

Recorded from the North-west Branch of the Anacostia River, Washington D.C.

Viburnum molle Michx.

Berry, *Torreya*, **14,** 1914, p. 160; *U.S. Geol. Survey*, Prof. Paper **140,** 1925 (1926), p. 117.

Recorded from the Chowan of Wayne County, North Carolina.

Viburnum sp.

Berry, *Jour. Wash. Acad. Sci.*, **24,** 1924, p. 23, Pl. 2, Fig. 30.

Recorded from the Walker Hotel site, Washington D.C.

AMBROIACEAE

Xanthium sp.

Berry, *Jour. Wash. Acad. Sci.*, **23,** 1933, p. 23, Fig. 66.

Recorded from the Government Printing Office site, Washington D.C. I have a similar one from the Pleistocene of South Carolina. There are about 30 different species widely distributed.

CARDUCEAE

Bidens sp.

Berry, *Jour. Wash. Acad. Sci.*, **23,** 1933, p. 23, Fig. 64, 65.

Recorded from the Talbot of the Bellevue Hotel site, Washington D.C. There are 75 living species widely distributed.

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