

a true chloronym or not. For instance, *Parryella* A. Gray (1868), named for Dr. C. C. Parry, is not a chloronym of *Parrya* R. Br. (1824), named for Capt. W. E. Parry; and *Pringleophytum* A. Gray (1885), named for Mr. C. G. Pringle, is not a chloronym of *Pringlea* Anders. (1845), named for Sir John Pringle. As there is no law compelling an author who proposes a new generic name to give the derivation of that name, it is often a matter of mere guess-work whether two names which might be of the same derivation are actually so. Perhaps Professor Greene has some means of determining facts like these.

PLEISTOCENE PLANTS FROM VIRGINIA

BY EDWARD W. BERRY

The investigation of American Pleistocene floras stands in striking contrast to the splendid results of European research, due mainly to more intensive methods of collecting and study there pursued. Aside from the work of Penhallow and a few scattered papers by Lesquereux, Knowlton and others, practically nothing has been done in this country. While leaf-impressions may not be common in the Pleistocene clays, careful search of swamp deposits by a sort of placer-mining process is almost sure to yield an interesting collection of seeds many of which are readily identifiable.

The material upon which the following notes are based consisted of a small quantity, perhaps a pound in all, of hard lignite collected by Dr. B. L. Miller, of Bryn Mawr College, and deposited in the collections of the Johns Hopkins University. It was collected at Tappahannock on the Rappahannock River, Virginia, and is from the Talbot formation, the latest Pleistocene formation recognized.

FAGUS AMERICANA Sweet.

Fagus ferruginea Michx. Lesq. Am. Jour. Sci. **27**: 363. 1859.
Geol. Tenn. 427. *pl. K. f. 11*. 1869.—Knowlton, Am. Geol.
18: 371. 1896.

Nuts indistinguishable from those of the American beech are occasionally present. They are somewhat distorted, although

a few are perfect except for being somewhat flattened by pressure. While the beech is decidedly a later Tertiary type, remains have been found as far back as the mid-Cretaceous, both in this country and Europe. It has been detected also in the Pliocene of Europe and Japan, and the present species occurs in the Pleistocene (?) at Somerville, Fayette County, Tenn., and in the glacial at Morgantown, West Virginia. While over a score of fossil species are known, the existing flora contains but four, the American, the European, and two from Japan, evidently the surviving descendants of a once dominant and widespread genus.

VITIS sp.

A single grape-seed was found, showing the characteristic raphe. I have not ventured, however, to identify it specifically. Among the fragments of bark and stems of which the lignite largely consists are a number of stems that have every appearance of belonging to the vine. Grapes are first recorded from the uppermost Cretaceous, becoming abundant in the Miocene. The European Tertiary has furnished two Pliocene and two Pleistocene forms, but none has been recorded, so far as I know, from the American Pleistocene.

HICORIA GLABRA (Mill.) Britton.

Remains consist of one perfect specimen of the nut and several fragments. Shells are worn and do not show angles. While small for this species, 13 mm. in diameter, they have the characteristic very thick shell. This is the first recorded fossil occurrence of the pig nut, although the pecan has been found in the Pleistocene of Kentucky and the shagbark in that of Canada. The genus appears doubtfully in the upper Cretaceous and is one of the dominant Tertiary types.

TAXODIUM DISTICHUM (L.) Rich.

Cone-scales of this species are common, a dozen being found in the small amount of material examined. This was to be expected from the frequent occurrence of stumps in the Pleistocene. The genus appears in the upper Cretaceous and is one of the abundant conifers of the Miocene.

NYSSA BIFLORA Walt.

A single seed belonging to this species was found. The genus appears in the mid-Cretaceous and becomes abundant in the late Tertiary, the fruits being very common in the lignites of Brandon, Vermont, from which Perkins has recorded no less than seventeen distinct species.

None of the foregoing species furnishes any very definite data in regard to the climate of Talbot times, all being wide-ranging forms in the existing flora. Thus the beech ranges from Nova Scotia to Florida, as do some species of grape. The pignut hickory ranges from Maine to Florida and Texas; the cypress from Delaware to Florida, and the black gum from New Jersey to Florida and Louisiana.

Judging from the range as above given, we would not expect the climate of this river swamp in Virginia to have been colder than obtains in like surroundings in New Jersey at the present day. Temperatures were probably higher, as they were undoubtedly more uniform than in the adjacent uplands, the species all indicating a low, close stand of timber, the gum and cypress being characteristic swamp forms, the vine a lover of low thickets, the beech and pignut, especially the former, also preferring deep, damp woods.

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REVIEWS

Burgess's Species and Variations of Biotian Asters *

Here is a notable work notably performed, and one which responds in full measure to a long insistent need. Of all the larger groups of flowering plants in our eastern flora not another one, perhaps, now that enlightenment has dawned in the realms of hawthorn and of violet, has so pressed upon the student its need of re-interpretation as the asters — plants full of allurements and delight to the hopeful beginner, to the systematist recondite

* Burgess, Edward Sandford. Studies in the History and Variations of Asters. Part II. Species and Variations of Biotian Asters with Discussion of Variability in Aster. Mem. Torrey Club 13: i-xv + 1-419. f. 1-108. 15 Mr 1906. Price \$3.00.



Berry, Edward Wilber. 1906. "PLEISTOCENE PLANTS FROM VIRGINIA." *Torrey* 6(5), 88–90.

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