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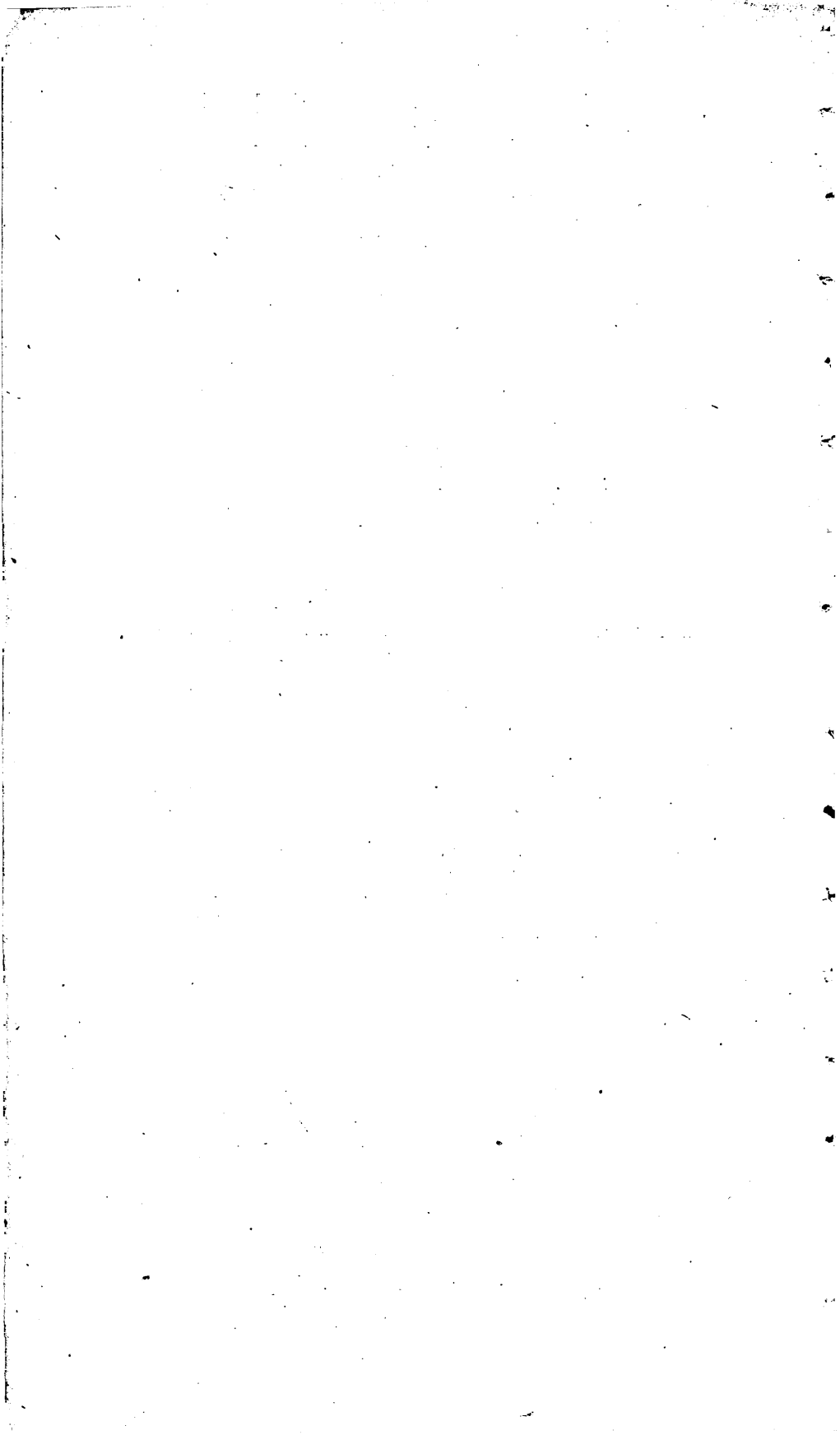
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CHARLES D. WALCOTT, DIRECTOR

A CATALOGUE

OF THE

Cretaceous and Tertiary Plants of North America

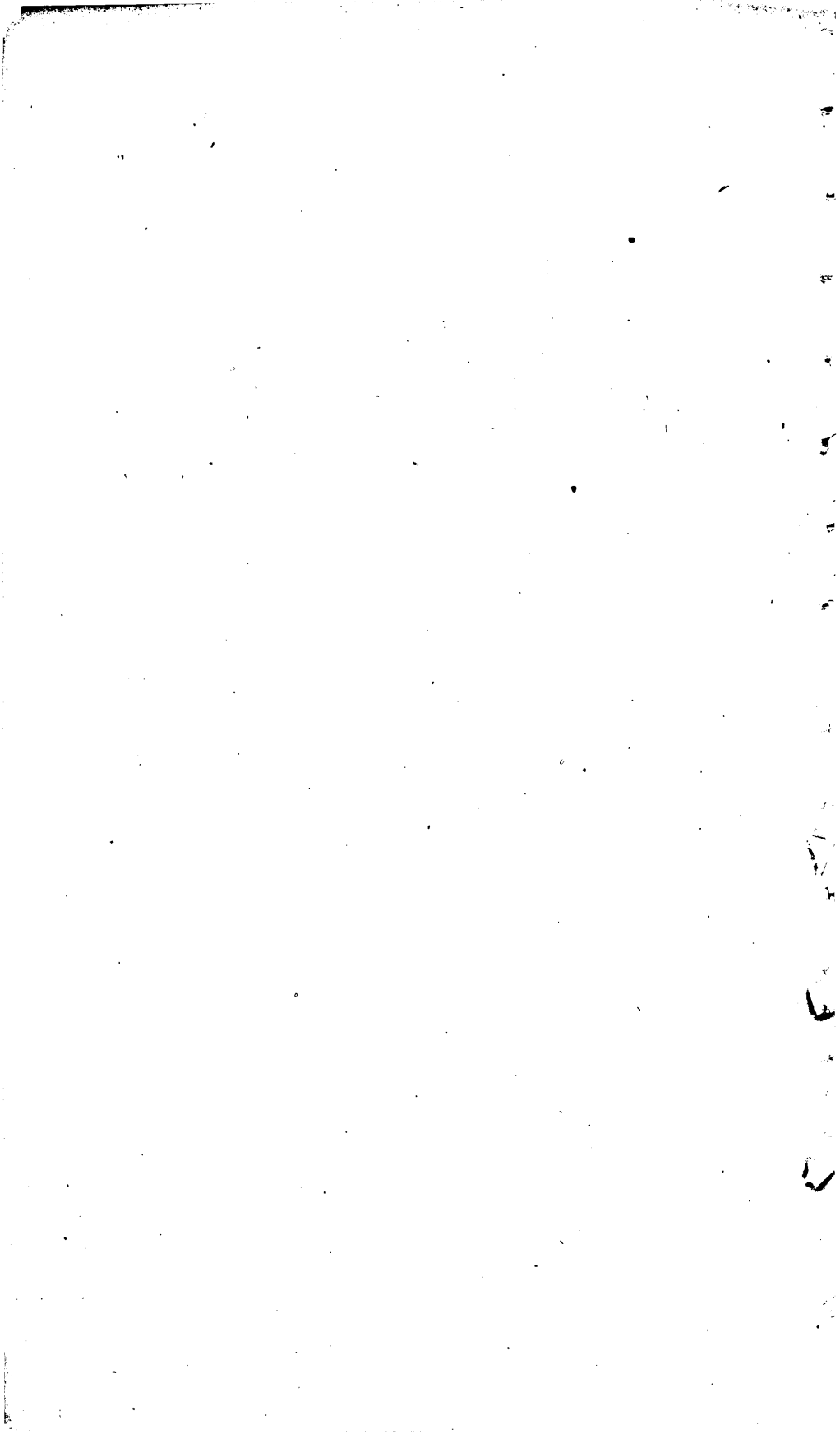
BY

FRANK HALL KNOWLTON



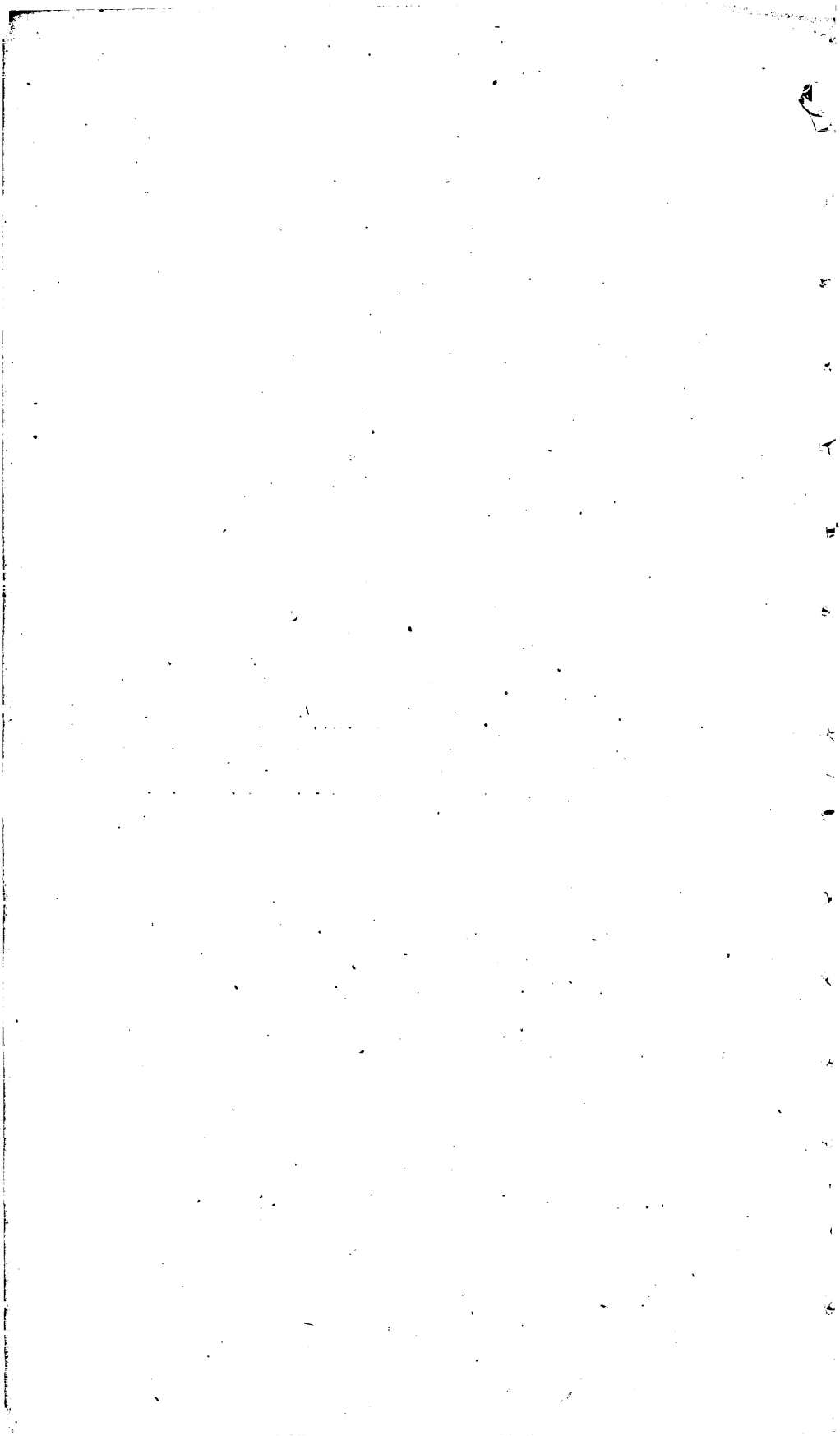
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CONTENTS.

	Page.
Letter of transmittal	7
Introduction	9
Bibliography	13
Catalogue	24



LETTER OF TRANSMITTAL.

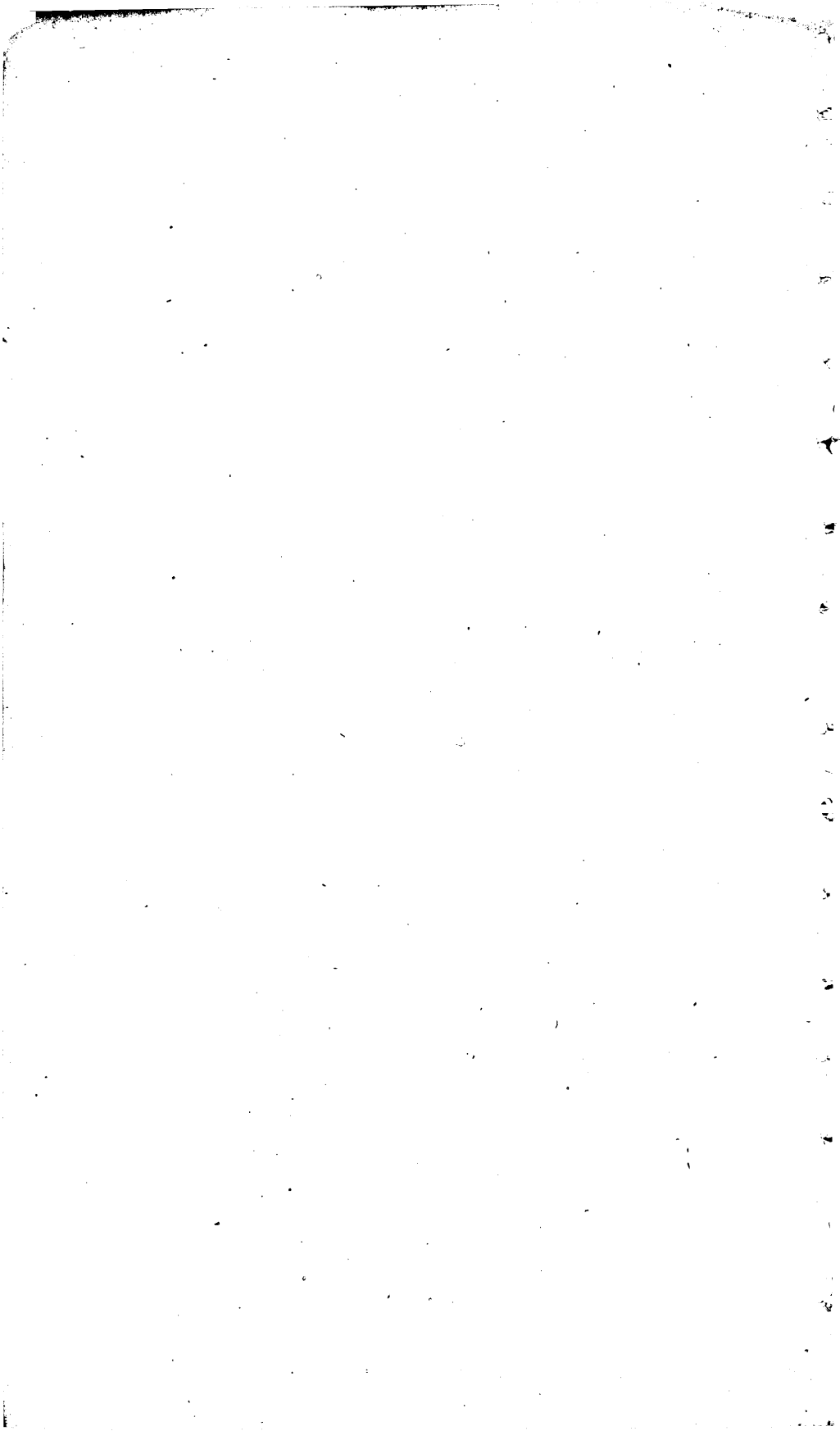
DEPARTMENT OF THE INTERIOR,
UNITED STATES GEOLOGICAL SURVEY,
Washington, D. C., January 12, 1898.

SIR: I have the honor to transmit herewith the manuscript of a catalogue of the Cretaceous and Tertiary plants of North America, and to request its publication as a bulletin of the Survey.

Very respectfully, yours,

F. H. KNOWLTON,
Assistant Paleontologist.

Hon. CHARLES D. WALCOTT,
Director United States Geological Survey.



A CATALOGUE OF THE CRETACEOUS AND TERTIARY PLANTS OF NORTH AMERICA.

By F. H. KNOWLTON.

INTRODUCTION.

This catalogue of the Cretaceous and Tertiary plants of North America is the outcome of the author's personal needs, and is presented, even in its present somewhat imperfect form, in the hope that it may be of assistance to other workers in this field.

The first catalogue of approximately this scope was published by Prof. Leo Lesquereux in the Tenth Annual Report of the United States Geological and Geographical Survey of the Territories¹ under the title Catalogue of the Cretaceous and Tertiary Plants of North America, with References to the Descriptions. In this catalogue the species are arranged in botanical sequence. The Cretaceous flora embraced only 157 species and the Tertiary flora 549 species, or a total of 706 for these two great geological systems. As a proof of the rapid growth of paleobotanical knowledge in this country during the twenty-one years between that and the present enumeration, it may be stated that the Potomac flora alone now numbers more species than the total Cretaceous and Tertiary floras known to Lesquereux, and that the flora of the Dakota group has more than twice as many species (460) as the whole Cretaceous had, as then known.

The only other catalogue is that of S. A. Miller, published in 1881 under the title North American Mesozoic and Cænozoic Geology and Palæontology; or, An Abridged History of Our Knowledge of the Triassic, Jurassic, Cretaceous, and Tertiary Formations of this Continent. This is hardly more than a crude compilation from that of Lesquereux and certain publications that had appeared between the date of that and the year 1881.

A number of lists without references or synonymy have been published which embrace simply the names and in some cases the distribution of the species—such, for example, as Lesquereux's "Table of distribution of the species of fossil plants in the Tertiary formations

¹ Washington, 1876 [1878], pp. 487-520.

of North America;"¹ a list under the same title in the following volume;² a "Table showing the geographical distribution of the fossils of the Laramie group, collected during the season of 1877;"³ "A table of distribution of the plants of the Cretaceous Cenomanian formation;"⁴ "Table of distribution of the species of the Laramie group;"⁵ "Table of distribution of the plants of the Green River and White River group;"⁶ "Table of distribution of North American Miocene fossil plants;"⁷ "Table showing the distribution of the plants of the Dakota group;"⁸ Lester F. Ward: "Table of distribution of Laramie, Senonian, and Eocene plants,"⁹ etc.

In the present catalogue the entire flora is arranged in a single alphabetical sequence. This arrangement precludes the duplication of species which may occur in more than one formation, and is, moreover, easier of use than when the species are arranged according to botanical affinities.

I have given for each genus the original date and place of publication. In the case of the exclusively fossil genera much care has been expended in verifying these points, and while it is too much to expect that all are absolutely correct, it is hoped that the errors will prove to be few. For the living genera that have also been found fossil, the date and place of publication have been taken mainly from the Kew Index and have not in all cases been verified. The dates of these later genera are not, however, of great importance in the present connection, since botanists are not agreed as to the date that shall be taken as the initial point for genera. One school would make the introduction of binomial nomenclature, or the publication of Linnæus's *Species Plantarum*, 1753, as the initial point for both genera and species, while another school would take the publication of Linnæus's *Systema*, in 1735, as the starting point for genera. Other botanists would go still further back to Tournefort, who has been called the father of genera, or even to the remote place in literature when a genus was first printed, no matter in what connection. It would seem wise, therefore, to settle on some important date as the initial point. For convenience the date selected in the Kew Index—1735—is here taken for the living genera. Fortunately the science of paleobotany is so young that all of the generic names that have been given in it are of later date than any of the dates in controversy, since all are later than 1800.

In the case of species, the original place and date of publication have been given in all instances. This is followed by several of the most important references, especially such as refer to descriptions and fig-

¹ Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., pp. 307-309, 1871 [1872].

² Op. cit., pp. 410-417 (1872 [1873]).

³ Op. cit., pp. 255 (1877 [1879]).

⁴ Cret. and Tert. Fl., pp. 93-103 (1883).

⁵ Op. cit., pp. 115-120.

⁶ Op. cit., pp. 206-212.

⁷ Op. cit., pp. 266-272.

⁸ Monogr. U. S. Geol. Surv., XVII, pp. 222-225, 1891.

⁹ Sixth Ann. Rept. U. S. Geol. Surv., pp. 443-514, 1886.

ures, but no attempt has been made to make it absolutely complete, since to have done this would have greatly increased the labor of compilation without adding much to its value as a catalogue. The original and, for sake of convenience, most important references are given.

When the species is a foreign one the original reference is given, followed by a reference to the first place where it is recorded as belonging to our flora. Then follow the references to figures and descriptions, if there be any, relating to its North American history.

The synonymy is placed in proper order under the species to which it belongs. Each synonym is, however, entered in its proper alphabetical place, followed by an indication of the form to which it is now referred. Thus: "*Ficus* ? *fimbriata* Lx. = *Eremophyllum fimbriatum*."

In the numerous reports on fossil plants published in the Annual Reports of the Hayden Survey, Lesquereux described many species supposed to be new to science, and also identified numerous foreign species, that were never afterwards alluded to by him. There are probably more than 100 species coming under this heading that are not entitled to recognition as belonging to our flora. These new or foreign species were described or identified from time to time in these preliminary reports, but when Lesquereux came to study them more carefully, in preparing them for the final monographs, they were discarded or merged into other species, and no record was made of such disposition. They stand, therefore, in the books as valid species, while in reality they are hardly more than *nomina nuda*. The specimens upon which they were based are now lost or embraced under other names in such a way that there is absolutely no connection between them. In the following catalogue these species have been indicated by a bracketed statement at the end. Thus: "*Quercus Goldianus* Lx., Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 398 (1873 [1874]). [Not recognized by its author after first description.]"

No attempt has been made in this catalogue to give an absolutely complete account of the geographical distribution of the various species. It would have required a monographic revision of each species to determine accurately its areal distribution, and such a work was not contemplated at the present time. The distribution here given is taken mainly from the books, with little or no revision, and while it is undoubtedly correct in a large majority of cases, it is not to be taken as absolutely so. One of the tasks of the future will be to work out more completely the geographical distribution of our flora.

In similar manner, the geological distribution as here given is not to be taken as final. It is compiled from the books in most cases, and while it has been given as completely and as accurately as was possible under the circumstances, it is constantly changing to accord with the changes in the conception of the various geological horizons. As an example, the plant-bearing horizon at Point of Rocks, Wyoming, had always been referred to the true Laramie, until it was found, in 1896,¹

¹ See Stanton and Knowlton: Bull. Geol. Soc. Am., Vol. VIII, pp. 127-156.

that it was below well-defined marine Cretaceous, and hence in the Montana formation.

Another source of uncertainty results from the disagreement among geologists and paleontologists as to the age of various beds. Thus, by some the Fort Union beds are regarded as Cretaceous and by others as Tertiary, and the so-called "Arctic Miocene" is coming to be regarded as Eocene. When it has been possible, without circumlocution, the horizon has been indicated in a way that will fix its relative position without going too far. Thus the use of the Belly River series, Denver beds, Fort Union beds, Amboy clays, Potomac formation, etc., indicates sufficiently the geological position, without attempting a discrimination perhaps unwarranted by the present state of our knowledge. But above all it should be remembered that this is an attempt at a catalogue of our Cretaceous and Tertiary plants, and is not intended as a complete exposition of their geographical or geological distribution.

No arbitrary signs or characters have been used in this work. In a few cases it was found necessary to give new names on account of the old name being preoccupied. In such cases the new name is followed by "nom. nov." In accordance with principles quite generally adopted among recent botanists, the attempt is made in this catalogue to restore the oldest specific name under which a species was described. This has resulted in a number of new combinations, which are indicated by the abbreviation "n. comb." In the case of two dates given for a publication (e. g., Fl. Amboy Clays, 1895 [1896]) the first is the title-page date, the bracketed date being the actual date of issue.

The bibliography consists simply of a list of the North American works and papers that have been consulted in preparing this catalogue, together with such others as contain original descriptions of our plants. It was not thought worth while to give a bibliography of the references to the numerous foreign species that have been identified in our flora, with the single exception of those found in the various parts of Heer's *Flora Fossilis Arctica*.

In conclusion, I beg to acknowledge my indebtedness to Prof. Lester F. Ward for valuable suggestions, use of books, etc., and to his assistant, Miss C. H. Schmidt, for assistance in cataloguing and verifying references.

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— Report of the recent additions of fossil plants to the Museum collections.

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Am. Geol., Vol. IX, pp. 368-371, June, 1892.

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Bull. Geol. Soc. Am., Vol. VIII, pp. 127-156, 1897.

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— Types of the Laramie flora.

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— Fossil cycadean trunks of North America, with a revision of the genus *Cycadeoidea* Buckland.

Proc. Biol. Soc., Washington, Apr. 4, 1894, Vol. IX, pp. 75-88, 1894.

— The Potomac formation.

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Proc. Biol. Soc., Washington, Mar. 13, 1897, Vol. XI, pp. 1-17, 1897.

CATALOGUE.

ABIES Jussieu. Gen., p. 414, 1789.

Abies balsamea (L.) Mill. Penhallow, Trans. Roy. Soc. Canada, 2d ser., vol. ii, sec. iv, p. 70, 1896.

Pleistocene: Scarboro Heights, Ontario.

Abies Linkii Rœm.=*Abietites Linkii*.

Abies nevadensis Lx.=*Taxodium distichum miocenium*.

Abies setiger Lx.=*Abietites setiger*.

ABIETITES Hisinger. *Lethæa suecica*, p. 110, 1837.

Abietites angusticarpus Font. Potomac Fl., p. 263, pl. cxxxiii, f. 1, 1889.

Potomac formation: Fredericksburg, Virginia.

Horsetown beds: Shasta County, California.

Abietites californicus Font. In Diller and Stanton, Bull. Geol. Soc. Am., vol. v, p. 450, 1894. Nomen nudum.

Horsetown beds: Shasta County, California.

Abietites dubius Lx. Am. Journ. Sci., vol. xlv, p. 207, 1868; Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 196, 1869 [reprint 1873]; Tert. Fl., p. 81, pl. vii, f. 24 [non f. 20, 21, 21a], 1878.

Livingston beds: Bozeman coal field, Montana.

Laramie group: Raton Mountains, New Mexico.

—: Upper Kanab Valley, Utah.

Abietites dubius Lx., Tert. Fl., pl. vi, f. 20, 21, 21a = *Sequoia Reichenbachi*.

Abietites ellipticus Font. Potomac Fl., p. 263, pl. cxxxii, f. 8, 9; cxxxiii, f. 2-4; clxviii, f. 8, 1889.

Potomac formation: Fredericksburg, Virginia.

Abietites ernestinae Lx. Cret. Fl., p. 49, pl. i, f. 7, 1874.

Pterophyllum Haydenii ex. p. Lx. Am. Journ. Sci., vol. xlvi, p. 91, 1868.

Dakota group: Decatur, Nebraska.

Abietites Linkii (Rœm.) Dunk. Monogr. d. Norddeutschen Wealdenb., p. 18, pl. ix, f. 11a-c, 1846; Font., Proc. U. S. Nat. Mus., vol. xvi, p. 268, pl. xxxvii, f. 2, 1893.

Abies Linkii Rœmer. N. deutsch. Oolith-Form. Nachtr., p. 10, pl. xvii, f. 2, 1839.

Trinity division: Glenrose, Texas.

Abietites macrocarpus Font. Potomac Fl., p. 262, pl. cxxxii, f. 7, 1889.

Potomac formation: Near Dutch Gap Canal, Virginia.

- Abietites setiger** Lx. Tert. Fl., p. 82, pl. vii, f. 17, 18, 1878.
Abies setiger Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 404, 1872 [1873]. Probably rootlets.
- Abietites Tyrrellii** Dn. Trans. Roy. Soc. Canada, vol. iii, sec. iv, p. 17, 1885 [1886].
 Fort Pierre: Berry Creek, Northwest Territory.
- Abietites** sp., Font. Proc. U. S. Nat. Mus., vol. xvi, p. 277, pl. xliii, f. 4, 1893.
 Trinity division: Glenrose, Texas.
- Abietitis** sp., Font. In Diller and Stanton, Bull. Geol. Soc. Am., vol. 5, p. 450, 1894.
 Knoxville beds: Tehama County, California.
- ACACIA** Adanson. Fam., pl. ii, p. 319, 1763.
- Acacia oregoniana** Lx. Proc. U. S. Nat. Mus., vol. xi, p. 14, pl. v. f. 4, 1888.
 Miocene: John Day Valley; Oregon.
- Acacia septentrionalis** Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 418, 1873 [1874]; Tert. Fl., p. 299, pl. lix, f. 9, 9a, 1878.
 Green River group: Castello's ranch, Colorado.
- ACACIÆPHYLLUM** Fontaine. Potomac Fl., p. 279, 1889.
- Acaciæphyllum longifolium** Font. Potomac Fl., p. 279, pl. cxxxvii, f. 6; cxxxviii, f. 1-3, 1889.
 Potomac formation: Dutch Gap Canal, Virginia.
- Acaciæphyllum microphyllum** Font. Potomac Fl., p. 280, pl. cxxxviii, f. 5, 1889.
 Potomac formation: Near Dutch Gap Canal, Virginia.
- Acaciæphyllum spatulatum** Font. Potomac Fl., p. 280, pl. cxxxviii, f. 4, 6-9, 1889.
 Potomac formation: Dutch Gap Canal, Virginia.
- Acaciæphyllum variabile** Font. Potomac Fl., p. 281, pl. clxx, f. 7, 1889.
 Potomac formation: Baltimore, Maryland.
- ACER** (Tournefort) Linnæus. Gen. pl., p. 112, 1737.
- Acer æquidentatum** Lx. Tert. Fl., p. 262, pl. xlvi, f. 1, 3, 1878; Mem. Mus. Comp. Zoöl. vol. vi, p. 26, pl. vii, f. 4, 5, 1878.
 Laramie group?: Carbon, Wyoming.
 Miocene: Auriferous gravels, California.
 Green River group?: White and Green rivers.
- Acer amboyense** Newby. Fl. Amboy Clays, p. 106, pl. xlvi, f. 5-8, 1895 [1896].
 Amboy clay: Woodbridge, South Amboy, New Jersey.
- Acer arcticum** Heer. Fl. Foss. Arct., vol. iv, abt. i, p. 86, pl. xxii; xxiii; xxiv, f. 1, 2; xxv, f. 1-3, 1877; Lesquereux, Mem. Mus. Comp. Zoöl., vol. vi, p. 60, 1878.
 Fort Union group: Bad Lands, Dakota.
 Miocene: Oregon Creek, 20 miles north of Chalk Bluffs, California.

Acer Bendirei Lx. Proc. U. S. Nat. Mus., vol. xi, p. 14, pl. v, f. 5; pl. vi, f. 1; pl. vii, f. 1; pl. viii, f. 1, 1888.

Acer trilobatum productum Al. Br. Lesquereux. Cret. and Tert. Fl., 253, p. pl. lix, f. 1-4, 1883.

Miocene: John Day Valley, Oregon.

Miocene: Spanish Ranch, California.

Acer Bolanderi Lx. Mem. Mus. Comp. Zoöl., vol. vi, no. 2, p. 27, pl. vii, f. 7-11, 1878.

Miocene: Table Mountain, California.

Acer dimorphum Lx. Proc. U. S. Nat. Mus., vol. xi, p. 15, pl. ix, f. 1, 1888.

Miocene: John Day Valley, Oregon.

Acer gracilescens Lx. Cret. and Tert. Fl., p. 234, pl. xlix, f. 7 (6?), 1883.

Fort Union group: Bad Lands, Dakota.

Acer indivisum Web. Palæontogr., vol. ii, p. 198, pl. xxii, f. 2a, 2b, 1852; Ward, Bull. U. S. Geol. Surv., no. 37, p. 66, pl. xxix, f. 5, 1887.

Laramie group?: Carbon, Wyoming.

Acer indivisum Lx. = *Acer Lesquereuxii*.

Acer Lesquereuxii nom. nov.

Acer indivisum * Lx. Cret. and Tert. Fl., p. 180, pl. xxxvi, f. 6, 9, 1883.

[* *A. indivisum* Lx., 1883. Preoccupied by O. Weber, 1852.]

Green River group: Uinta County, formerly but wrongly called Randolph County, Wyoming.

Acer macropterum Heer. Kongl. Vetenskaps-Akad. Föhandl., 1868, p. 68; K. Sv. Vetenskaps-Akad. Handling, vol. viii, no. 4, p. 37, pl. ix, f. 7-9, 1869. [In Fl. Foss. Arct., II, abt. 2, 1871.]

Eocene?: Port Graham, Alaska.

Acer minutus (m). Hollick. Trans. N. Y. Acad. Sci., vol. xii, p. 35, pl. iii, f. 6, 1892.

Cretaceous: Staten Island.

Acer obtusilobum? Ung. Lesquereux [1868] = *Menispermities salinae*.

Acer paucidentatum Hollick. Trans. N. Y. Acad. Sci., vol. xvi, p. 132, pl. xiv, f. 2, 3, 1897.

Clay marl [Upper Cretaceous]: Cliffwood, New Jersey.

Acer pleistocenicum Penhallow. Bull. Geol. Soc. Am., vol. i, p. 327, f. (in text) 1, 1890.

Pleistocene: Don River, Toronto, Canada.

Acer saccharinum Wang. Penhallow, Bull. Geol. Soc. Am., vol. i, p. 329, 1890.

Acer spicatum Lam. Dn., Can. Nat., vol. iii, new ser., p. 71, 1868; Geol.

Hist. Pl., p. 228, 1888. [Not *Acer spicatum* Lam.]

Pleistocene: Greens Creek, Ottawa River, Canada.

Acer saskatchewanense Dn. Trans. Roy. Soc. Canada, vol. iii, sec. iv, p. 16, 1885 [1886].

Belly River series: Medicine Hat, Northwest Territory.

Acer secreta Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., 1871, suppl., p. 12, 1871 [1872.] [Not afterwards mentioned by author.]

Laramie?: Evanston, Wyoming.

Acer spicatum Lam. Dn., Can. Nat., vol. iii, new ser., p. 71, 1868 = *A. saccharinum* Wang.

Acer trilobatum? (Sternb.) Al. Br. Neues Jahrb. f. Min. 1845, p. 172, 1845; Lesquereux, Am. Journ. Sci., vol. xxvii, p. 361, 1859; Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 293, 1871 [1872].

Phyllites trilobatus Strenbg. Fl. d., Vorwelt, Index Iconum, pl. 1, f. 2, 1825.

——?: Bellingham Bay.

Laramie group: Evanston, Wyoming.

Acer trilobatum productum? (Al. Br.) Heer. Fl. Tert. Helv., vol. iii, p. 50, pl. cxiv, f. 1, 4-8, 1859; Lx., Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 388, 1872 [1873]; Tert. Fl., p. 261, pl. xlvi, f. 2, 3a, 1878.

Acer trilobatum Al. Br. Lx., Ann. Rept., op. cit., p. 408, 1873 [1874].

Denver group?: Sedalia, Colorado.

Laramie group?: Carbon, Wyoming.

Acer trilobatum productum Al. Br. Lx. Cret. and Tert. Fl., p. 258 = *Acer Bendirei*.

Acer trilobatum tricuspidatum (Al. Br.) Heer. Fl. Tert. Helv., vol. iii, p. 49, pl. cxiii, f. 3-10, 1859; Ward, Bull. U. S. Geol. Surv., no. 37, p. 66, pl. xxix, f. 3, 4, 1887.

Acer tricuspidatum Al. Br. Neues Jahrb. f. Min., p. 172, 1845.

Fort Union group: Clear Creek and Little Missouri, Montana.

Acer vitifolium Al. Br. Neues Jahrb. f. Min., 1845, p. 172, 1845; Lesquereux, Proc. U. S. Nat. Mus., vol. x, p. 44, 1887.

Pleistocene?: Wytheville, Virginia.

Acer, branches of, Lx. Proc. U. S. Nat. Mus., vol. xi, p. 15, 1888.

Miocene: John Day Valley, Oregon.

Acer, fruits of, Lx. Proc. U. S. Nat. Mus., vol. xi, p. 15, pl. vi, f. 2, 3; pl. vii, f. 2, 1888.

Miocene: John Day Valley, Oregon.

Acer, fruit of, Dn. Trans. Roy. Soc. Canada, vol. viii, sec. iv, p. 87, f. (in text) 20, 1890.

Eocene?: Stump Lake, British Columbia.

Acer sp., Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 286, - 1871 [1872]. [Not afterwards mentioned by Lesquereux.]

Eocene?: Barrell Springs, Wyoming.

Acer sp., Lx. Cret. and Tert. Fl., p. 181, pl. xxxvi, f. 7, 8, 1883.

Green River group: Florissant, Colorado.

Acer sp., Lx. Mem. Mus. Comp. Zool., vol. vi, no. 2, p. 61 (app.), 1878.

Miocene: Oregon Creek, 20 miles north of Chalk Bluffs, California.

ACERIPHYLLUM Fontaine. Potomac Fl., p. 320, 1889.

Aceriphyllum aralioides Font. Potomac Fl., p. 321, pl. clxiii, f. 8, 1889.

Potomac formation: Virginia.

ACERATES Nilsson. Act. Ac. Holm., p. 345, 1831.

Acerates sp., Hollick in Newby., Fl. Amboy Clays, p. 124, pl. xxxii, f. 17; xli, f. 4, 5, 1895 [1896].

Amboy clay: South Amboy, New Jersey.

ACERITES Viviani. Mem. Soc. Geol. d. France, vol. i, p. 131, 1833.

Acerites menispermifolia Lx. = *Menispermites menispermifolia*.

Acerites multiformis Lx. Fl. Dak. Gr., p. 156, pl. xxxiv, f. 1-9, 1892.

Dakota group: Kansas.

Acerites negundifolium Dn. Trans. Roy. Soc. Canada, vol. viii, sec. iv, p. 86, f. (in text) 19, 1890.

Eocene?: Stump Lake, British Columbia.

Acerites pristinus Newby. Later Extinct Flora, p. 15, 1868; Ill. Cret. and Tert. Pl., pl. v, f. 4, 1878.

Dakota group: Blackbird Hill, Nebraska.

ACORUS Linneaus. Gen. ed., i, p. 104, 1737.

Acorus affinis Lx. Ann. Rep. U. S. Geol. and Geogr. Surv. Terr., p. 410, 1873 [1874]. [Not afterwards recognized.]

Green River group?: Florissant, Colorado.

Acorus brachystachys Heer. K. Sven. Vetenskaps-Akad. Handl., vol. viii, no. 7, p. 51, pl. viii, f. 7, 8, 1870 [in Fl. Foss. Arct. ii, abt. iii, 1871]; Lx., Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 288, 1871 [1872]; Tert. Fl., p. 105, pl. xiv, f. 12-15, 1878.

Denver group?: Sedalia, Colorado.

Laramie group?: Carbon, Wyoming.

Acorus calamus L. Lesquereux, Am. Journ. Sci., vol. xxvii, p. 365, 1859.

Pleistocene: Banks of Mississippi River near Columbus, Kentucky.

ACROSTICHOPTERIS Fontaine. Potomac Fl., p. 106, 1889.

Acrostichopteris cyclopteroides Font. Potomac Fl., p. 109, pl. xciv, f. 8, 1889.

Potomac formation: Near Dutch Gap Canal, Virginia.

Acrostichopteris densifolia Font. Potomac Fl., p. 107, pl. xciv, f. 4; clxx, f. 11; clxxi, f. 2, 6; clxxii, f. 13, 1889.

Potomac formation: Baltimore, Maryland; Dutch Gap Canal, Virginia.

Acrostichopteris longipennis Font. Potomac Fl., p. 107, pl. clxx, f. 10; clxxi, f. 1, 5, 7, 1889.

Potomac formation: Baltimore, Maryland.

Acrostichopteris parcelobata Font. Potomac Fl., p. 108, pl. xciv, f. 6, 7, 11, 14, 1889.

Potomac formation: Dutch Gap Canal, and near Potomac Run, Virginia.

Acrostichopteris parvifolia Font. Potomac Fl., p. 108, pl. xciv, f. 5, 9, 10, 12; clxxi, f. 3, 4; clxxii, f. 14, 1889.

Potomac formation: Baltimore, Maryland; Dutch Gap Canal, Trents Reach, Virginia.

ACROSTICHUM Linnæus. Gen. Pl., p. 322, 1737.

Acrostichum crassifolium Font. Potomac Fl., p. 105, pl. xvi, f. 7, 1889.

Potomac formation: Fredericksburg, Virginia.

Acrostichum hesperium Newby. Proc. U. S. Nat. Mus., vol. v, p. 503, 1882 [1883].

Eocene: Green River, Wyoming.

ADIANTITES Göppert. Syst. Filic. Foss., p. 216, 1836.

Adiantites gracillimus Lx. Cret. and Tert. Fl., p. 137, pl. xxi, f. 8, 1883.

Green River group: Florissant, Colorado.

Adiantites Klipsteini (Dunk.) Brongn. = *Glossozamites Klipsteini*.

Adiantites prælongus Dn. Trans. Roy. Soc. Canada, vol. i, sec. iv, p. 25, pl. v, f. 19, 1882 [1883].

Upper Cretaceous: Baynes Sound, Vancouver Island, Nanaimo.

ÆSCULOPHYLLUM Dawson. Trans. Roy. Soc. Canada, 2d ser., vol. i, sec. iv, p. 149, 1895-96.

Æsculophyllum hastingense Dn. Trans. Roy. Soc. Canada, 2d ser., vol. i, sec. iv, p. 149, pl. viii, f. 16, 1895-96.

Eocene: Burrard Inlet, British Columbia.

ÆSCULUS Linnæus. Syst., ed. ii, p. 22, 1740.

Æsculus antiquus Dn. Rept. on Geol. and Res. near Forty-ninth Parallel, appen. A, p. 330, pl. xvi, f. 8, 9, 1875.

Bad Lands: West of Woody Mountain, Canada.

Aleurites eoceneca Lx. = *Grewiopsis eocenica*.

ALIANTHOPHYLLUM Dawson. Trans. Roy. Soc. Canada, vol. viii, sec. iv, p. 88, 1890 [1891].

Alianthophyllum incertum Dn. Trans. Roy. Soc. Canada, vol. viii, sec. iv, p. 88, f. (in text) 25, 1890 [1891].

Eocene?: Tranquille River, British Columbia.

ALIANTHUS Desfontaines. Act. Ac. Paris, p. 265, 1786.

Alianthus longe-petiolata Lx. Cret. and Tert. Fl., p. 197, pl. xl, f. 6, 7, 1883.

Green River group: Uinta County, formerly but wrongly called Randolph County, Wyoming.

Alianthus ovata Lx. Cret. and Tert. Fl., p. 254, pl. li, f. 7, 8, 1883.

Miocene: Bridge Creek, Oregon.

ALICMACITES Saporta. Ann. sci. nat. Bot., 4th ser., vol. xvii, p. 228, 1862.

Alismacites dakotensis Lx. Fl. Dak. Gr., p. 37, pl. ii, f. 10, 1892.

Dakota group: Kansas.

ALNITES Göppert. De Floribus in Statu Fossili: Nova Acta Acad. Cæs. Leop., vol. xviii, pt. 3, p. 564, p. 20 of reprint, 1837.

Alnites curta Dn. Trans. Roy. Soc. Canada, vol. viii, sec. iv, p. 86, f. (in text) 18-18c, 1890 [1891].

Eocene?: North Fork Similkameen River, British Columbia.

Alnites crassus Lx. Geol. and Nat. Hist. Survey Minn., vol. iii, p. 13, pl. B, f. 4, 1893.

Dakota group: New Ulm, Minnesota.

Alnites grandifolia Newby. Later Extinct Floras, p. 9, 1868; Ills. Cret. and Tert. Fl., pl. iv, f. 2, 1878.

Dakota group: Nebraska.

Alnites inæquilateralis Lx. = *Alnus inæquilateralis*.

Alnites insignis Dn. Trans. Roy. Soc. Canada, vol. i, sec. iv, p. 28, pl. viii, f. 38, 1882 [1883].

Upper Cretaceous: Nanaimo.

Mill Creek series: Mill Creek ?

Alnites quadrangularis Lx. = *Hamamelites quadrangularis*.

ALNUS Gärtner. Fr. and Sem., vol. ii, p. 54, pl. 90, 1791.

Alnus alaskana Newby. Proc. U. S. Nat. Mus., vol. v, p. 509, 1882 [1883].

Eocene?: Kootznahoo Archipelago, Alaska.

Alnus carpinifolia Lx. Bull. Mus. Comp. Zoöl., vol. xvi, p. 45, 1888. Denver group: Golden, Colorado.

Alnus carpinioides Lx. Cret. and Tert. Fl., p. 243, pl. 1, f. 11, pl. li, f. 4, 4a, 5, 1883.

Miocene: Bridge Creek, Oregon.

Alnus cordata Lx. Cret. and Tert. Fl., p. 151, 1883.

Green River group: Florissant, Colorado.

Alnus corrallina Lx. Cret. and Tert. Fl., p. 243, pl. li, f. 1-3, 1883.

Miocene: Corral Hollow, California; John Day Valley, Oregon.

Alnus corylifolia Lx. Proc. U. S. Nat. Mus., vol. v, p. 446, pl. vii, f. 1-4, 1882 [1883].

Eocene?: Cook Inlet, Alaska.

Alnus grandiflora Newby. Proc. U. S. Nat. Mus., vol. v, p. 509, 1882 [1883].

Eocene?: Cook Inlet, Alaska.

Alnus Grewiopsis Ward. Bull. U. S. Geol. Surv., no. 37, p. 30, pl. xiv, f. 1, 1887.

Laramie group: Hodges Pass, Wyoming.

Alnus inæquilateralis Lx. Cret. and Tert. Fl., p. 151, 1883.

Alnus inæquilateralis Lx. Bull. U. S. Geol. and Geogr. Surv. Terr., vol. i, p. 381, 1875 [1876]; Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 307, 1874 [1876]; Tert. Fl., p. 141, pl. lxii, f. 1-4, 1878.

Green River group: Alkali Station, Wyoming.

Alnus kanseana Lx. = *Hamamelites kansaseanus* = *Quercus kanseana*.

Alnus Kefersteinii (Göpp.) Ung. Lesquereux, Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 292, 1871 [1872]; Tert. Fl., p. 140, pl. xviii, f. 6-8; lxiv, f. 11, 1878; Heer., Fl. Foss. Alask., p. 28, pl. iii, f. 7, 8, 1869.

Alnites Kefersteinii Göpp. De Floribus in Statu Fossili, p. 564, pl. xli, f. 1-7, 1837.

Eocene?: Alaska.

Miocene: John Day Valley, Oregon; Shasta County, California.

Alnus Kefersteinii (Göpp.) var. Heer. Fl. Foss. Alask.: K. Sv. Vetenskaps-Akad. Handl., vol. viii, No. 4, p. 28, pl. v, f. 9, 1869. [In Fl. Foss. Arct., ii, abt. ii, 1871.]

Eocene?: Port Graham, Alaska.

Alnus rubra Bong. Knowlton. Journ. Geol., vol. iii, p. 532, 1895.

Inter-glacial: Muir Glacier, Alaska.

Alnus rugosa Lx. Bull. Mus. Comp. Zoöl., vol. xvi, p. 45, 1888.

Denver group: Golden, Colorado.

Alnus serrata Newby. Later Extinct Floras, p. 55, 1868.

Fort Union group: Yellowstone River, Montana and Dakota.

Alnus sp., Penhallow. Trans. Roy. Soc. Canada, 2d ser., vol. ii, sec. iv, p. 70, 1896.

Pleistocene: Scarboro Heights, Ontario.

AMELANCHIER Medicus. Phil. Bot., i, p. 155, 1789.

Amelanchier canadensis (L.) Medic., var. **rotundifolia** (Mx.) T. & G.

Hollick, Bull. Torr. Bot. Club, vol. xix, p. 331, 1892.

Miocene?: Bridgeton, New Jersey.

Amelanchier typica Lx. Cret. and Tert. Fl., p. 198, pl. xl, f. 11, 1883.

Green River group: Florissant, Colorado.

Amelanchier typica var. Lx. Bull. Mus. Comp. Zoöl., vol. xvi, p. 57, 1888.

Denver group: Golden, Colorado.

Amelanchier similis Newby. Later Extinct Floras, p. 48, 1868; Ill.

Cret. and Tert. Pl., pl. xxv., f. 6, 1878.

Fort Union group: Yellowstone River, Montana.

Ament of Conifer (a) Font. Potomac Fl., p. 225, pl. cxxxvi, f. 2, 1889.

Potomac formation: Near Brooke, Virginia.

Ament of Conifer (b) Font. Potomac Fl., p. 225, pl. cxxxvi, f. 3, 1889.

Potomac formation: Near Brooke, Virginia.

Ament of Conifer (c) Font. Potomac Fl., p. 226, pl. cxxxvi, f. 4, 1889.

Potomac formation: Near Brooke, Virginia.

Ament of Conifer (d) Font. Potomac Fl., p. 226, pl. cxxxvi, f. 5, 1889.

Potomac formation: Near Cherry Hill Station, Virginia.

Ament of Conifer (e) Font. Potomac Fl., p. 226, pl. cxxxv, f. 7, 1889.

Potomac formation: Near Brooke, Virginia.

Ament of Conifer (f) Font. Potomac Fl., p. 227, pl. cxxxvi, f. 8, 1889.

Potomac formation: Near Brooke, Virginia.

Ament of Angiosperm? Font. Potomac Fl., p. 272, pl. cxxxv, f. 16, 1889.

Potomac formation: Near Dutch Gap Canal, Virginia.

AMPELOPHYLLUM Lesquereux. Bull. U. S. Geol. and Geogr. Surv. Terr., vol. i, p. 395, 1875 [1876].

Ampelophyllum attenuatum Lx. Bull. U. S. Geol. and Geogr. Surv. Terr., vol. i, p. 396, 1875 [1876]; Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 354, pl. ii, f. 3, 1874 [1876].

Dakota group: Fort Harker, Kansas.

Ampelophyllum firmum Lx. Bull. U. S. Geol. and Geogr. Surv. Terr., vol. i, p. 396, 1875 [1876].

Dakota group: Kansas.

Ampelophyllum ovatum Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 355, 1874 [1876].

Celtis? *ovata* Lx. Cret. Fl., p. 66, pl. iv, f. 2, 3, 1874.

Populites ovata Lx. Am. Journ. Sci., vol. xlvi, p. 94, 1868.

Dakota group: Decatur, Nebraska.

AMPELOPSIS Michaux. Fl. Bor. Am., vol. i, p. 159, 1803.

Ampelopsis tertiaria Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr. 1871, suppl., p. 7, 1871 [1872]; Tert. Fl., p. 242, pl. xliii, f. 1, 1878.

Green River group: Green River Station, Wyoming.

AMYGDALUS (Tournefort) Linnæus. Syst., ed. i, 1735.

Amygdalus gracilis Lx. Cret. and Tert. Fl., p. 199, pl. xl, f. 12-15; pl. xlv, f. 6, 1883.

Green River group: Florissant, Colorado; Uinta County, formerly but wrongly called Randolph County, Wyoming.

ANDROMEDA Linnæus. Syst., ed. i, 1735.

Andromeda acuminata Lx. Bull. U. S. Geol. and Geogr. Surv. Terr., vol. i, p. 393, 1875 [1876].

Dakota group: Kansas.

Andromeda affinis Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 348, 1874 [1876]; Cret. and Tert. Fl., p. 60, pl. ii, f. 5, 1883.

Livingston beds: Bozeman coal field.

Laramie group: Bozeman coal field.

———: Las Animas, Colorado.

Andromeda crassa Lx. Proc. U. S. Nat. Mus., vol. xi, p. 16, 1888.

Miocene: John Day Valley, Oregon.

Andromeda cretacea Lx. Fl. Dak. Gr., p. 117, pl. xvii, f. 17, 18; pl. xxiv, f. 5, 1892.

Dakota group: Kansas.

Andromeda delicatula Lx. Cret. and Tert. Fl., p. 175, pl. xxxiv, f. 10, 11, 1883.

Green River group: Uinta County formerly, but wrongly called Randolph County, Wyoming.

Andromeda dubia Lx. Am. Journ. Sci., vol. xxvii, p. 364, 1859; Geol. Tenn., p. 428, pl. K, f. 5, 1869.

Pleistocene?: Somerville, Fayette County, Tennessee.

Andromeda flexuosa Newby. Fl. Amboy Clays, p. 121, pl. xxxiv, f. 1-5, 1895 [1896].

Amboy clay: Woodbridge, Sayreville, New Jersey.

Andromeda Grayana Heer. Neue Denkschr., vol. xxi, p. 7, pl. i, f. 7-9, 1865; Lesquereux, Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 271, 1871 [1872]; Tert. Fl., p. 234, pl. xl, f. 4, 1878.

Eocene?: Port Graham, Alaska; ? Bozeman coal field, Montana; Burrard Inlet, British Columbia.

Andromeda latifolia Newby. Fl. Amboy Clays, p. 120, pl. xxxiii, f. 6-10; xxxiv, f. 6-11; xxxvi, f. 10, 1895 [1896].

Amboy clay: Woodbridge, Sayreville, New Jersey.

Andromeda linearifolia Lx. Proc. U. S. Nat. Mus., vol. x, p. 42, pl. iii, f. 2, 3, 1887.

Denver beds: Silver Cliff, Colorado.

Andromeda linifolia Lx. Fl. Dak. Gr., p. 118, pl. lii, f. 5, 1892.

Dakota group: Kansas.

Andromeda novæ-cæsareæ Hollick in Newby. Fl. Amboy Clays, p. 121, pl. xlii, f. 9-12, 28-31, 1895 [1896].

Amboy clay: New Jersey.

Andromeda Parlatorii Heer. Phyll. Crét. d. Nebr., p. 18, pl. i, f. 5, 1866; Lx., Cret. Fl., p. 88, pl. xxiii, f. 6, 7; pl. xxviii, f. 15; Fl. Dak. Gr., p. 115, pl. xix, f. 1, pl. lii, f. 6, 1892.

Prunus? Parlatorii Lx. Am. Journ. Sci., vol. xlvi, p. 102, 1868.

Dakota group: Kansas, Nebraska, and New Ulm, Minnesota.

Cretaceous: Sea Cliff, Long Island.

Amboy clay: New Jersey.

Andromeda Parlatorii longifolia Lx. Fl. Dak. Gr., p. 116, pl. lxiv, f. 19, 1892.

Dakota group: Kansas.

Andromeda Paffiana Heer. Fl. Foss. Arct., vol. vi, abt. 2, p. 79, pl. xxv, f. 6; pl. xxxviii, f. 5-7; pl. xliv, f. 12, 1882; Lx., Fl. Dak. Gr., p. 116, pl. xviii, f. 7, 8; pl. lii, f. 7, 1892.

Dakota group: Kansas.

Andromeda protogæa Ung. Denkschr. Wien. Akad., vol. ii, p. 173 [43], pl. xliv, [xxiii], f. 1-9, 1850; Lx., Proc. U. S. Nat. Mus., vol. xi, p. 20, 1888.

Eocene?: Cherry Creek, Oregon.

Andromeda reticulata? Ett. Tert. Fl. Häring: Abhandl. k. k. geol. Reichsan., vol. ii, abt. iii, p. 65, pl. xxii, f. 9, 10, 1853; Lx., Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 298, 1871 [1872]. [Not afterwards recognized by Lesquereux.]

Laramie?: 6 miles above Spring Canyon, Montana.

Andromeda rhomboidalis Lx. Cret. and Tert. Fl., p. 176, 1883.

Green River group: Florissant, Colorado.

Andromeda Snowii Lx. Fl. Dak. Gr., p. 117, pl. xvii, f. 16, 1892.

Dakota group: Kansas.

- Andromeda tenuinervis** Lx. Fl. Dak. Gr., p. 116, pl. xxxviii, f. 7, 1892.
Dakota group: Kansas.
- Andromeda vacciniifoliæ affinis** Lx. Am. Journ. Sci., vol. xxvii, p. 364, 1859; Geol. Tenn., p. 428, pl. K. f. 4a, 4b, 1869.
Pleistocene?: Somerville, Fayette County, Tennessee.
- Andromeda Wardiana** Lx. Fl. Dak. Gr., p. 119, pl. lxiv, f. 17, 1892.
Dakota group: Kansas.
- Andromeda** sp., Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., 1871, suppl., p. 9, 1871 [1872]. [Not afterwards mentioned.]
Montana group?: Point of Rocks, Wyoming.
- Andromeda** sp., Lx. Report on Clays in N. J., p. 28, 1878.
Amboy clay: Washington, New Jersey.
- Andromeda** sp., Lx. Rept. on Clays in N. J., p. 29, 1878.
Amboy clay: South Amboy, New Jersey.
- ANEMIA** Swartz. Syn. Fil., p. 155, 1806.
- Anemia stricta** Newby. Fl. Amboy Clays, p. 38, pl. iii, f. 1, 2, 1895 [1896].
Amboy clay: Woodbridge, New Jersey.
- Anemia subcretacea** (Sap.) Gard. and Ett. Monog. Brit. Eoc. Fl., vol. i, pt. ii, p. 45, pl. viii; pl. ix, 1880.
Asplenium subcretaceum Sap. Fl. Foss. Sézanne, Mem. Soc. Géol. France, 3d ser., vol. viii, p. 315, pl. xxiii, f. 4, 1868.
Gymnogramma Haydenii Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 295, 1871 [1872]; Tert. Fl., p. 59, pl. iv, f. 1-3, 1878.
? Lathræa arguta Lx. Am. Journ. Sci., vol. xlv, p. 207, 1868.
- Anemia** sp., Kn. Bull. Geol. Soc. Am., vol. viii, p. 145, 1897.
Fort Union: Black Buttes, Wyoming.
- Anemia** sp., Kn. Bull. Geol. Soc. Am., vol. viii, p. 134, 1897.
Fort Union: Lightning Creek, Converse County, Wyoming.
- ANGIOPTERIDIUM** Schimper. Pal. Vég., vol. i, p. 602, 1869.
- Angiopteridium auriculatum** Font. Potomac Fl., p. 113, pl. vii, f. 8-11; xxviii, f. 1, 1889.
Potomac formation: Fredericksburg, Potomac Run, Virginia.
- Angiopteridium canmoreense** Dn. Trans. Roy. Soc. Canada, vol. x, sec. iv., p. 83, f. (in text) 2, 1892.
Kootanie: Canmore, British Columbia.
Knoxville beds: Tehama County, California.
Horsetown beds: Tehama County, California.
- Angiopteridium densinerve** Font. Potomac Fl., p. 115, pl. xxix, f. 4, 1889.
Potomac formation: Fredericksburg, Virginia.
- Angiopteridium dentatum** Font. Potomac Fl., p. 117, pl. xxx, f. 7-8, 1889.
Potomac formation: Fredericksburg, Virginia.
- Angiopteridium ellipticum** Font. Potomac Fl., p. 114, pl. xxix, f. 3, 1889.
Potomac formation: Fredericksburg, Virginia.

Angiopteridium nervosum Font. Potomac Fl., p. 114, pl. xxix, f. 2, 1889.

Potomac formation: Fredericksburg, Virginia.

Knoxville beds: Tehama County, California.

Angiopteridium oregonense Font. In Stanton, Bull. U. S. Geol. Surv., no. 133, p. 22, 1895 [1896]. Nomen nudum.

Horsetown beds: Riddles, Oregon.

Angiopteridium ovatum Font. Potomac Fl., p. 115, pl. xxix, f. 6, 7, 1889.

Potomac formation: Fredericksburg, Virginia.

Angiopteridium pachyphyllum Font. Potomac Fl., p. 115, pl. xxix, f. 5, 1889.

Potomac formation: Fredericksburg, Virginia.

Angiopteridium strictinerve Font. Potomac Fl., p. 116, pl. xxix, f. 8, 9, 1889.

Potomac formation: Fredericksburg, Virginia.

Angiopteridium strictinerve latifolium Font. Potomac Fl., p. 116, pl. xxx, f. 1, 5, 1889.

Potomac formation: Fredericksburg, Virginia.

Knoxville beds: Tehama County, California.

ANISOPHYLLUM Lesquereux. Cret. Fl., p. 98, 1874.

Anisophyllum semialatum Lx. Cret. Fl., p. 98, pl. vi, f. 1-5, 1874.

Quercus semialatus Lx. Am. Journ. Sci., vol. xlvi, p. 96, 1868.

Dakota group: Beatrice, Nebraska.

Anisophyllum sp. Dn. Trans. Roy. Soc. Canada, vol. i, sec. iv, p. 28, pl. viii, f. 34, 1882 [1883].

Upper Cretaceous: Baynes Sound.

ANOMALOPHYLLITES Watlet. Descr. Pl. Foss. d. Bassin d. Paris, p. 99, 1866.

Anomalophyllites bridgetonensis Hollick. Bull. Torr. Bot. Club, vol. xxiv, p. 329, pls. 311-313, 1897.

Miocene?: Bridgeton, New Jersey.

ANOMOZAMITES Schimper. Pal. Vég., vol. ii, p. 140, 1870.

Anomozamites acutiloba? Heer. Fl. Foss. Arct., vol. iv, abt. 2, p. 102, pl. xxiii, f. 1a; xxiv, f. 1-3; xxv, f. 9; xxvii, f. 3b, 1876; Dn., Trans. Roy. Soc. Canada, vol. iii, sec. iv, p. 7, pl. i, f. 7, 1885 [1886].

Kootanie: Near Canmore, British Columbia.

Anomozamites angustifolius Font. Potomac Fl., p. 167, pl. xxx, f. 2, 3, 1889.

Potomac formation: Fredericksburg, Virginia; Baltimore, Maryland.

Anomozamites virginicus Font. Potomac Fl., p. 168, pl. xxx, f. 4; xxxi, f. 3, 1889.

Potomac formation: Near Potomac Run and near Telegraph Station, Virginia.

Anomozamites sp., Dn. Trans. Roy. Soc. Canada, vol. x, sec. iv, p. 91, 1892 [1893].

Kootanie: Martin Brook, British Columbia.

ANONA Linnæus. Syst., ed. i, 1735.

Anona cretacea Lx. Cret. and Tert. Fl., p. 77, 1883.

Dakota group: Glasco, Kansas.

Anona robusta Lx. Cret. and Tert. Fl., p. 124, pl. xx, f. 4, 1883.

Laramie group?: Golden, Colorado.

ANTHOLITHES Brongniart. Mém. d. Mus. d'Hist. Nat., vol. viii, p. 238, 1822.

Antholithes amissus Heer. Fl. Foss. Arct., vol. i, p. 139, pl. xxiii, f. 12, 1868.

Miocene?: Mackenzie River.

Antholithes amcenus Lx. Cret. and Tert. Fl., p. 203, pl. xxxiv, f. 13-15, 1883.

Green River group: Florissant, Colorado.

Antholithes horridus Dn. Trans. Roy. Soc. Canada, vol. iii, sec. iv, p. 7, 1885 [1886].

Carpolithes horridus Dn. Trans. op. cit., vol. i, sec. iv, p. 21, pl. i, f. 3, 3a, 3b, 1882 [1883].

Upper Cretaceous: Pine River, Northwest Territory.

Kootanie: North Fork Old Man River, British Columbia.

Antholithes improbus Lx. Cret. and Tert. Fl., p. 204, pl. xl, f. 20, 21, 1883.

Green River group: Uinta, formerly erroneously called Randolph County, Wyoming.

Antholithes obtusilobus Lx. Cret. and Tert. Fl., p. 203, pl. xxxii, f. 20, 1883.

Green River group: Florissant, Colorado.

Antholithes sp., Dn. Trans. Roy. Soc. Canada, vol. viii, sec. iv, p. 82, f. (in text) 11, 1890.

Miocene?: Similkameen Valley, British Columbia.

Antholithus Gadium-Rosæ Ward. Fifteenth Ann. Rept., U. S. Geol. Surv., p. 355, pl. iii, f. 7, 1895.

Potomac formation: Mount Vernon, Virginia.

APEIBOPSIS Heer. Fl. Tert. Helv., iii, p. 37, 1859.

Apeibopsis cyclophylla Lx. Fl. Dak. Gr., p. 180, pl. xxv, f. 6, 1892.

Dakota group: Kansas.

Apeibopsis? discolor Lx. Tert. Fl., p. 259, pl. xlvi, f. 4-7, 1878.

Rhamnus discolor Lx., p. p. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 398, 1872 [1873]. [See *R. discolor*.]

Laramie group: Black Buttes, Wyoming.

Apeibopsis Gaudini Lx. Am. Journ. Sci., vol. xxxii, p. 358, 1861; Geol. Vt., vol. ii, p. 715, 139, 140, 1861.

Brandon, Vermont.

Apeibopsis Heerii Lx. Am. Journ. Sci., vol. xxxii, p. 358, 1861;
Geol. Vt., vol. ii, p. 715, f. 131, 132, 133, 1861.

Brandon, Vermont.

APOCYNOPHYLLUM Unger. Gen. et. Sp. Pl. Foss., p. 433, 1850.

Apocynophyllum Scudderii Lx. Cret. and Tert. Fl., p. 172, pl. xlvA,
f. 1-5, 1883.

Green River group: Alkali Station, Wyoming.

Apocynophyllum sordidum Lx. Fl. Dak. Gr., p. 109, pl. lxiv, f. 11,
1892.

Dakota group: Kansas.

ARALIA (Tournefort) Linnæus. Syst., ed. i, 1735.

Aralia acerifolia Lx. Cret. and Tert. Fl., p. 232, pl. xlix, f. 5, 1883;
op. cit., p. 265, pl. xlvB, f. 1.

Fort Union group: Bad Lands, Dakota.

Miocene: Chalk Bluffs, California.

Aralia angustiloba Lx. Mem. Mus. Comp. Zoöl., vol. vi, no. 2, p. 22,
pl. v, f. 4, 5, 1878.

Miocene: Chalk Bluffs, California.

Aralia berberidifolia Lx. Fl. Dak. Gr., p. 135, pl. xvi, f. 11, 1892.

Dakota group: Kansas.

Aralia concinna Newby. = *Aralia Wellingtoniana*.

Aralia coriacea Vel. Fl. Böhm. Kreideform., Theil iii, p. 11, pl. i [xvi],
f. 1-9; ii [xvii], f. 2, 1884; Hollick, Bull. Geol. Soc. Am., vol. 7, p. 13,
1895.

Cretaceous: Marthas Vineyard.

Aralia concreta Lx. Bull. U. S. Geol. and Geogr. Surv. Terr., vol. i,
p. 394 1875 [1876]; Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p.
349, pl. iv, f. 2-4, 1874 [1876].

Aralia semiorbiculata Lx. Bull. U. S. Geol. and Geogr. Surv. Terr., vol. i,
p. 394, 1875.

Dakota group: Kansas.

Aralia digitata Ward. Bull. U. S. Geol. Surv., no. 37, p. 62, pl.
xxvii, f. 3, 5; pl. xxviii, f. 1, 1887; Lx., Proc. U. S. Nat. Mus., vol. xi,
p. 20, pl. xi, f. 4, 1888.

Fort Union group: Clear Creek, Montana.

Eocene?: Cherry Creek, Oregon.

Aralia dissecta Lx. Cret. and Tert. Fl., p. 176, pl. xxxv, 1883.

Green River group: Florissant, Colorado.

Aralia dubia Font. = *Aralia Fontainei*.

Aralia Fontainei nom. nov.

Aralia dubia * Font. Potomac Fl., p. 314, pl. clvii, f. 1, 7, 1889.

[**Aralia dubia* Font., 1889. Preoccupied by *A. dubia* (Ett.) Sch., Pal. Vég.,
iii, 35, 1874.]

Potomac formation: Deep Bottom, Virginia.

Aralia formosa Heer. Kieide-Flora v. Moletain, p. 18, pl. viii, f. 3, 1869; cf. Lx., Cret. and Tert. Fl., p. 60, pl. xi, f. 3, 4, 1883; Fl. Dak. Gr., p. 131, 1892; Newby., Fl. Amboy Clays, p. 116, pl. xxii, f. 8, 1895 [1896].

Dakota group: Morrison, Colorado.

Amboy clay: South Amboy, New Jersey.

Aralia ? gracilis Lx. Tert. Fl., p. 236, pl. xxxix, f. 1, 1878.

Liquidambar gracilis Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 287, 1871 [1872].

Laramie?: Bridgers Pass, Wyoming.

Aralia groenlandica Herr. Fl. Foss. Aret., vol. vi, abt. 2, p. 84, pl. xxxviii, f. 3; xxxix, f. 1; xlvi f. 16, 17, 1882; Lx., Fl. Dak. Gr., p. 134, pl. liv, f. 1-3, 1892; Newby., Fl. Amboy Clays, p. 116, pl. xxviii, f. 4, 1895 [1896].

Dakota group: Kansas.

Amboy clay: Woodbridge, New Jersey.

Cretaceous: Marthas Vineyard.

Aralia lasseniana Lx. Proc. U. S. Nat. Mus., vol. xi, p. 28, pl. xiv, f. 5, 1888.

Miocene?: Lassen County, California.

Eocene?: Lassen County, California.

Aralia Looziana Sap. and Mar. Mém. Cour. Acad. Roy. de Belgique, vol. xli, p. 77, pl. xiii, f. 1-3, 1878; Ward, Bull. U. S. Geol. Surv., no. 37, p. 6, pl. xxvii, f. 2, 1887.

Fort Union group: Clear Creek, Montana.

Aralia macrophylla Newby. Proc. U. S. Nat. Mus., vol. v, p. 513, 1882 [1883].

Eocene: Green River, Wyoming.

Aralia Masoni Lx. Fl. Dak. Gr., p. 133, pl. xv, f. 4, 1892.

Dakota group: Kansas.

Aralia nassauensis Hollick. Bull. Torr. Bot. Club, vol. xxi, p. 55, pl. 174, f. 3, 7, 1894.

Cretaceous: Brooklyn, New York.

Aralia notata Lx. Tert. Fl., p. 237, pl. xxxix, f. 2-4, 1878; Ward, Bull. U. S. Geol. Surv., no. 37, p. 60, pl. xxvii, f. 1; Proc. U. S. Nat. Mus., vol. xi, p. 40, pl. xvii, f. 1, 1888.

Platanus dubia* Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 406, 1873 [1874].

[*Aralia dubia. Preoccupied by *A. dubia* (Ett.) Sch., Pal. Vég. iii, 35, 1874.]

Denver beds: Mount Bross and Golden, Colorado.

Fort Union group: Elk Creek, Yellowstone National Park; Yellowstone River.

Eocene?: Cherry Creek, Oregon.

Aralia palmata Newby. Fl. Amboy Clays, p. 117, pl. xxxix, f. 6, 7; xl, f. 3, 1895 [1896].

Amboy clay: Woodbridge, New Jersey.

Aralia patens Newby (MSS.). Hollick, Bull. Torr. Bot. Club, vol. xxi, p. 54, pl. 174, f. 4, 1894; Newby., Fl. Amboy Clays, p. 117, pl. xxxviii, f. 6, 1895 [1896].

Cretaceous: Glen Cove, Long Island.

Amboy clay: Woodbridge, New Jersey.

Aralia polymorpha Newby. Fl. Amboy Clays, p. 118, pl. xxxix, f. 1-5, 1895 [1896].

Amboy clay: Woodbridge, New Jersey.

Aralia pungens Lx. = *Artocarpus Lessigiana*.

Aralia quinquepartita Lx. Bull. U. S. Geol. Surv. Terr., vol. i, p. 394, 1875 [1876]; Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 302, 1871 [1872]; Newby., Fl. Amboy Clays, p. 115, pl. xl, f. 1, 2, 1895 [1896].

Dakota group: Fort Harker, Kansas.

Amboy clay: Woodbridge, New Jersey.

Aralia radiata Lx. Cret. and Tert. Fl., p. 64, pl. vii, f. 2, 3, 1883.

Dakota group: Kansas.

Aralia rotundata Dn. Trans. Roy. Soc. Canada, vol. iii, sec. iv, p. 14, pl. iv, f. 5, 1885 [1886].

Mill Creek series: Mill Creek.

Aralia rotundiloba Newby. Fl. Amboy Clays, p. 118, pl. xxviii, f. 5; xxxvi, f. 9, 1895 [1896].

Amboy clay: Woodbridge, New Jersey.

Aralia Saportana Lx. Bull. U. S. Geol. Surv. Terr., vol. i, p. 394, 1875 [1876]; Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 350, pl. i, f. 2, 2a, 1874 [1876]; Cret. and Tert. Fl., p. 61, pl. viii, f. 1, 2; pl. ix, f. 1, 2, 1883.

Dakota group: Kansas.

Aralia Saportana deformata Lx. Fl. Dak. Gr., p. 131, pl. xxiii, f. 1, 2, 1892.

Dakota group: Kansas.

Aralia semiorbiculata Lx. = *Aralia concreta*.

Aralia submarginata Lx. Cret. and Tert. Fl., p. 63, 1883; Fl. Dak. Gr., p. 133, pl. xv, f. 3, 1892.

Dakota group: Kansas.

Aralia tenuinervis Lx. Cret. and Tert. Fl., p. 63, pl. vii, f. 4, 1883.

Dakota group: Kansas.

Aralia Towneri Lx. Bull. U. S. Geol. and Geogr. Surv. Terr., vol. i, p. 394, 1875 [1876]; Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 349, pl. iv, f. 1, 1874 [1876]; Cret. and Tert. Fl., p. 62, pl. vi, f. 4, 1883; Fl. Dak. Gr., p. 132, pl. xxiii, f. 3, 4; pl. xxxi, f. 1, 1892.

Dakota group: Kansas.

Clay marl (Upper Cretaceous): Cliffwood, New Jersey (?).

Aralia transversinervia Sap. and Mar. Rev. Fl. Heers. Gelind., p. 79, pl. 12, f. 4; pl. 14, f. 1, 1878; Hollick, Bull. Torr. Bot. Club., vol. xxi, p. 54, pl. 176, f. 1, 1894.

Cretaceous: Oak Neck, Long Island.

Aralia triloba Newby. Later Extinct Floras, p. 58, 1868.

Fort Union group: Fort Clarke.

Aralia tripartita Lx. = *Sterculia tripartita*.

Aralia Wellingtoniana Lx. Fl. Dak. Gr., p. 131, pl. xxi, f. 1; pl. xxii, f. 2, 3, 1892; Newby, Fl. Amboy Clays, p. 114, pl. xxvi, f. 1, 1895 [1896].

Aralia concinna Newby. Fl. Amboy Clays, p. 114, 1895 [1896].

Dakota group: Kansas.

Amboy clay: Woodbridge, New Jersey.

Aralia Westoni Dn. Trans. Roy. Soc. Canada, vol. iii, sec. iv, p. 14, pl. iv, f. 6, 1885 [1886].

Mill Creek series: Mill Creek.

Aralia Whitneyi Lx. Mem. Mus. Comp. Zoöl., vol. vi, no. 2, p. 20. pl. v, f. 1, 1878.

Miocene: Chalk Bluffs, California.

Miocene?: John Day Valley, Oregon.

Aralia Zaddachi? Heer. Mioc. Balt. Fl., p. 89, pl. xv, f. 1b, 1869; Lx., Mem. Mus. Comp. Zoöl., vol. vi, p. 21, pl. v, f. 2, 3, 1878; Cret. and Tert. Fl., p. 265, pl. xlv B, f. 8-9, 1883.

Miocene: Table Mountain, Tulomne County, California.

Aralia sp., Dn. Trans. Roy. Soc. Canada, vol. iii, sec. iv, p. 14, 1885 [1886].

Mill Creek series: North Fork Old Man River.

Aralia sp., Kn. Bull. Geol. Soc. Am., vol. viii, p. 133, 1897.

Laramie: Lance Creek, Converse County, Wyoming.

Aralia sp., Kn. Bull. Geol. Soc. Am., vol. viii, p. 133, 1897.

Laramie: Lance Creek, Converse County, Wyoming.

ARALIÆPHYLLUM Fontaine. Potomac Fl., p. 316, 1889.

Araliæphyllum aceroides Font. Potomac Fl., p. 319, pl. clvi, f. 11; clxii, f. 2, 1889.

Potomac formation: Near Brooke, Virginia.

Araliæphyllum acutilobum Font. Potomac Fl., p. 318, pl. clxiii, f. 2, 1889.

Potomac formation: Near Brooke, Virginia.

Araliæphyllum magnifolium Font. Potomac Fl., p. 318, pl. clix, f. 9, 10, 1889.

Potomac formation: Near Brooke, Virginia.

Araliæphyllum obtusilobum Font. Potomac Fl., p. 317, pl. clxiii, f. 1, 4; clxiv, f. 3, 1889.

Potomac formation: Near Brooke, Virginia.

Araliopsis sp., Lx. Rept. on Clay in N. J., p. 29, 1878 = ?

Amboy clay: Sayreville, New Jersey.

ARAUCARIA Jussieu. Gen. Pl., p. 413, 1789.

Araucaria obtusifolia Font. Potomac Fl., p. 249, pl. lxxxvi, f. 13, 1889.

Potomac formation: Trents Reach, Virginia.

Araucaria podocarpoides Font. Potomac Fl., p. 349, pl. lxxxvi, f. 4, 1889.

Potomac formation: Near Brooke, Virginia.

Araucaria spathulata Newby. Later Extinct Floras, p. 10, 1868; Ill. Cret. and Tert. Pl., pl. ii, f. 5, 5a, 1878.

Dakota group?: Sage Creek, Nebraska.

Araucaria zamioides Font. Potomac Fl., p. 250, pl. cxxi, f. 1, 1889.

Potomac formation: Near Potomac Run, Virginia.

ARAUCARIOXYLON Krause in Schimper. Pal. Vég., vol. ii, p. 380, 1872.

Araucarioxylon virginianum Kn. Bull. U. S. Geol. Surv., no. 56, p. 50, pl. vii, f. 2-5, 1888.

Triassic?: Taylorsville, Virginia.

Araucarioxylon sp., Kn. Journ. Geol., vol. ii, p. 260, 1894.

Lower Cretaceous: Black Hills, South Dakota.

ARAUCARITES Presl. in Sternberg Vers., ii, p. 203, 1833.

Araucarites aquiensis Font. Potomac Fl., p. 264, pl. cxxxiii, f. 8-12, 1889.

Potomac formation: Near Brooke, Virginia.

Araucarites ovatus Hollick. Trans. N. Y. Acad. Sci., vol. xvi, p. 128, pl. xii, f. 3a, 4, 1897.

Clay marl (Upper Cretaceous): Cliffwood, New Jersey.

Araucarites virginicus Font. Potomac Fl., p. 263, pl. cxxxiv, f. 7, 1889.

Potomac formation: Trents Reach, Virginia.

ARISÆMA Martius. Flora, vol. xiv, p. 459, 1831.

Arisæma cretacea Lx. Fl. Dak. Gr., p. 38, pl. xlvi, f. 1, 1891.

Dakota group: Kansas.

Arisæma? dubia Hollick. Trans. N. Y. Acad. Sci., vol. xvi, p. 130, pl. xii, f. 6, 1897.

Clay marl (Upper Cretaceous): Cliffwood, New Jersey.

Arisæma? mattewanense Hollick. Trans. N. Y. Acad. Sci., vol. xvi, p. 130, pl. xii, f. 7, 1897.

Clay Marl (Upper Cretaceous): Cliffwood, New Jersey.

ARISTOLOCHIA (Tournefort) Linnæus. Syst., ed. i, 1735.

Aristolochia cordifolia Newby. Later Extinct Floras, p. 74, 1868.

Fort Union group: Yellowstone River, Montana.

Aristolochia curvata Lx. Am. Journ. Sci., vol. xxxii, p. 359, 1861; Geol. Vt., vol. ii, p. 715, f. 135, 136, 1861.

Brandon, Vermont.

Aristolochia dentata (Heer) Lx. = *Aristolochites dentata*.

Aristolochia obscura Lx. Am. Jour. Sci., vol. xxxii, p. 359, 1861; Geol. Vt., vol. ii, p. 715, f. 137, 138, 141, 1861.

Brandon, Vermont.

Aristolochia oeningensis Heer. Fl. Tert. Helv., vol. ii, p. 104, pl. c, f. 11b, 1856; Lx., Am. Journ. Sci., vol. xxxii, p. 359, 1861; Geol. Vt., vol. ii, p. 715, f. 134, 1861.

Brandon, Vermont.

ARISTOLOCHILÆPHYLLUM Fontaine. Potomac Fl., p. 322, 1889.

Aristolochiæphyllum crassinerve Font. Potomac Fl., p. 322, pl. clx, f. 3-6, 1889.

Potomac formation: Near Brooke, Virginia.

ARISTOLOCHITES Heer. Phyll. cré. d. Nebr.: Mém. Soc. helv. d. Sci. Nat., p. 18, 1866.

Aristolochites dentata Heer. Phyll. cré. d. Nebr., p. 18, pl. ii, f. 1, 2, 1866; Lx., Cret. Fl., p. 87, pl. xxx, f. 6, 1874.

Aristolochia dentata Heer. Lesquereux, Crét. and Tert. Fl., p. 59, 1883.

Dakota group: Nebraska.

Aristolochites infundibuliformis Lx. Bull. U. S. Geol. and Geogr. Surv. Terr., vol. i, p. 393, 1875 [1876]. [Apparently not afterwards referred to.]

ARTOCARPIDIUM Unger. Foss. Fl. v. Sotzka, p. 36: Denkschr. Wien Akad, vol. ii, p. 254, 1850.

Artocarpidium cretaceum Ett. Kreidefl. v. Niedersch., p. 251, pl. ii, f. 4, 1867; Lx., Fl. Dak. Gr., p. 86, pl. 1, f. 7, 1892.

Dakota group: Kansas.

Artocarpidium olmediaefolium? Heer. = *Celastrinites artocarpidioides*.

ARTOCARPOPHYLLUM Dawson. Trans. Roy. Soc. Canada, vol. xi, sec. iv, p. 60, 1893 [1894].

Artocarpophyllum occidentale Dn. Trans. Roy. Soc. Canada, vol. xi, sec. iv, p. 60, pl. xii, f. 51; pl. xiii, f. 52, 1893 [1894].

Upper Cretaceous: Vancouver Island.

ARTOCARPUS Forster. Char. Gen., p. 101, 1776.

Artocarpus californica Kn. Science, vol. xxi, p. 24, 1893.

Auriferous gravels: Independence Hill, California.

Artocarpus Lessigiana (Lx.) Kn. Science, vol. xxi, p. 24, 1893.

Myrica? *Lessigii* Lx. Tert. Fl., p. 136, pl. lxiv, f. 1, 1878.

Myrica? *Lessigiana* Lx., Bull. U. S. Geol. and Geogr. Surv. Terr., vol. i, p. 386, 1875 [1876]; Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 312, 1874 [1876].

Aralia pungens Lx. Cret. and Tert. Fl., p. 123, pl. xix, f. 3, 4, 1883.

Denver group: Golden, Colorado.

Laramie group: Coal Creek and Morrison, Colorado.

Miocene?: John Day Valley, ? Oregon.

ARUNDO (Tournefort) Linnæus. Gen., ed. i, p. 19, 1737.

Arundo cretaceus Lx. = *Phragmites cretaceus*.

Arundo Göpperti? Münst. in Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., 1871, suppl., p. 5, 1871 [1872]; Tert. Fl., p. 86, pl. viii, f. 3-5, 1878.

Green River group: Green River, Wyoming.

Denver group: Silver Cliff, Colorado.

Arundo? obtusa Lx. Bull. U. S. Geol. and Geogr. Surv. Terr., vol. i, p. 385, 1875 [1876]; Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 311, 1874 [1876]; Tert. Fl., p. 87, pl. viii, f. 9, 9c, 1878.

Denver group: Golden, Colorado.

Arundo reperta Lx. Bull. U. S. Geol. and Geogr. Surv. Terr., vol. i, p. 384, 1875 [1876]; Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 311, 1874 [1876].

Green River group: Green River, Wyoming.

ASIMINA Adanson. Fam. Pl., vol. ii, p. 365, 1763.

Asimina eocenica Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 387, 1872 [1873]; Tert. Fl., p. 251, pl. xliii, f. 5-8, 1878.

Denver group: Golden, Colorado.

Laramie group?: Carbon, Wyoming.

Asimina triloba (L.) Don. Penhallow, Bull. Geol. Soc. Am., vol. i, p. 323, 1890; Hollick, Bull. Torr. Bot. Club, vol. xix, p. 331, 1892.

Pleistocene: Don River, Toronto.

Miocene?: Bridgeton, New Jersey.

ASPIDIOPHYLLUM Lesquereux. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 361, 1874 [1876].

Aspidiophyllum dentatum Lx. Cret. and Tert. Fl., p. 88, 1883; Fl. Dak. Gr., p. 212, pl. xxxix, f. 1, 1892.

Dakota group: Kansas.

Aspidiophyllum platanifolium Lx. Cret. and Tert. Fl., p. 88, pl. ii, f. 4, 1883.

Dakota group: Clay County, Kansas.

Aspidiophyllum trilobatum Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 361, pl. ii, f. 1, 2, 1874 [1876]; Cret. and Tert. Fl., p. 87, pl. xii, f. 1; pl. xiii, f. 1-5; pl. xiv, f. 1, 1883.

Dakota group: Kansas.

Aspidium angustipinnatum Font. = *Dryopteris angustipinnata*.

Aspidium angustipinnatum montanense Font. = *Dryopteris angustipinnata montanense*.

Aspidium cystopteroides Font. = *Dryopteris cystopteroides*.

Aspidium dentatum Font. = *Dryopteris dentata*.

Aspidium Dunkeri (Schimp.) Font. = *Cladophlebis Dunkeri*.

Aspidium ellipticum Font. = *Dryopteris elliptica*.

Aspidium "Fisheri" Heer. Lesquereux (1870) = *Lastrea intermedia*.

Aspidium fredericksburgense Font. = *Dryopteris fredericksburgense*.

Aspidium goldianum Lx. = *Lastrea goldiana*.

Aspidium heterophylla Font. = *Dryopteris heterophylla*.

- Aspidium Kennerleyi* Newby = *Dryopteris Kennerleyi*.
Aspidium Lakesii (Lx.) Kn. = *Dryopteris arguta*.
Aspidium macrocarpum Font. = *Dryopteris macrocarpa*.
Aspidium microcarpum Font. = *Dryopteris microcarpa*.
Aspidium monocarpum Font. = *Dryopteris monocarpa*.
Aspidium montanense Font. = *Dryopteris montanense*.
Aspidium oblongifolium Font. = *Dryopteris oblongifolia*.
Aspidium (Erstedi) Heer. = *Dryopteris (Erstedi)*.
Aspidium parvifolium Font. = *Dryopteris parvifolia*.
Aspidium pinnatifidum Font. = *Dryopteris pinnatifida*.
Aspidium pulchellum Heer. Lesquereux (1870) = *Lastrea intermedia*.
Aspidium virginicum Font. = *Dryopteris virginica*.

ASPLENIOPTERIS Fontaine. Potomac Fl., p. 117, 1889.

Aspleniopteris adiantifolia Font. Potomac Fl., p. 118, pl. xvi, f. 6, 1889.

Potomac formation: Fredericksburg, Virginia.

Aspleniopteris pinnatifida Font. Potomac Fl., p. 118, pl. xxii, f. 1-3, 6, 7, 1889.

Potomac formation: Fredericksburg, Virginia.

ASPLENITES Göppert. Syst. Fil. Foss.: Nova Acta Acad. Cæs. Leop. Nat. Cur., vol. xvii, p. 277, 1836.

Asplenites sp., Dn. Trans. Roy. Soc. Canada, 2d ser., vol. i, sec. iv, p. 142, pl. iv, f. 4, 1895-96.

Eocene: Stanley Park, Vancouver, British Columbia.

ASPLENIUM Linnæus. Gen. Pl., p. 322, 1737.

Asplenium (Diplazium) Crossii nom. nov.

Diplazium Mülleri? Heer. Lesquereux, Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 393, 1873 [1874]; Tert. Fl., p. 55, pl. iv, f. 10, 10a, 1878. [Not *Diplazium Mülleri* Heer.]

Denver group: Golden, Colorado.

Asplenium albertum Dn. Trans. Roy. Soc. Canada, vol. iii, sec. iv, p. 11, pl. iii, f. 6, 1885 [1886].

Mill Creek series: Mill Creek.

Asplenium Dicksonianum Heer. Fl. Foss. Arct., vol. iii, pt. 2, p. 31, pl. i, f. 1-5, 1874; Lx., Fl. Dak. Gr., p. 24, pl. i, f. 1, 1a, 1891; Newby, Fl. Amboy Clays, p. 39, pl. i, f. 6, 7; ii, f. 1-8; iii, f. 3, 1896.

Amboy clay: Woodbridge, New Jersey.

Dakota group: Kansas.

Kootanie: Near Canmore; Coal Creek and North Fork Old Man River, British Columbia.

Asplenium (Diplazium) distans Heer. Mém. l'Acad. Imp. d. Sci. St. Pet., series vii, vol. xxii [Beiträge Jura-Fl. Ost-Sib. u. Amurl.], p. 97, pl. xix, f. 5-7, 1876; Dn., Trans. Roy. Soc. Canada, vol. iii, sec. iv, p. 5, pl. iii, f. 7, 1885 [1886].

Kootanie: Near Canmore, British Columbia.

Asplenium dubium Font. Potomac Fl., p. 109, pl. x, f. 9.

Potomac formation: Fredericksburg, Virginia.

Asplenium erosum (Lx.) n. comb.

Pteris erosa Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., 1871, suppl., p. 12, 1871 [1872]; Tert. Fl., p. 53, pl. iv, f. 8, 1878; Cret. and Tert. Fl., p. 121, pl. xix, f. 1, 1883.

Denver group: Golden, Colorado, etc.

Asplenium Fœrsteri Deb. and Ett.? Die urwelt. Acrobryen: (Denkschr. Wien. Akad., vol. xvii, p. 193), p. 13, pl. ii, f. 4-7, 11, 1859; Newby., Fl. Amboy Clays, p. 41, pl. iv, f. 1-11, 1895 [1896].

Amboy clay: Woodbridge, South Amboy, New Jersey.

Asplenium martinianum Dn. Trans. Roy. Soc. Canada, vol. iii, sec. iv, p. 5, pl. i, f. 1, 1885 [1886].

Kootanie: Martin Creek, Anthracite, and North Fork Old Man River, British Columbia.

Asplenium niobrara Dn. Trans. Roy. Soc. Canada, vol. i, sec. iv, p. 20, pl. i, f. 1, 1882 [1883].

Peace River: Northwest Territory.

Asplenium subcretaceum Sap.=*Anemia subcretacea*.

Asplenium tenerum Lx. Cret. and Tert. Fl., p. 221, pl. xlviA, f. 1, 2, 1883.

Fort Union group: Bad Lands, Dakota.

Asplenium subsimplex (Lx.) n. comb.

Pteris subsimplex Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 392, 1873 [1874]; Tert. Fl., p. 52, pl. iv, f. 5-7, 1878.

Pteris anceps Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 376, 1872 [1873].

Pteris undulata Lx. Bull. Mus. Comp. Zoöl., vol. xvi, p. 43, 1888.

Osmunda major Lx. Cret. and Tert. Fl., p. 121, pl. xviii, f. 5, 1883.

Denver group: Golden, Sedalia, Colorado.

Asplenium sp., Kn. Bull. Geol. Soc. Am., vol. viii, p. 140, 1897.

Laramie?: North Fork Dutton Creek, Wyoming.

Asplenium sp., Kn. Bull. Geol. Soc. Am., vol. viii, p. 133, 1897.

Laramie: Lance Creek, Converse County, Wyoming.

ATHROTAXOPSIS Fontaine. Potomac Fl., p. 239, 1889.

Athrotaxopsis expansa Font. Potomac Fl., p. 241, pl. cxiii, f. 5, 6; cxv, f. 2; cxvi, f. 5; cxvii, f. 6; cxxxv, f. 15, 18, 22, 1889.

Potomac formation: Near Potomac Run, Trents Reach, Dutch Gap Canal, Virginia.

Athrotaxopsis grandis Font. Potomac Fl., p. 240, pl. cxiv, f. 1-3; cxvi, f. 1-4; cxxxv, f. 10, 1889.

Potomac formation: Fredericksburg and near Brooke, Virginia.

Athrotaxopsis pachyphylla Font. Potomac Fl., p. 242, pl. cxv, f. 1, 3; cxvii, f. 1, 3-5, 1889.

Potomac formation: Dutch Gap Canal, Virginia.

Athrotaxopsis tenuicaulis Font. Potomac Fl., p. 241, pl. cxiv, f. 4, 5; cxv, f. 4; cxvi, f. 6; cxvii, f. 2, 1889.

Potomac formation: Fredericksburg and near Dutch Gap Canal, Virginia.

AZOLLOPHYLLUM Penhallow. Trans. Roy. Soc. Canada, vol. viii, sec. iv, p. 77, 1890 [1891].

Azollophyllum primævum Penhallow in Dn. Trans. Roy. Soc. Canada, vol. viii, sec. iv, p. 77, f. 2, 1890.

Miocene?: Stump Lake, Similkameen Valley, British Columbia.

BAIERA Braun. Flora, 1841, p. 33, 1841. [Not seen.]

Baiera brevifolia Newby. Am. Journ. Sci., vol. xli, p. 199, pl. xiv, f. 3, 1891.

Kootanie: Great Falls, Montana.

Baiera foliosa Font. Potomac Fl., p. 213, pl. xciv, f. 13, 1889.

Potomac formation: Near Dutch Gap Canal, Virginia.

Baiera incurvata Heer? Fl. Foss. Arct., vol. vi, abt. ii, p. 45, pl. xiii, f. 6, 1882; Newby., Fl. Amboy Clays, p. 60, pl. x, f. 6, 1895 [1896].

Amboy clay: Woodbridge, New Jersey.

Baiera longifolia (Pom.) Heer. Fl. Foss. Arct., vol. iv, abt. i, p. 39, pl. viii, f. 6, 1877; Dn., Trans. Roy. Soc. Canada, vol. iii, sec. iv, p. 9, pl. ii, f. 5, 1885 [1886].

Dicropteris longifolia Pomel. Bericht d. deutsch. Naturf. Gesell., 1847, p. 339, 1847.

Kootanie: Martin Creek, British Columbia.

BAIEROPSIS Fontaine. Potomac Fl., p. 205, 1889.

Baieropsis adiantifolia Font. Potomac Fl., p. 211, pl. xcii, f. 8, 9; xciii, f. 1-3; xciv, f. 2, 3, 1889.

Potomac formation: Fredericksburg, near Potomac Run, and near Telegraph Station, Virginia.

Baieropsis adiantifolia minor Font. Potomac Fl., p. 212, pl. xciv, f. 1, 1889.

Potomac formation: Fredericksburg, Virginia.

Baieropsis denticulata Font. Potomac Fl., p. 210, pl. xciii, f. 7, 1889.

Potomac formation: Near Dutch Gap Canal, Virginia.

Baieropsis denticulata angustifolia Font. Potomac Fl., p. 210, pl. xcii, f. 7, 1889.

Potomac formation: Near Brooke, Virginia.

Baieropsis expansa Font. Potomac Fl., p. 207, pl. lxxxix, f. 1, 3; xci, f. 1; xci, f. 2; xcii, f. 5, 1889.

Potomac formation: Fredericksburg, Dutch Gap Canal, Trents Reach, Virginia.

Baieropsis foliosa Font. Potomac Fl., p. 209, pl. xciii, f. 4-6, 1889.

Potomac formation: Near Brooke, White House Bluff, Virginia.

Baieropsis longifolia Font. Potomac Fl., p. 210, pl. xci, f. 6, 1889.

Potomac formation: Near Telegraph Station, Virginia.

- Baieropsis microphylla** Font. Potomac Fl., p. 212, pl. xc, f. 6, 1889.
Potomac formation: Fredericksburg, Virginia.
- Baieropsis pluripartita** Font. Potomac Fl., p. 208, pl. lxxxix, f. 4; xc, f. 2-5; xci, f. 1, 3, 4, 7; xcii, f. 1, 2, 6, 1889.
Potomac formation: Trents Reach, Dutch Gap Canal, Virginia.
- Baieropsis pluripartita minor** Font. Potomac Fl., p. 208, pl. xci, f. 5; xcii, f. 3, 4, 1889.
Potomac formation: Trents Reach, Dutch Gap Canal, Virginia.
- Baieropsis** sp., Dn. Trans. Roy. Soc. Canada, vol. x, sec. iv, p. 87, 1892.
Kootanie: Anthracite, British Columbia.
- BANKSIA** Linnæus. f. Suppl., p. 15, 1781.
- Banksia helvetica** Heer. Fl. Tert. Helv., vol. ii, p. 98, 1856; Lx., Trans. Am. Phil. Soc., vol. xiii, p. 418, pl. xvi, f. 6, 1869.
Eolignitic: Mississippi.
- Banksia pusilla** Vel. Fl. Bœhm. Kreidfl., Theil ii, p. 7 [32], pl. i [ix], f. 14-17, 1883; Hollick, Trans. N. Y. Acad. Sci., vol. xvi, p. 132, pl. xiii, f. 7, 1897.
Clay marl (Upper Cretaceous): Cliffwood, New Jersey.
- BANKSITES** Saporta. Études sur la Végétation d. Sud-Est de la France, à l'Époque Tertiaire, pt. i, p. 103, Paris, 1863.
- Banksites lineatus** Lx. Cret. and Tert. Fl., p. 165, pl. xxxii, f. 21, 1883.
Green River group: Florissant, Colorado.
- BAUHINIA** Linnæus. Gen., ed. i, p. 126, 1737.
- Bauhinia cretacea** Newby. Bull. Torr. Bot. Club, vol. xiii, no. 5, p. 77, pl. lvi, 1886; Fl. Amboy Clays, p. 91, pl. xliii, f. 1-4; xlv, f. 1-3, 1895 [1896].
Cretaceous clays: New Jersey.
- Bauhinia ? gigantea** Newby. Fl. Amboy Clays, p. 93, pl. xx, f. 1, 1895 [1896].
Amboy clay: Woodbridge, New Jersey.
- BENNETTITES** Carruthers. Trans. Linn. Soc., London, vol. xxvi, p. 681, 1868.
Bennettites dacotensis McBride=Cycadeoidea dacotensis.
Bennettites sp., Carruthers=Cycadeoidea marylandica.
- BENZOIN** Fabric. Enum. Pl. Hort. Helmst, 1763.
- Benzoin Masoni** (Lx.) n. comb.
Lindera Masoni Lx. Fl. Dak. Gr., p. 96, pl. xviii, f. 9, 10, 1892.
Dakota group: Kansas.
- Benzoin antiquum ?** Heer. Fl. Tert. Helv., vol. ii, p. 81, pl. xc, f. 1-8, 1855; Lx., Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 379, 1872 [1873]. [Not later mentioned by Lesquereux.]
— ? : Golden, Colorado.
- Benzoin venustum** (Lx.) n. comb.
Lindera venusta Lx. Fl. Dak. Gr., p. 95, pl. xvi, f. 1, 2, 1892.
Dakota group: Kansas.

BERBERIS (Tournefort) Linnæus. Gen., ed. i, p. 94, 1737.

Berberis simplex Newby. Proc. U. S. Nat. Mus., vol. v, p. 514, 1882 [1883].

Miocene?: Bridge Creek, Oregon.

BERCHEMIA Necker. Elem., vol. ii, p. 122, 1790.

Berchemia multinervis (Al. Br.) Heer. Fl. Tert. Helv., vol. iii, p. 77, pl. cxxiii, f. 9-18, 1859; Lx., Tert. Fl., p. 277, pl. lii, f. 9, 10, 1878; Ward, Bull. U. S. Geol. Surv. no. 37, p. 73, pl. xxxiii, f. 1 [non f. 2], 1887.

• *Rhamnus multinervis* Al. Br. In Buckl. Geol., vol. i, p. 513, 1836.

Berchemia parviflora Lx. Am. Journ. Sci., vol. xlv., 2d ser., p. 207, 1868.

Fort Union group: Bull Mountains, Montana.

Denver group: Golden, Sedalia, Colorado.

Laramie group: Raton Mountains, New Mexico?

Miocene: John Day Valley, Oregon.

Berchemia multinervis (Al. Br.) Ward = *Rhamnus goldianus*.

Berchemia parvifolia Lx. = *Berchemia multinervis*.

BETULA (Tournefort) Linnæus. Syst., ed. i, 1735.

Betula æqualis L. Mem. Mus. Comp. Zoöl., vol. vi, no. 2, p. 2, pl. i, f. 2-4, 1878.

Miocene: Chalk Bluffs, California.

Betula alaskana Lx. Proc. U. S. Nat. Mus., vol. v, p. 446, pl. vi, f. 14, 1882 [1883].

Eocene?: Chignik Bay, Alaska.

Betula angustifolia Newby. Proc. U. S. Nat. Mus., vol. v, p. 508, 1882 [1883].

Miocene?: Bridge Creek, Oregon.

Betula basiserrata Ward. Bull. U. S. Geol. Surv. no. 37, p. 32, pl. xiv, f. 4, 1887.

Fort Union group: Seven Mile Creek, Montana.

Betula beatriciana Lx. Am. Journ. Sci., vol. xlvi, p. 95, 1868.

Dakota group: Beatrice, Nebraska.

Betula caudata Göpp. Lx. = *Betula Stevensonii* Lx.

Betula coryloides Ward. Bull. U. S. Geol. Surv. no. 37, p. 31, pl. xiv, f. 3, 1887.

Fort Union group: Seven Mile Creek, Montana.

Betula elliptica Sap. Climat et Vég. Tert., p. 160, 1861; Lx., Cret. and Tert. Fl., p. 242, pl. li, f. 6, 1883.

Miocene: John Day Valley, Oregon.

Betula fallax Lx. Bull. Mus. Comp. Zoöl., vol. xvi, p. 45, 1888.

Denver group: Golden, Colorado.

Betula florissanti Lx. Cret. and Tert. Fl., p. 150, pl. xxvii, f. 11, 1883.

Green River group: Florissant, Colorado.

Betula Göpperti Lx. = *Betula Stevensonii*.

Betula gracilis? Ludw. Paleontogr., vol. viii, p. 99, pl. xxxii, f. 3-6, 1861; Lx., Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 397, 1873 [1874]; Tert. Fl., p. 138, pl. xvii, f. 20, 1878.

Denver group: Golden, Colorado.

- Betula grandifolia** Ett. Foss. Fl. v. Bilin: Denkschr. Wien. Akad., vol. xxvi, p. 123, pl. xiv, f. 23, 25, 1867; Heer., Fl. Foss. Alaska, p. 29, pl. v, f. 8, 1868.
Eocene?: Port Graham, Alaska.
- Betula heterodonta** Newby. Proc. U. S. Nat. Mus., vol. v, p. 509, 1882 [1883].
Miocene?: Bridge Creek, Oregon.
- Betula lutea?** Mx. f. Penhallow, Trans. Roy. Soc. Canada, 2d ser., vol. ii, sec. iv, p. 66, 70, 1896.
Pleistocene: Besserers Wharf, Ottawa River.
- Betula MacClintockii** Cramer in Heer. Fl. Foss. Arct., vol. i, p. 174, pl. xxxiv, f. 4a, b; xxxix, f. 1-9, 1868.
Tertiary: Banks Land.
- Betula nigra** L. Knowlton, Am. Geol., vol. xviii, p. 371, 1896.
Glacial: Morgantown, West Virginia.
- Betula parce-dentata** Lx. Cret. and Tert. Fl., p. 242, pl. l, f. 12, 1883.
Miocene: John Day Valley, Oregon.
- Betula perantiqua** Dn. Trans. Roy. Soc. Canada, vol. i, sec. iv, p. 27, pl. vii, f. 27, 1882 [1883].
Upper Cretaceous: Baynes Sound, Port McNeill.
- Betula prisca** Ett. Foss. Fl. v. Wien., p. 11, pl. i, f. 15-17, 1851; Ward, Bull. U. S. Geol. Surv., no. 37, p. 31, pl. xiv, f. 2, 1887.
Fort Union group: Seven-Mile Creek, Montana.
Eocene?: Alaska.
- Betula Schimperii** Lx. Bull. Mus. Comp. Zoöl., vol. xvi, p. 45; 1888.
Denver group: Golden, Colorado.
- Betula Stevensonii** Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 293, 1871 [1872]; Tert. Fl., p. 139, pl. xviii, f. 1-5, 1878.
Betula Göpperti Lx. Tert. Fl., p. 138, pl. xvii, f. 21-23, 1878.
Betula! caudata? Göpp. Lx. Ann. Rept. op. cit., p. 293, 1871 [1872].
Laramie group?: Carbon and Evanston, Wyoming; British Columbia.
- Betula truncata** Lx. Cret. and Tert. Fl., p. 150, pl. xxviii, f. 7, 8, 1883.
Green River group: Florissant, Colorado.
- Betula Vogdesii** Lx. Bull. U. S. Geol. and Geogr. Surv. Terr., vol. i, p. 386, 1875 [1876]; Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 312, 1874 [1876]; Tert. Fl., p. 137, pl. xvii, f. 18, 19, 1878.
——: Fort Fetterman.
- Betula** sp., Dn. Trans. Roy. Soc. Canada, vol. v, sec. iv, p. 34, 1887. [Fossil wood.]
Canadian upper Laramie: Souris River.
- Betula** sp., Dn. Geol. Surv. Canada, Rept. of Progress for 1872-73, append. i, p. 68, 1873.
Cretaceous: Vancouver Island, British Columbia.
- Betula** sp., Dn. Trans. Roy. Soc. Canada, vol. i, sec. iv, p. 22, 1882 [1883].
——: Peace River, Northwest Territory.

Betula sp., Dn. Trans. Roy. Soc. Canada, vol. v, sec. iv, p. 33, 1887.
[Wood.]

Belly River series: Ribstone Creek, Canada.

Fort Pierre series: Swift Current, Canada.

Betula? sp., Dn. Trans. Roy. Soc. Canada, vol. viii, sec. iv, p. 89, f. (in text) 30, 1890.

Eocene?: Similkameen Valley, British Columbia.

Betula sp., Heer. Fl. Foss. Arct., vol. i, p. 137, pl. xxiii, f. 10, 1868.

Miocene?: Mackenzie River.

BETULITES Göppert. De Floribus in Statu Fossili, p. 22, Breslau, 1837.

Betulites denticulata Heer. Phyll. cré. d. Nebr., p. 15, pl. iv, f. 5, 6, 1866.

Dakota group: Blackbird Hill, Nebraska.

Betulites populifolius Lx. Fl. Dak. Gr., p. 64, pl. vi, f. 1, 2, 1892.

Dakota group: Kansas.

Betulites rugosus Lx. Fl. Dak. Gr., p. 65, pl. vi, f. 3-5, 1892.

Dakota group: Kansas.

Betulites Snowii Lx. Fl. Dak. Gr., p. 64, pl. v, f. 1-4, 1892.

Dakota group: Kansas.

Betulites Westii Lx. Fl. Dak. Gr., p. 60, pl. iv, f. 1-22; pl. v, f. 5-14, 1892.

Dakota group: Kansas.

Betulites Westii crassus Lx. Fl. Dak. Gr., p. 63, pl. v, f. 15-17, 1892.

Dakota group: Kansas.

Betulites Westii cuneatus Lx. Fl. Dak. Gr., p. 62, pl. v, f. 8, 1892.

Dakota group: Kansas.

Betulites Westii grewiopsideus Lx. Fl. Dak. Gr., p. 63, pl. lxiv, f. 10-13, 1892.

Dakota group: Kansas.

Betulites Westii inaequalateralis Lx. Fl. Dak. Gr., p. 62, pl. v, f. 10-13, 1892.

Dakota group: Kansas.

Betulites Westii lanceolatus Lx. Fl. Dak. Gr., p. 62, pl. v, f. 14, 1892.

Dakota group: Kansas.

Betulites Westii latifolius Lx. Fl. Dak. Gr., p. 61, pl. iv, f. 9-11, 1892.

Dakota group: Kansas.

Betulites Westii multinervis Lx. Fl. Dak. Gr., p. 62, pl. iv, f. 20-23, 1892.

Dakota group: Kansas.

Betulites Westii oblongus Lx. Fl. Dak. Gr., p. 61, pl. iv, f. 17-19, 1892.

Dakota group: Kansas.

Betulites Westii obtusus Lx. Fl. Dak. Gr., p. 61, pl. iv, f. 5-8, 1892.

Dakota group: Kansas.

Betulites Westii populoides Lx. Fl. Dak. Gr., p. 63, 1892.

Dakota group: Kansas.

- Betulites Westii quadratifolius** Lx. Fl. Dak. Gr., p. 62, pl. v, f. 9, 1892.
Dakota group: Kansas.
- Betulites Westii reniformis** Lx. Fl. Dak. Gr., p. 62, pl. v, f. 5, 1892.
Dakota group: Kansas.
- Betulites Westii rhomboidalis** Lx. Fl. Dak. Gr., p. 62, pl. v. f. 6, 7, 1892.
Dakota group: Kansas.
- Betulites Westii rotundatus** Lx. Fl. Dak. Gr., p. 61, pl. iv, f. 12-16, 1892.
Dakota group: Kansas.
- Betulites Westii subintegrifolius** Lx. Fl. Dak. Gr., p. 61, pl. iv, f. 1-4, 1892.
Dakota group: Kansas.
- Betulites**, stipules of, Lx. Fl. Dak. Gr., p. 65, pl. v, f. 18, 1892.
Dakota group: Kansas.
- BLECHNUM** Linnæus. Sp. Pl., ed. ii, p. 1077, 1753.
- Blechnum Göpperti** Ett. Farnkräuter, p. 153, 1865; Lesquereux, Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 283, 1871 [1872].
[Not afterwards recognized by Lesquereux.]
Green River group?: Henry's Fork.
- BOMBAX** Linnæus. Sp. Pl., ed. i, p. 511, 1753.
- Bombax virginianensis** Font. Potomac Fl., p. 310, pl. cli, f. 4, 1889.
Potomac formation: Near Brooke, Virginia.
- BRACHYPHYLLUM** Brongniart. Prodrôme d'une Hist. d. Vég. Foss., Paris, 1828, p. 109.
- Brachyphyllum crassicaule** Font. Potomac Fl., p. 221, pl. c, f. 4; cix, f. 1-7; cx, f. 1-3; cxi, f. 6-7; cxii, f. 6-8; clxviii, f. 9, 1889.
Potomac formation: Trents Reach, near Brooke, and near Dutch Gap Canal, Virginia.
- Brachyphyllum crassum* Lx. = *Brachyphyllum macrocarpum*.
- Brachyphyllum macrocarpum** Newby. Fl. Amboy Clays, p. 51, [foot-note] 1895 [1896].
*Brachyphyllum crassum** Lx. Proc. U. S. Nat. Mus., vol. x, p. 34, 1887; Fl. Dak. Gr., p. 32, pl. ii, f. 5, 1891; Newby, Fl. Amboy Clays, p. 51, pl. vii, f. 1-7, 1895 [1896].
Thuites crassum Lx. Cret. and Tert. Fl., p. 32, 1883 [1884].
Brachyphyllum sp. Kn. Bull. Geol. Soc. Am., vol. viii, p. 137, 1897.
[* *B. crassum* Lx., antedated by *B. crassum* of Tenison-Woods, 1883.]
Dakota group: Kansas.
Amboy clay: New Jersey.
Montana formation: Harper Station, Wyoming; North Fork Dutton Creek, Wyoming.
Age?: Upper Kanab Valley, Utah.
- Brachyphyllum parceramosum** Font. Potomac Fl., p. 223, pl. cx, f. 4, 1889.
Potomac formation: Near Telegraph Station, Virginia.

Brachyphyllum texense Font. Proc. U. S. Nat. Mus., vol. xvi, p. 269, pl. xxxviii, f. 3-5; pl. xxxix, f. 1, 1a, 1893.

Trinity division: Glenrose, Texas.

Brachyphyllum sp. (Cone) Font. Potomac Fl., p. 224, pl. clxviii, f. 2, 1889.

Potomac formation: Trents Reach, Virginia.

Brachyphyllum sp. (Cone), Font. Potomac Fl., p. 223, pl. cxxxv, f. 8, 1889.

Potomac formation: Trents Reach, Virginia.

Brachyphyllum sp. (Cone), Font. Potomac Fl., p. 224, pl. cxxxv, f. 9, 1889.

Potomac formation: Trents Reach, Virginia.

Brachyphyllum sp. Kn. (1897)=*Brachyphyllum macrocarpum*.

BRASENIA Schreber. Gen Pl., p. 372, 1789.

Brasenia antiqua Newby. Proc. U. S. Nat. Mus., vol. v, p. 514, 1882 [1883.]

Eocene: Green River, Wyoming.

Brasenia antiqua Dn.=*Nelumbo Dawsoni*.

Brasenia peltata Pursh. Penhallow, Bull. Geol. Soc. Am., vol. i, p. 326, 1890.

Pleistocene: Greens Creek, Ottawa.

BROMELIA (Plumier) Linnæus. Syst., ed. i, 1735.

Bromelia? *tenuifolia* Lx. Fl. Dak. Gr., p. 41, pl. i, f. 13, 1891.

Dakota group: Kansas.

BROMUS Dillenius ex Linnæus. Syst., ed. i, 1735.

Bromus ciliatus L. Penhallow, Bull. Geol. Soc. Am. vol. i., p. 332, 1890.

Pleistocene: Greens Creek, Ottawa River, Canada.

BRYUM (Dillenius) Linnæus. Gen. Pl., p. 323, 1737.

Bryum sp., Hinde. Canadian Journal [Can. Institute], vol. xv, p. 399, 1878.

Interglacial: Scarboro Heights, Ontario.

BUMELIA Swartz. Prodr. Veg. Ind. Oce., p. 49, 1788.

Bumelia florissanti Lx. Cret. and Tert. Fl., p. 174, pl. xxxiv, f. 4, 5, 1883.

Green River Group: Florissant, Colorado.

Bumelia Marcouana (Heer.) Lx.=*Liriodendron primævum*.

Bumelia? *rhomboidea* Lx. Fl. Dak. Gr., p. 113, pl. li, f. 10, 1892.

Dakota Group: Kansas.

CABOMBA Aublet. Pl. Gui., vol. i, p. 321, 1775.

Cabomba gracilis Newby. Proc. U. S. Nat. Mus., vol. v, p. 514, 1882 [1883].

Fort Union group: Fort Union, North Dakota.

Cabomba grandis Newby. Proc. U. S. Nat. Mus., vol. v, p. 514, 1882 [1883].

Fort Union group: Fort Union, North Dakota.

CÆSALPINIA Linnæus. Sp. Pl., p. 380, 1753.

Cæsalpinia Cookiana Hollick in Newby. Fl. Amboy Clays, p. 94, pl. xlii, f. 49, 50, 1895 [1896].

Amboy clay: New Jersey.

Cæsalpinia linearis Lx. = *Mimosites linearifolius*.

CALAMOPSIS Heer. Fl. Tert. Helv., vol. iii, p. 169, 1859.

Calamopsis Danai Lx. Trans. Am. Phil. Soc., vol. xiii, p. 411, pl. xiv, f. 1-3, 1869.

Eolignitic: Mississippi.

Callicoma microphylla? Ett. Lx. = *Myrica drymeja*.

CALLISTEMOPHYLUM Ettingshausen. Tert. Fl. v. Häring in Tirol, p. 83, 1853.

Callistemophyllum Heerii Ett. Sitzb. Wien. Akad., vol. lv, abt. i, p. 261, pl. iii, f. 9, 1867; Lx, Fl. Dak. Gr., p. 138, pl. xxxviii, f. 8, 1892.

Dakota group: Kansas.

Callistemophyllum latum Dn. Trans. Roy. Soc. Canada, vol. vii, sec., iv, p. 72, pl. x, f. 8, 1889.

Miocene?: Mackenzie River.

Callitris? sp., Font. Potomac Fl., p. 272, pl. clxix, f. 8, 1889.

Potomac formation: Dutch Gap Canal, Virginia.

CALYCITHES [**CALYCITES** Auct.] Massalongo. Schizzo Geognostico, p. 72, Verona, 1850.

Calycites diospyrifomis Newby. Fl. Amboy Clays, p. 132, pl. xlvi, f. 39-41, 1895 [1896].

Amboy clay: Woodbridge, New Jersey.

Calycites hexaphylla Lx. = *Diospyros Wodani*.

Calycites parvus Newby. Fl. Amboy Clays, p. 131, pl. xlvi, f. 28, 29, 1895 [1896].

Amboy clay: Woodbridge, New Jersey.

Calycites polycephalus Newby. Later Extinct Floras, p. 31, 1868.

[Not described, figured, or afterwards referred to.]

Calycites sp., Lx. Fl. Dak. Gr., p. 221, pl. xxii, f. 8, 1892.

Dakota group: Kansas.

CAREX (Dillenius) Linnæus. Syst., ed. i, 1735.

Carex aquatilis Whal. Macoun in Coleman, Journ. Geol., vol. iii, p. 626, 1895.

Pleistocene: Scarboro Heights, Ontario.

Carex Berthoudi Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 377, 1872 [1873]; Tert. Fl., p. 92, pl. ix., f. 3, 4, 1878.

Denver group: Golden, Colorado.

Carex burrardiana Penhallow in Dn. Trans. Roy. Soc. Canada, 2d ser., sec. iv, p. 145, pl. iv., f. 6, 1895-96.

Eocene: Burrard Inlet, Vancouver City, British Columbia.

Carex majellanica Lam. Penhallow, Bull. Geol. Soc. Am., vol. i, p. 325, 1890.

Pleistocene: Greens Creek, Ottawa River, Canada.

Carex servata Heer. Fl. Foss. Alask., p. 24, pl. i, f. 13, 13c, d, 1869.

Eocene?: Port Graham, and Herendeen Bay, Alaska.

Carex utriculata Boott. Macoun in Coleman, Journ. Geol., vol. iii, p. 626, 1895.

Pleistocene: Scarboro Heights, Ontario.

Carex vancouverensis Penhallow in Dn. Trans. Roy. Soc. Canada, 2d ser., vol. i, sec. iv, p. 144, pl. iv, f. 5, 1895-96.

Eocene: Stanley Park, British Columbia.

CARPINUS Linnæus. Gen., ed. i, p. 292, 1737.

Carpinus attenuata Lx. Cret. and Tert. Fl., p. 152, pl. xxvii, f. 10, 1883.

Green River group: Florissant, Colorado.

Carpinus fraterna Lx. Cret. and Tert. Fl., p. 152, pl. xxvii, f. 12-14, 1883.

Green River group: Florissant, Colorado.

Carpinus grandis Ung. Synop. Pl. Foss., p. 220, 1845; Lx., Am. Journ. Sci., vol. xxxii, p. 360, 1861; Geol. Vt., vol. ii, p. 716, f. 151?, 1861; Newby, Bost. Journ. Nat. Hist., vol. vii., p. 519, 1863; Lx., Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 313, 1874 [1876]; Tert. Fl., p. 143, pl. xix, f. 9; lxiv, f. 8-10, 1878.

Quercus elkoana Lx. Ann. Rept., p. 413, 1873 [1874].

Miocene: John Day Valley, Oregon.

Eocene: Cook Inlet, Alaska; Stump Lake, British Columbia; ?Brandon, Vermont.

Green River group: Florissant, Colorado; Elko Station, Nevada.

Carpinus pyramidalis (Göpp.) Heer. Fl. Tert. Helv., vol. iii, p. 177, pl. lxxxvii, f. 7b.; cl, f. 27, 28, 1859; Lx., Proc. U. S. Nat. Mus., vol. xi, p. 18, 1888.

Miocene: John Day Valley, Oregon.

CARPITES Schimper. Pal. Vég., vol. iii, p. 421, 1874.

Carpites bursæformis Lx. Tert. Fl., p. 306, pl. lx, f. 30, 1878.

Laramie group: Black Buttes, Wyoming.

Carpites cocculoides (Heer.) Lx. Tert. Fl., p. 307, pl. lx, f. 32-35, 1878.

Carpolithes cocculoides Heer. Fl. Foss. Arct., vol. ii, p. 484, pl. lii, f. 9, 1869.

Laramie group?: Carbon, Wyoming.

Carpites cocculoides major Lx. Tert. Fl., p. 307, pl. lx, f. 38, 39, 1878.

Laramie group?: Carbon, Wyoming.

- Carpites coffeæformis** Lx. Tert. Fl., p. 303, pl. lx, f. 6, 7, 1878.
Denver group: Golden, Colorado.
- Carpites coniger** Lx. Fl. Dak. Gr., p. 221, pl. lxii, f. 5, 1892.
Dakota group: Kansas.
- Carpites cordiformis** Lx. Fl. Dak. Gr., p. 220, pl. xxii, f. 9, 1892.
Dakota group: Kansas.
- Carpites costatus** Lx. Tert. Fl., p. 303, pl. lx, f. 5, 1878.
Denver group: Golden, Colorado.
- Carpites fragariæformis** Lx. Proc. U. S. Nat. Mus., vol. xi, p. 16, 1888.
Miocene: John Day Valley, Oregon.
- Carpites gemmaceus** Lx. Cret. and Tert. Fl., p. 204, pl. xl, f. 19, 1883.
Green River group: Florissant, Colorado.
- Carpites glumæformis** Lx. Tert. Fl., p. 304, pl. xxxv, f. 4*d*; pl. lx, f. 14-17, 1878.
Laramie group: Black Buttes, Wyoming.
- Carpites laurineus** Lx. Tert. Fl., p. 304, pl. lx, f. 20, 21, 1878.
Laramie group: Golden, Colorado.
- Carpites ligatus** Lx. Tert. Fl., p. 307, pl. lx, f. 36, 36*a*, 1878.
Laramie group: Placer Mountain, New Mexico.
- Carpites lineatus** (Newby.) Lx. Tert. Fl., p. 302, pl. lx, f. 1-1*d*, 1878.
Carpolithus lineatus Newby. Later Extinct Floras, p. 31, 1868.
Laramie group?: Evanston, Wyoming.
- Carpites liriophylli** ? Lx. Cret. and Tert. Fl., p. 77, pl. xi, f. 5, 1883.
Dakota group: Morrison, Colorado.
- Carpites milioides** Lx. Cret. and Tert. Fl., p. 204, pl. xl, f. 18, 1883.
Green River group: Florissant, Colorado.
- Carpites minutulus** Lx. Tert. Fl., p. 305, pl. lx, f. 25, 1878.
Denver group: Golden, Colorado.
- Carpites mitratus** Lx. Tert. Fl., p. 304, pl. lx, f. 18, 19, 1878.
Laramie group: Black Buttes, Wyoming.
- Carpites oviformis** Lx. Tert. Fl., p. 302, pl. xxx, f. 6*a*, 1878.
Denver group: Golden, Colorado.
- Carpites Pealei** Lx. Tert. Fl., p. 306, pl. lx, f. 31, 1878.
Green River group: Florissant, Colorado.
- Carpites rhomboidalis** Lx. Tert. Fl., p. 306, pl. lx, f. 28, 29, 1878.
Laramie group: Golden, Colorado.
- Carpites rostellatus** Lx. = Ginkgo.
- Carpites spiralis** Lx. Tert. Fl., p. 306, pl. lx, f. 27, 1878.
Carpolithes spiralis Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., 1871, suppl., p. 16, 1871 [1872].
Laramie group: Placer Mountain, New Mexico.
- Carpites tiliaceus** (Heer.) Lx. Fl. Dak. Gr., p. 221, pl. xxii, f. 6, 7, 1892.
Carpolithes tiliaceus Heer. Mioc. Balt. Fl., p. 101, pl. xxx, f. 42, 43, 1869.
Dakota group: Kansas.

Carpites triangulosus Lx. Tert. Fl., p. 302, pl. lx, f. 4; p. lxxii, f. 19, 20, 1878.

Denver group: Golden, Colorado.

Laramie group?: Black Buttes, Wyoming?; Carbon, Wyoming.

Carpites utahensis Lx. Tert. Fl., p. 305, pl. lx, f. 22, 1878.

Laramie group?: Evanston, Wyoming.

Carpites valvatus Lx. Tert. Fl., p. 307, pl. lx, f. 37, 1878.

Laramie group?: Fort Steele, Wyoming.

Carpites verrucosus Lx. Tert. Fl., p. 305, pl. lx, f. 23, 1878.

Laramie group: Black Buttes, Wyoming.

Carpites Viburni Lx. Bull. U. S. Geol. and Geogr. Surv. Terr., vol. i, p. 382, 1875 [1876]; Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 308, 1874 [1876]; Tert. Fl., p. 305, pl. lx, f. 26, 26a, 1878.

Laramie group: Black Buttes, Wyoming.

Carpites? sp., Lx. Fl. Dak. Gr., p. 221, 1892.

Carpolithes? Lx. Cret. Fl., p. 114, pl. xxvii, f. 5; pl. xxx, f. 11, 1874.

Dakota group: Kansas?.

CARPOLITHES Schlotheim. Petrefactenkunde, p. 418, 1820.

Carpolithes arachioides Lx. = Leguminosites? arachioides.

Carpolithes brandoniana Lx. Am. Journ. Sci., vol. xxxii, p. 356, 1861; Geol. Vt., vol. ii, p. 713, 1861.

——: Brandon, Vermont.

Carpolithes brandoniana elongata Lx. Am. Journ. Sci., vol. xxxii, p. 356, 1861; Geol. Vt., vol. ii, p. 713, f. 111–113, 1861.

——: Brandon, Vermont.

Carpolithes brandoniana obtusa Lx. Am. Journ. Sci., vol. xxxii, p. 356, 1861; Geol. Vt., vol. ii, p. 713, f. 114–117, 1861.

——: Brandon, Vermont.

Carpolithes bursæformis Lx. Am. Journ. Sci., vol. xxxii, p. 359, 1861; Geol. Vt., vol. ii, p. 715, f. 146, 147, 1861.

——: Brandon, Vermont.

Carpolithes cocculoides? Heer. Fl. Foss. Arct., vol. ii, abt. iv, p. 484, pl. lii, f. 9, 9b, 1869; Lesquereux, Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 290, 1871 [1872]. [Not afterwards recognized by Lesquereux.]

Laramie group?: Carbon, Wyoming.

Carpolithes compositus Lx. = Palmocarbon compositum.

Carpolithes dentatus Penhallow in Dn. Trans. Roy. Soc. Canada, vol. viii, sec. iv, p. 89, f. (in text) 26, 1890.

Eocene?: Stump Lake, British Columbia.

Carpolithes falcatus Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 398, 1872 [1873]. [Not afterwards recognized by its author.]

Laramie group?: Black Buttes, Wyoming.

Carpolithes fissilis Lx. Am. Journ. Sci., vol. xxxii, p. 356, 1861; Geol. Vt., vol. ii, p. 713, f. 118, 119, 124, 1861.

——: Brandon, Vermont.

- Carpolithes Grayana** Lx. Am. Journ. Sci., vol. xxxii, p. 356, 1861; Geol. Vt., vol. ii, p. 714, f. 122, 1861.
 ———: Brandon, Vermont.
- Carpolithes horridus** Dn. = **Antholithes horridus**.
- Carpolithes irregularis** Lx. Am. Journ. Sci., vol. xxxii, p. 356, 1861; Geol. Vt., vol. ii, p. 714, f. 120, 121, 123, 125, 128, 1861.
 ———: Brandon, Vermont.
- Carpolithes Lescurii** Hitchcock. Portland Soc. Nat. Hist., vol. i, pt. 1, p. 95, pl. i, f. 5, 1862.
 ———: Brandon, Vermont.
- Carpolithes lineatus** Newby. Later Extinct Floras, p. 31, 1868; Ill. Cret. and Tert. Pl., pl. xxv, f. 1, 1878; Lx., Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 295, 1871 [1872].
 Laramie group?: Evanston, Wyoming.
- Carpolithes (Zamites) meridionalis** Dn. Trans. Roy. Soc. Canada, vol. xi, sec. iv, p. 64, pl. x, f. 42, 1893 [1894].
 Upper Cretaceous: Port McNeill, Vancouver Island.
- Carpolithes mexicanus** Lx. = **Palmocarpus mexicanum**.
- Carpolithes osseus** Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 404, 1872 [1873]. [Not afterwards recognized by its author.]
 Eocene?: Elk Creek, Yellowstone National Park.
- Carpolithes palmarum** Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 382, 1872 [1873]. [Not afterwards mentioned by its author.]
 ———?: Golden, Colorado.
- Carpolithes seminulum** Heer. Fl. Foss. Arct., vol. i, p. 139, pl. xxiii, f. 11, 1868.
 Miocene?: Mackenzie River.
- Carpolithes spiralis** Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., 1871, suppl., p. 16, 1871 [1872]. [Not afterwards mentioned by author.]
 Laramie group?: Placer Mountain, New Mexico.
- Carpolithes** Dn. Rept. on Geol. and Res. near 49th Parallel, appen. A, p. 330, 1875.
 Lignitic Tertiary: West of Woody Mountain.
- Carpolithes venosus?** Sternb. Vers., vol. ii, p. 208, pl. 58, f. 18-20, 1833; Lx., Am. Journ. Sci., vol. xxxii, p. 361, 1861; Geol. Vt., vol. ii, p. 717, f. 159-160, 1861.
 ———: Brandon, Vermont.
- Carpolithes** sp., Dn. Trans. Roy. Soc. Canada, vol. vii, sec. iv, p. 72, 1889.
 Eocene?: Mackenzie River.
- Carpolithes** sp., Dn. Trans. Roy. Soc. Canada, vol. i, sec. iv, p. 29, 1882 [1883].
 Upper Cretaceous: Baynes Sound.
- Carpolithes** sp., Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 418, 1873 [1874].
 Green River group: Near Florissant, Colorado.

Carpolithes sp., Dn. Trans. Roy. Soc. Canada, vol. x, sec. iv, p. 90, f. (in text) 15, 1892.

Kootanie: Anthracite, ? British Columbia.

CARPOLITHUS agglomeratus Font. Potomac Fl., p. 267, pl. cxxxiv, f. 5, 1889.

Potomac formation: Fredericksburg, Virginia.

Carpolithus brookensis Font. Potomac Fl., p. 268, pl. cxxxv, f. 2, 4; cxxxvi, f. 6; clxvii, f. 6, 1889.

Potomac formation: Near Brooke and near Dutch Gap Canal, Virginia.

Carpolithus conjugatus Font. Potomac Fl., p. 267, pl. cxxxiv, f. 9, 1889.

Potomac formation: Fredericksburg, Virginia.

Carpolithus curvatus Font. Potomac Fl., p. 269, pl. cxxxv, f. 17, 1889.

Potomac formation: Fredericksburg, Virginia.

Carpolithus drupæformis Hollick. Trans. N. Y. Acad. Sci., vol. xvi, p. 134, pl. xi, f. 4, 4a, 1897.

Clay marl (Upper Cretaceous): Cliffwood, New Jersey.

Carpolithus fasciculatus Font. Potomac Fl., p. 265, pl. cxxxiv, f. 1, 1889.

Potomac formation: Fredericksburg, Virginia.

Carpolithus floribundus Newby. Fl. Amboy Clays, p. 133, pl. xlvi, f. 17-21, 1895 [1896].

Amboy clay: Woodbridge, New Jersey.

Carpolithus geminatus Font. Potomac Fl., p. 267, pl. cxxxiv, f. 10, 1889.

Potomac formation: Near Dutch Gap Canal, Virginia.

Carpolithus Harveyi Font. Proc. U. S. Nat. Mus., vol. xvi, p. 278, pl. xliii, f. 3, 1893.

Trinity division: Glenrose, Texas.

Carpolithus hirsutus Newby. Fl. Amboy Clays, p. 134, pl. xlvi, f. 14, 14a, 1895 [1896].

Amboy clay: Woodbridge, New Jersey.

Cretaceous: Marthas Vineyard.

Carpolithus latus Font. Potomac Fl., p. 269, pl. cxxxv, f. 3, 1889.

Potomac formation: Near Dutch Gap Canal, Virginia.

Carpolithus mucronatus Font. Potomac Fl., p. 270, pl. cxxxvi, f. 15, 1889.

Potomac formation: Near Brooke, Virginia.

Carpolithus obovatus Font. Proc. U. S. Nat. Mus., vol. xvi, p. 278, pl. xliii, f. 5, 1893.

Trinity division: Glenrose, Texas.

Carpolithus ovæformis Newby. Fl. Amboy Clays, p. 134, pl. xlvi, f. 15, 16, 1895 [1896].

Amboy clay: Woodbridge, New Jersey.

Carpolithus pruniformis Newby. Fl. Amboy Clays, p. 133, pl. xlvi, f. 42, 1895 [1896].

Amboy clay: Woodbridge, New Jersey.

Carpolithus sessilis Font. Potomac Fl., p. 269, pl. cxxxvi, f. 9, 1889.
Potomac formation: Near Dutch Gap Canal, Virginia.

Carpolithus spinosus Newby. Proc. U. S. Nat. Mus., vol. v, p. 514, 1882 [1883].

Laramie group: Purgatory River, New Mexico.

Carpolithus ternatus Font. Potomac Fl., p. 265, pl. cxxxiv, f. 2-4, 6, 8, 1889.

Potomac formation: Fredericksburg, Virginia.

Carpolithus virginienis Font. Potomac Fl., p. 266, pl. cxxxiv, f. 11-14; cxxxv, f. 1, 5; clxviii, f. 7, 1889.

Potomac formation: Near Telegraph and Station near Dutch Gap Canal, Virginia.

Kootanie: Great Falls, Montana.

Carpolithus woodbridgensis Newby. Fl. Amboy Clays, p. 133, pl. xlvi, f. 22, 1895 [1896].

Amboy clay: Woodbridge, New Jersey.

Carpolithus sp., Hollick. Trans. N. Y. Acad. Sci., vol. xii, p. 38, pl. i, f. 12, 1892.

Cretaceous: Kreischerville, Staten Island.

Carya antiquorum Newby. = *Hicoria antiquorum*.

Carya bilinica (Ung.) Ett. = *Hicoria juglandiformis*.

Carya Bruckmani Heer. = *Hicoria Bruckmani*.

Carya elænoides (Ung.) Heer. = *Hicoria elænoides*.

Carya Heerii (Ett.) Heer. Fl. Tert. Helv., vol. iii, p. 93, 1859; Lesquereux, Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 289, 1871 [1872]. [Not afterwards recognized by Lesquereux.]

Juglans Heerii Ett. Foss. Fl. v. Tokay: Sitzb. Wien. Akad. vol. xi, p. 35, [811] pl. ii, f. 5-7, 1853.

Green River group?: Green River, Wyoming.?

Carya olivæformis Nutt. Lx. = *Hicoria pecan*.

Carya rostrata (Göpp.) Schimp. = *Hicoria rostrata*.

Carya vermontana Lx. = *Hicoria vermontana*.

Carya verrucosa Lx. = *Hicoria verrucosa*.

Carya sp., Dn. = *Hicoria* sp.

CASSIA (Tournefort) Linnæus. Syst., ed. i, 1735.

Cassia Fischeri Heer. Fl. Tert. Helv., vol. iii, p. 119, pl. cxxxvii, f. 62-65, 1859; Lx., Cret. and Tert. Fl., p. 202, 1883.

Green River group: Florissant, Colorado.

Cassia concinna? Heer. Fl. Tert. Helv., vol. iii, p. 122, pl. cxxxviii, f. 41, 1859; Lx., Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 402, 1872 [1873]; Tert. Fl., p. 299, pl. lix, f. 8, 8a, 1878.

Laramie group: Evanston, Wyoming.

Cassia obtusa Kn. 18th Ann. Rept. U. S. Geol. Surv., pt. iii, p. 731, pl. c, f. 4, 5, 1898.

Payette formation: Marsh, Idaho.

Cassia phaseolites? Ung. Denkschr. Wien. Akad., vol. ii, p. 188, pl. lxxv, f. 1-5; lxxvi, f. 1-9, 1850; Lx, Proc. U. S. Nat. Mus., vol. xi, p. 16, 1888.

Miocene: John Day Valley, Oregon.

Cassia polita Lx. Fl. Dak. Gr., p. 146, 1892.

Dakota group: Kansas.

Cassia problematica Lx. Fl. Dak. Gr., p. 146, pl. xxxviii, f. 3, 1892.

Dakota group: Kansas.

CASTALIA Salisbury. In Ann. Bot., vol. ii, p. 71, 1805.

Castalia sp. (Lx.) n. comb.

Nymphaea sp., Lx. Proc. U. S. Nat. Mus., vol. x, p. 45, 1887.

——: "Mouth of Indian Creek."

Castalia sp., Kn. Bull. Geol. Soc. Am., vol. 8, p. 133, 1897.

Laramie group: Lance Creek, Converse County, Wyoming.

Castalia sp., Kn. Bull. Geol. Soc. Am., vol. 8, p. 133, 1897.

Laramie group: Lance Creek, Converse County, Wyoming.

Castalia sp., Kn. Bull. Geol. Soc. Am., vol. 8, p. 140, 1897.

Laramie group?: North Fork Dutton Creek, Wyoming.

CASTANEA Adanson. Fam. Pl., vol. ii, p. 375, 1763.

Castanea atavina Ung. Denkschr. Wien. Akad., vol. ii, p. 164, pl. xxxi, f. 5-7, 1850; Lx., Cret. and Tert. Fl., p. 247, pl. li, f. 2, 1883.

Miocene: John Day Valley, Oregon.

Castanea castaneæfolia (Ung.) n. comb.

Fagus castaneæfolia Ung. Chlor. Prot., p. 104, pl. xxviii, f. 1, 1847.

Castanea Ungerii Heer. Phil. Trans., vol. 159, p. 470, pl. xlv, f. 1-3; xlvi, f. 8, 1869; Lx., Cret. and Tert. Fl., p. 246, pl. lii, f. 1, 3-7, 1883.

Miocene?: Corral Hollow, California; John Day Valley, Oregon.

Eocene?: Alaska; Cherry Creek, Oregon; Kamloops, British Columbia.

Castanea intermedia Lx. Bull. U. S. Geol. and Geogr. Surv. Terr., vol. i, p. 386, 1875 [1876]; Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 313, 1874 [1876]; Tert. Fl., p. 164, pl. xxi, f. 7, 1878.

Green River group: Middle Park, Colorado.

Castanea nana? Elliott. Lesquereux, Am. Journ. Sci., vol. xxvii, p. 365, 1859 = *Castanea pumila*.

Castanea pumila Miller. Dict. ed. 8, 1768; Kn., Am. Geol., vol. xviii, p. 371, 1896.

Castanea nana? Elliott. Lesquereux, Am. Journ. Sci., vol. xxvii, p. 365, 1859.

Pleistocene?: Banks of Mississippi River, near Columbus, Kentucky.

Glacial: Morgantown, West Virginia.

Castanea Ungerii Heer = *Castanea castaneæfolia*.

Castanea sp., Dn. Trans. Roy. Soc. Canada, vol. iv, sec. iv, p. 27, pl. i, f. 8, 1886 [1887].

Canadian Upper Laramie: Souris River.

Castanea sp., Hollick. Bull. Torr. Bot. Club, vol. xix, p. 332, 1892.

Miocene?: Bridgeton, New Jersey.

CASTANOPSIS Spach. Hist. Veg. Phan., vol. xi, p. 185, 1842.

Castanopsis chrysophylloides Lx. Mem. Mus. Comp. Zoöl., vol. vi, no. 2, p. 9, pl. ii, f. 10, 1878.

Miocene: Chalk Bluffs, California.

CASUARINA Linnæus. Amœn. Acad., vol. iv, p. 143, 1759.

Casuarina Covillei Ward. Fifteenth Ann. Rept. U. S. Geol. Surv., p. 353, pl. iii, f. 2, 1895.

Potomac formation: Mount Vernon, Virginia.

CATALPA Scopoli. Introd., p. 170, 1771.

Catalpa crassifolia Newby. Later Extinct Floras, p. 56, 1868.

Canadian upper Laramie: Bow River, Canada.

Fort Union group: Yellowstone River, Montana.

CAUDEX Lesquereux. Cret. and Tert. Fl., p. 91, 1883.

Caudex spinosus Lx. Cret. and Tert. Fl., p. 91, 1883.

Caulinites spinosa Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 422, 1872 [1873].

Dakota group: Kansas.

CAULERPITES (Brongniart) Sternberg. Vers., vol. ii, p. 20, 1833.

[*Fucoides* § ix. *Caulerpites* Brongniart, Hist. Vég. Foss., p. 72, 1828.]

Caulerpites fastigiatus Sternb. = *Sequoia fastigiata*.

Caulerpites incrassatus Lx. Tert. Fl., p. 40, pl. i, f. 11, 12, 1878.

Delesseria incrassata Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 374, 1872 [1873].

Laramie group: Raton Mountains, New Mexico.

Caulerpites lingulatus (Lx.) n. comb.

Delesseria lingulata Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 374, 1872 [1873]; Tert. Fl., p. 41, 1878.

Laramie group: Raton Mountains, New Mexico.

CAULINITES Brongniart. Prod. Hist. Vég. Foss., p. 115, 1828.

Caulinites Beckeri Lx. Proc. U. S. Nat. Mus., vol. x, p. 36, pl. i, f. 3; ii, f. 2-4, 1887.

Pleistocene: Clear Lake, California.

Caulinites fecundus Lx. = *Onoclea fecunda*.

Caulinites sparganioides Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 391, 1872 [1873]; Tert. Fl., p. 99, pl. xiv, f. 4-11, 1878.

Livingston beds: Bozeman coal field, Montana.

Laramie group: Black Buttes, Wyoming.

Caulinites spinosa Lx. = *Caudex spinosus*.

CEANOTHUS Linnæus. Act. Soc. Sci. Upsal., p. 77, 1741.

Ceanothus! americanus? L. Lesquereux. Am. Journ. Sci., vol. xxvii, p. 365, 1859.

Pleistocene: Banks of Mississippi River, near Columbus, Kentucky.

Ceanothus cinnamomoides Lx. = *Zizyphus cinnamomoides*.

Ceanothus cretaceous Dn. Trans. Roy. Soc. Canada, vol. i, sec. iv, p. 28, pl. viii, f. 33, 1882 [1883].

Upper Cretaceous: Baynes Sound, Port McNeill, Vancouver Island.

Ceanothus fibrillosus Lx. = *Zizyphus fibrillosus*.

Ceanothus Meigsii Lx. Trans. Am. Phil. Soc., vol. xiii, p. 419, pl. xix, f. 5-7, 1869.

Eolignitic: Mississippi; Lagrange, Tennessee.

Ceanothus? sp., Dn. Trans. Roy. Soc. Canada, vol. viii, sec. iv, p. 84, f. (in text) 14, 1890 [1891].

Eocene?: North Fork Similkameen River, British Columbia.

CEBATHA Forskal. Fl. Ægypt., p. 171, 1775.

Cebatha Haydeniana (Ward) n. comb.

Cocculus Haydenianus Ward. Bull. U. S. Geol. Surv., no. 37, p. 100, pl. xlvi, f. 1-4; pl. xlvi, f. 1, 1887.

Fort Union group: Burns's Ranch and Iron Bluff, Montana.

CEDROXYLON Kraus in Schimp. Trait. Pal. Vég., vol. ii, p. 370, 1870.

Cedroxylon sp., Dn. Rept. on Geol. and Res. near 49th Parallel, appen. A, p. 331, pl. xv, f. 1, 1875.

Lignitic Tertiary: "Forty-ninth parallel."

CELASTRINITES Saporta. Ann. sci. nat. Bot., 5th ser., vol. iii, p. 52, 1865.

Celastrinites ambiguus (Lx.) n. comb.

Celastrinites lævigatus Lx. Tert. Fl., p. 269, pl. xvii, f. 16, 16a, 1878.

Myrica ambigua Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 297, 1871 [1872].

Livingston beds: Bozeman coal field, Montana.

Celastrinites artocarpidioides Lx. Tert. Fl., p. 268, pl. xxxv, f. 3, 1878.

Artocarpidium olmediaefolium? Ung. Lx. Ann. Rept. U. S. Geol. and Geogr. Surv., Terr., p. 400, 1873 [1874].

Denver group: Golden, Colorado.

Celastrinites elegans Lx. Cret. and Tert. Fl., p. 185, pl. xxxi, f. 9, 10, 1883.

Green River group: Florissant, Colorado.

Celastrinites lævigatus Lx. = *Celastrinites ambiguus*.

CELASTROPHYLLUM Göppert. Die Tertiärflora auf d. Insel Java., 1854, p. 52. [This name was mentioned as a nomen nudum by Göppert in Neues Jahrb., 1853, p. 435.]

Celastrophyllum acutidens Font. Potomac Fl., p. 305, pl. clvi, f. 8, 1889.

Potomac formation: Near Brooke, Virginia.

Celastrophyllum angustifolium Newby. Fl. Amboy Clays, p. 100, pl. xiv, f. 8-17, 1895 [1896].

Amboy clay: Woodbridge, New Jersey.

Celastrophyllum arcinerve Font. Potomac Fl., p. 304, pl. cxlvi, f. 3, 1889.

Potomac formation: Fredericksburg, Virginia.

Celastrophyllum Benedeni Sap. and Mar. Essai. Veg. Marnes Heers. Gelind., p. 67, pl. x, f. 6; pl. xii, f. 1, 2, 1874; Hollick, Bull. Torr. Bot. Club, vol. ²xxi, p. 58, pl. 177, f. 3, 4, 1894.

Cretaceous: Glen Cove, Long Island.

Celastrophyllum brittonianum Hollick in Newby. Fl. Amboy Clays, p. 105, pl. xliii, f. 37, 38, 46, 47, 1895 [1896].

Amboy clay: New Jersey.

Celastrophyllum brookense Font. Potomac Fl., p. 305, pl. clviii, f. 8; clix, f. 7, 1889.

Potomac formation: Virginia.

Celastrophyllum crenatum Heer. Fl. Foss. Arct., vol. vii, p. 41, pl. Ixii, f. 21, 1883; Newby., Fl. Amboy Clays, p. 99, pl. xlvi, f. 1-19, 1895 [1896].

Amboy clay: South Amboy, and Sayreville, New Jersey.

Celastrophyllum crassipes Lx. Fl. Dak. Gr., p. 174, pl. lvii, f. 6, 7, 1892.

Dakota group: Kansas.

Celastrophyllum cretaceum Lx. Fl. Dak. Gr., p. 173, pl. xxxviii, f. 12-14, 1892; Newby., Fl. Amboy Clays, p. 100, pl. xlii, f. 13, 1895 [1896].

Dakota group: Kansas.

Amboy clay: New Jersey.

Celastrophyllum decurrens Lx. Fl. Dak. Gr., p. 172, pl. xxxvi, f. 1, 1892.

Dakota group: Kansas.

Celastrophyllum denticulatum Font. Potomac Fl., p. 306, pl. clxix, f. 10; clxxii, f. 7, 1889.

Potomac formation: Baltimore, Maryland.

Celastrophyllum ensifolium Lx. Cret. Fl., p. 108, pl. xxi, f. 2, 3, 1874.

Magnolia ensifolia Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 302, 1871 [1872].

Dakota group: Southern Kansas.

Celastrophyllum grandifolium Newby. Fl. Amboy Clays, p. 104, pl. xix, f. 8; xxi, f. 1-4, 1895 [1896].

Amboy clay: New Jersey.

Celastrophyllum Hunteri Ward. Fifteenth Ann. Rept. U. S. Geol. Surv., p. 358, pl. iv, f. 9, 1895.

Potomac formation: Mount Vernon, Virginia.

Celastrophyllum latifolium Font. Potomac Fl., p. 306, pl. clxxii, f. 3, 6; clxxiii, f. 13, 1889.

Potomac formation: Baltimore, Maryland.

Celastrophyllum minus Hollick in Newby. Fl. Amboy Clays, p. 105, pl. xlii, f. 51, 52, 1895 [1896].

Amboy clay: New Jersey.

Celastrophyllum myrsinoides Lx. Fl. Dak. Gr., p. 174, pl. lvii, f. 8, 9, 1892.

Dakota group: Kansas.

Celastrophyllum Newberryanum Hollick in Newby. Fl. Amboy Clays, p. 101, pl. xlix, f. 1-27, 1895 [1896]; Hollick, Trans. N. Y. Acad. Sci., vol. xvi, p. 133, pl. xiv, f. 1, 1897.

Amboy clay: South Amboy, Sayreville, New Jersey.

Clay marl (Upper Cretaceous): Cliffwood, New Jersey.

Celastrophyllum obliquum Lx. Fl. Dak. Gr., p. 173, pl. lvii, f. 5, 1892.

Dakota group: Kansas.

Celastrophyllum obovatum Font. Potomac Fl., p. 307, pl. clxxii, f. 9, 10, 1889.

Potomac formation: Baltimore, Maryland.

Celastrophyllum obtusidens Font. Potomac Fl., p. 305, pl. clvi, f. 5, 1889.

Potomac formation: Near Brooke, Virginia.

Celastrophyllum proteoides Font. Potomac Fl., p. 304, pl. cxlvi, f. 5, 1889.

Potomac formation: Near Dutch Gap Canal, Virginia.

Celastrophyllum robustum Newby. Fl. Amboy Clays, p. 103, pl. xlii, f. 41, 42, 1895 [1896].

Amboy clay: New Jersey.

Celastrophyllum spatulatum Newby. Fl. Amboy Clays, p. 103, pl. xlii, f. 43-45, 1895 [1896].

Amboy clay: New Jersey.

Celastrophyllum tenuinerve Font. Potomac Fl., p. 306, pl. clxxii, f. 2, 1889.

Potomac formation: Baltimore, Maryland.

Celastrophyllum undulatum Newby. Fl. Amboy Clays, p. 102, pl. xxxviii, f. 1-3, 1895 [1896].

Amboy clay: Woodbridge, Sayreville, New Jersey.

CELASTRUS Linnaeus. Gen., ed. i, p. 59, 1737.

Celastrus alnifolius Ward. Bull. U. S. Geol. Surv., no. 37, p. 80, pl. xxxv, f. 1, 2, 1887.

Fort Union group: Burns's Ranch, Montana.

Celastrus arctica Heer. Fl. Foss. Arct., vol. vii, p. 40, pl. lxi, f. 5*d*, 5*e*, 1883; Newby., Fl. Amboy Clays, p. 98, pl. xiii, f. 8-18, 1895 [1896].

Amboy clay: South Amboy, New Jersey.

Celastrus borealis Heer. Fl. Foss. Alaska, p. 37, pl. x, f. 4, 1869.

Eocene?: Port Graham, Alaska.

Celastrus curvinervis Ward. Bull. U. S. Geol. Surv., no. 37, p. 82, pl. xxxvi, f. 3, 4, 1887.

Fort Union group: Burns's Ranch, Montana.

Celastrus ferrugineus Ward. Bull. U. S. Geol. Surv., no. 37, p. 78, pl. xxxiv, f. 1-4, 1887.

Fort Union group: Burns's Ranch, Iron Bluff, Montana.

Celastrus fraxinifolius Lx. Cret. and Tert. Fl., p. 184, pl. xxxiii, f. 2-4; pl. xl, f. 10, 1883.

Green River group: Florissant, Colorado.

Celastrus Gaudini Lx. Bull. Mus. Comp. Zoöl., vol. xvi, p. 54, 1888.
Denver group: Golden, Colorado.

Celastrus Greithianus Heer. Fl. Tert. Helv., vol. iii, p. 70, pl. cxxi, f. 63, 1859; Lx., Cret. and Tert. Fl., p. 184, 1883.

Green River group: Florissant, Colorado.

Celastrus grewiopsis Ward. Bull. U. S. Geol. Surv., no. 37, p. 81, pl. xxxvi, f. 2, 1887.

Fort Union group: Burns's Ranch, Montana.

Celastrus Lacoeci Lx. Cret. and Tert. Fl., p. 184, 1883.

Green River group: Florissant, Colorado.

Celastrus Lindgreni Kn. Eighteenth Ann. Rept. U. S. Geol. Surv., pt. iii, p. 732, pl. xcix, f. 13; c, f. 6, 1898.

Payette formation: Idaho City, Idaho.

Celastrus ovatus Ward. Bull. U. S. Geol. Surv., no. 37, p. 81, pl. xxxvi, f. 1, 1887.

Fort Union group: Iron Bluff, Montana.

Celastrus pterospermoides Ward. Bull. U. S. Geol. Surv., no. 37, p. 80, pl. xxxv, f. 3-6, 1887.

Fort Union group: Burns's Ranch and Iron Bluff, Montana.

Celastrus Taurinensis Ward. Bull. U. S. Geol. Surv., no. 37, p. 79, pl. xxxiv, f. 5, 6, 1887.

Fort Union group: Bull Mountains; Burns's Ranch, Montana.

Celastrus? sp., Hollick. Trans. N. Y. Acad. Sci., vol. xii, p. 38, pl. i, f. 4, 1892.

Cretaceous: Tottenville, Staten Island.

Celastrus sp., Kn. Bull. Geol. Soc. Am., vol. viii, p. 130, 1897.

Montana formation: Harper, Wyoming.

CELTIS Tournefort ex Linnæus. Gen., ed. i, p. 337, 1737.

Celtis brevifolia Lx. Trans. Am. Phil. Soc., vol. xiii, p. 416, pl. xx, f. 4, 5, 1869.

Eolignitic: Mississippi.

Celtis McCoshii Lx. Cret. and Tert. Fl., p. 163, pl. xxxviii, f. 7, 8, 1883.

Green River group: Florissant, Colorado; Uinta County, formerly but erroneously called Randolph County, Wyoming.

Celtis? ovata Lx. = *Ampelophyllum ovatum*.

Celtis parvifolia Newby. Proc. U. S. Nat. Mus., vol. v, p. 510, 1882 [1883].

Tertiary: Tongue River, Wyoming.

Bull. 152—5

Celtis rugosa Newby. Proc. U. S. Nat. Mus., vol. v, p. 510, 1882 [1883].
Tertiary: Tongue River, Wyoming.

CEPHALOTAXOPSIS Fontaine. Potomac Fl., p. 235, 1889.

Cephalotaxopsis brevifolia Font. Potomac Fl., p. 238, pl. cv, f. 3; cvi, f. 5; cvii, f. 5, 1889.

Potomac formation: Fredericksburg, near Dutch Gap Canal and near Potomac Run, Virginia.

Cephalotaxopsis magnifolia Font. Potomac Fl., p. 336, pl. civ, f. 4, 5; cv, f. 1, 2, 4; cvi, f. 1, 3; cvii, f. 1, 2, 4; cviii, f. 1, 3, 4, 1889.

Horseshoe beds: Tehama County, California.

Potomac formation: Near Dutch Gap Canal and Fredericksburg, Virginia.

Cephalotaxopsis microphylla Font. Potomac Fl., p. 238, pl. cviii, f. 5; cix, f. 9, 1889.

Potomac formation: Fredericksburg and near Dutch Gap Canal, Virginia.

Cephalotaxopsis ramosa Font. Potomac Fl., p. 237, pl. civ, f. 2, 3; cvi, f. 2, 4; cvii, f. 3; cviii, f. 2, 1889.

Potomac formation: Fredericksburg and near Potomac Run, Virginia.

Cephalotaxopsis sp., Dn. Trans. Roy. Soc. Canada, vol. x, sec. iv, p. 89, 1892 [1893].

Kootanie: Anthracite, British Columbia.

Cephalotaxopsis sp., Font. In Diller and Stanton, Bull. Geol. Soc. Am., vol. v, p. 450, 1894.

Knoxville beds: Tehama County, California.

CERCIS Linnæus. Sp. Pl., ed. i, p. 374, 1753.

Cercis borealis Newby. Proc. U. S. Nat. Mus., vol. v, p. 510, 1882 [1883].

Fort Union group: Valley of the Yellowstone River.

Cercis eocenica Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 384, 1872 [1873]. [Not afterwards recognized by its author.]

Laramie group?: Erie, Colorado.

Cercis parvifolia Lx. Cret. and Tert. Fl., p. 201, pl. xxxi, f. 5-7, 1883.
Green River group: Florissant, Colorado.

Cercis truncata Lx. Cret. and Tert. Fl., p. 237, 1883.

Fort Union group: Bad Lands, Dakota.

CERCOCARPUS Humbolt Bonpland and Kunth Nov. Gen. et Sp., vol. vi, p. 232, 1823.

Cercocarpus antiquus Lx. Mem. Mus. Comp. Zoöl., vol. vi, no. 2, p. 37, pl. x, f. 6-11, 1878; Cret. and Tert. Fl., p. 265, pl. xlvB, f. 2, 1883.

Miocene: Table Mountain, California.

CHAMÆCYPARIS Spach. Hist. Vég., Phan., vol. xi, p. 329, 1842.

Chamæcyparis thyoides (L.) B. S. P.

Cupressus thyoides L. Penhallow, Trans. Roy. Soc. Canada, 2d ser., vol. ii, sec. iv, p. 73, 1896.

Pleistocene: New Jersey.

CHARA (Valliant) Linnæus. Gen. Pl., p. 326, 1737.

Chara compressa Kn. Bot. Gaz., vol. xiii, no. 6, p. 156, f. (in text) 1, 2, 1888.

Eocene: Wales, Utah.

Chara ? glomerata Lx. Cret. and Tert. Fl., p. 135, pl. xxi, f. 12, 1883.

Green River group: Florissant, Colorado.

Chara Stantonii Kn. Bot. Gaz., vol. xviii, no. 4, p. 141, f. (in text) 1-3 1893.

Bear River formation: Cookeville, Utah.

Chara sp., Hinde. Canadian Journal [Can. Institute], vol. xv, p. 399, 1878.

Interglacial: Scarboro Heights, Ontario.

CHIROPTERIS Kurr in Bronn: Neues Jahrb. f. Min. 1858, p. 143, 1858.

Chiropteris spatulata Newby. Am. Journ. Sci., vol. xli, p. 199, pl. xiv, f. 1, 2, 1891.

Kootanie: Great Falls, Montana.

Chiropteris Williamsii Newby. Am. Journ. Sci., vol. xli, p. 198, pl. xiv, f. 10, 11, 1891.

Kootanie: Great Falls, Montana.

CHONDRITES Sternberg. Vers., vol. ii, p. 25, 1833.

Chondrites bulbosus Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 373, 1872 [1873]; Tert. Fl., p. 42, pl. i, f. 14, 1878.

Laramie group: Raton Mountains, New Mexico.

Chondrites flexuosus Newby. Fl. Amboy Clays, p. 34, pl. i, f. 1, 4, 1895 [1896].

Amboy clay: New Jersey.

Chondrites Heerii Eichwald. Geognost.-Palæontolog. Bemerk. ii. Halbinsell. Mangischlak und Aleut.-Inseln., p. 111, pl. iv, f. 1, 1871.

Chondrites sp., Heer. Fl. Foss. Alask., p. 21, pl. x, f. 5, 1869.

Eocene?: Kachemak Bay, Alaska.

Chondrites subsimplex Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 373, 1872 [1873]; Tert. Fl., p. 41, pl. i, f. 13, 1878.

Laramie group: Raton Mountains, New Mexico.

Chondrites sp., Heer = Chondrites Heerii.

CHONDROPHYLLUM Necker. Elem. Bot., iii, p. 347, 1790.

Chondrophyllum Nordenskiöldi Heer = Hedera ovalis?

Condrophyllum obovatum Newby. Fl. Amboy Clays, p. 118, pl. xlii, f. 26, 27, 1895 [1896].

Amboy clay: Woodbridge, New Jersey.

Chondrophyllum orbiculatum Heer. Fl. Foss. Arct., vol. iii, abt. ii, p. 115, pl. xxxi, f. 3c; xxxii, f. 13, 1874; Hollick, Trans. N. Y. Acad. Sci., vol. xii, p. 35, pl. ii, f. 2b, 1892.

Cretaceous: Staten Island.

Chondrophyllum orbiculatum Heer. Referred by Lesquereux to *Hedera orbiculata* (Heer) Lx.

Chondrophyllum reticulatum Hollick. In Newby, Fl. Amboy Clays, p. 119, pl. xli, f. 6, 7, 1895 [1896].

Amboy clay: New Jersey.

CINCHONIDIUM, Unger. Gen. et Sp. Plant. Foss., p. 430, 1850.

Cinchonidium ovale Lx. Cret. and Tert. Fl., p. 229, pl. xlvi, f. 8-10b, 1883.

Fort Union group: Bad Lands, Dakota.

CINNAMOMUM Blume. Bijdr., 568.

Cinnamomum affine Lx. Am. Journ. Sci., vol. xlv, p. 206, 1869; Tert. Fl., p. 219, pl. xxxvii, f. 1-5, 7, 1878.

Cinnamomum mississippiense Lx. Trans. Am. Phil. Soc., vol. xiii, p. 418, pl. xix, f. 2; 1869.

Cinnamomum polymorphum Al. Br. Lx. Tert. Fl., p. 221, pl. xxxvii, f. 6 [non f. 10], 1878.

Cinnamomum Rossmässleri Heer in Lx. Ann. Rept. op. cit., p. 379, 1872 [1873]; Tert. Fl., p. 221, 1878.

Montana group: Coalville, Utah.

Denver beds: Golden?, South Park, Colorado.

Laramie group: Durango, Marshalls, Colorado; ? Raton Mountains, New Mexico; Black Buttes, Wyoming; ? Carbon, Wyoming; Corral Hollow, California.

Cinnamomum affine Lx. Ward, Bull. U. S. Geol. Surv., no. 37, p. 50, pl. xxiv, f. 3-5, 1887. [Non Lx.] = *Ficus* sp.

Laramie group: Black Buttes, Wyoming.

Cinnamomum canadense Dn. Trans. Roy. Soc., Canada, vol. iii, sec. iv, p. 13, pl. iv, f. 7, 1885 [1886].

Mill Creek series: Mill Creek?

Cinnamomum crassipes Lx. Am. Journ. Sci., vol. xxvii, p. 361, 1859.

———: Bellingham Bay.

Cinnamomum ellipsoideum Sap. and Mar. Mém. l'Acad. Roy. d. Belgique, vol. xli, p. 61, pl. ix, f. 7-9, 1878; Lx., Fl. Dak. Gr., p. 105, pl. li, f. 8, 9, 1892.

Dakota group: Kansas.

Cinnamomum ellipticum Kn. Bull. U. S. Geol. Surv., no. 105, p. 54, 1893.

Cinnamomum polymorphum Al. Br. Lx. Tert. Fl., p. 221, pl. xxxvii, f. 10 [non f. 6, which = *C. affine*, q. v.], 1878.

Livingston beds: Bozeman coal field, Montana.

Cinnamomum Heerii Lx. Am. Journ. Sci., vol. xxvii, p. 361, 1859; Trans. Am. Phil. Soc., vol. xiii, p. 431, pl. xxiii, f. 12, 1869; Cret. Fl., p. 84, pl. xxviii, f. 11, 1874; Cret. and Tert. Fl., p. 54; Fl. Dak. Gr., p. 105, pl. xv, f. 1, 1892.

Daphnogene Heerii Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 343, 1874 [1876].

Dakota group: Kansas.

——? : Nanaimo.

Amboy clay?: South Amboy, New Jersey.?

Cinnamomum intermedium Newby. Fl. Amboy Clays, p. 89, pl. xxix, f. 1-8, 10, 1895 [1896].

Amboy clay: Woodbridge, Sayreville, New Jersey.

Cinnamomum lanceolatum ? (Ung.) Heer. Fl. Tert. Helv., vol. ii, p. 86, pl. xciii, f. 6-11, 1856; Lx., Tert. Fl., p. 219, pl. xxxvi, f. 12, 1878.

[Non Ward, Bull. U. S. Geol. Surv., no. 37, p. 49, pl. xxiv, f. 2, 1887.]

Daphnogene lanceolata Ung. Gen. et Sp., p. 424, 1850.

Laramie group: Evanston, Wyoming?

——: Upper Kanab Valley, Utah.

Cinnamomum lanceolatum (Ung.) Heer. Ward = **Cinnamomum Wardii**.

Cinnamomum Marionii Lx. Fl. Dak. Gr., p. 106, pl. li, f. 6, 7, 1892.

Dakota group: Kansas.

Cinnamomum mississippiense Lx. = **Cinnamomum affine**.

Cinnamomum novæ-angliæ Lx. Am. Journ. Sci., vol. xxxii, p. 360, 1861; Geol. Vt., vol. ii, p. 716, f. 148, 1861.

——? Brandon, Vermont.

Cinnamomum polymorphum = **Cinnamomum affine**.

Cinnamomum polymorphum = **Cinnamomum ellipticum**.

Cinnamomum Rossmässleri = **Cinnamomum affine**.

Cinnamomum Scheuchzeri Heer. Fl. Tert. Helv., vol. ii, p. 85, pl. xci, f. 4-22; pl. xcii; pl. xciii, f. 1, 5, 1856; Lx., Cret. Fl., p. 83, pl. xxx, f. 2, 3, 1874; Tert. Fl., p. 220, pl. xxxviii, f. 8, 1878; Fl. Dak. Gr., p. 104, pl. xi, f. 4, 1892.

Daphnogene cretacea Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 343, 1874 [1876].

Laramie group: Bozeman coal field, Montana.

Dakota group: Kansas; New Ulm, Minnesota.

Eocene?: Lassen County, California.

Cinnamomum sezannense Watlet. Pl. Foss. d. Bassin d. Paris, p. 175, pl. 50, f. 2, 1866; Lx., Fl. Dak. Gr., p. 107, pl. xii, f. 6, 7, 1892.

Dakota group: Kansas.

Cretaceous: Glen Cove and Sea Cliff, Long Island; Port McNeill, Vancouver Island.

Cinnamomum Wardii nom. nov.

Cinnamomum lanceolatum (Ung.) Heer. Ward, Bull. U. S. Geol. Surv., no. 37, p. 49, pl. xxiv, f. 2, 1887. [Non Lx.]

Laramie group: Hodges Pass, Wyoming.

Cinnamomum? sp., Dn. Trans. Roy. Soc. Canada, vol. viii, sec. iv, p. 84, f. (in text) 15, 1890.

Eocene: North Fork Similkameen River, British Columbia.

Cinnamomum sp., Hollick. Bull. Torr. Bot. Club, vol. xix, p. 332, 1892.

Miocene?: Bridgeton, New Jersey.

Cinnamomum sp., Kn. Bull. Geol. Soc. Am., vol. viii, p. 145, 1897.

Fort Union group: Black Buttes, Wyoming.

CISSITES Heer. Phyll. Crét. d. Nebraska, p. 19, Zürich, 1866.

Cissites acerifolius Lx. Fl. Dak. Gr., p. 163, pl. lviii, f. 1, 1892.

Dakota group: Kansas.

Cissites acuminatus Lx. Bull. U. S. Geol. and Geogr. Surv. Terr., vol. i, p. 396, 1875 [1876]; Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 353, pl. viii, f. 1, 1874 [1876].

Dakota group: Fort Harker, Kansas.

Cissites acutiloba Hollick. Bull. Torr. Bot. Club, vol. xxii, p. 227, pl. 237, f. 3, 1895.

Dakota group: Fort Harker, Kansas.

Cissites affinis Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 352, 1874 [1876]; Cret. and Tert. Fl., p. 67, 1883.

Platanus affinis Lx. Cret. Fl., p. 71, pl. iv, f. 4, 1874.

Populites affinis Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 423, 1872 [1873].

Dakota group: Salina Valley, Kansas.

Mill Creek series: Mill Creek; North Fork Old Man River.

Cissites affinis ampla (Dn.) n. comb.

Platanus affinis ampla Dn. Trans. Roy. Soc. Canada, vol. iii, sec. iv, p. 12, 1885 [1886].

Mill Creek series: Mill Creek.

Cissites alatus Lx. Fl. Dak. Gr., p. 160, pl. xxiii, f. 6, 1892.

Dakota group: Kansas.

Cissites Brownii Lx. Fl. Dak. Gr., p. 162, pl. xviii, f. 11, 1892.

Dakota group: Kansas and Minnesota.

Cissites crispus Vel.? Fl. Böhm. Kreidefl., pt. iv, p. 12 [73], pl. iv [xxvii], f. 6, 1885; Newby., Fl. Amboy Clays, p. 108, pl. xlii, f. 20-23, 1895 [1896].

Amboy clay: Woodbridge, New Jersey.

Cissites cyclophylla Lx. = *Populites cyclophyllus*.

Cissites dentato-lobatus Lx. Fl. Dak. Gr., p. 164, pl. lxvi, f. 4, 1892.

Dakota group: Kansas.

Cissites formosus Heer. Fl. Foss. Arct., vol. vi, abt. ii, p. 85, pl. xxi, f. 5-8, 1882; Lx., Fl. Dak. Gr., p. 161, pl. xxi, f. 5, 1892; Newby., Fl. Amboy Clays, p. 107, pl. xlvii, f. 1-8, 1895 [1896].

Dakota group: Kansas.

Amboy clay: New Jersey.

Cretaceous: Dorosis Island, Glen Cove, Long Island.

Cissites harkerianus Lx. Bull. U. S. Geol. and Geogr. Surv. Terr., vol. i, p. 397, 1875 [1876]; Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 352, pl. vii, f. 1, 2, 1874 [1876].

Sassafras (Araliopsis) harkerianum Lx. Cret. Fl., p. 81, pl. xi, f. 3, 4; pl. xxvii, f. 2, 1874.

Sassafras harkeriana Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 425, 1872 [1873].

Dakota group: Kansas.

Cissites Heerii Lx. Bull. U. S. Géol. and Geogr. Surv. Terr., vol. i, p. 396, 1875 [1876]; Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 353, pl. vi, f. 3, 1874 [1876].

Dakota group: Fort Harker, Kansas.

Cissites ingens Lx. Fl. Dak. Gr., p. 159, pl. xix, f. 2, 2a, 1892.

Dakota group: Kansas.

Cissites ingens parvifolia Lx. Fl. Dak. Gr., p. 160, pl. lvii, f. 3, 4, 1892.

Dakota group: Kansas.

Cissites insignis Heer. Phyll. Crét. d. Nebr., p. 19, pl. ii, f. 3, 4, 1866.

Dakota group: Tekamah, Nebraska.

Cissites microphyllus Lx. Proc. U. S. Nat. Mus., vol. x, p. 44, pl. iii, f. 11, 1887.

Pleistocene?: Clear Lake, California.

Cissites obtusilobus Lx. Fl. Dak. Gr., p. 161, pl. xxxiii, f. 5, 1892.

Dakota group: Kansas.

Cissites obtusum Lx. = *Cissites salisburiaefolius*.

Cissites platanoidea Hollick. Bull. Torr. Bot. Club, vol. xxii, p. 226, pl. 237, f. 2, 1895.

Dakota group: Fort Harker, Kansas.

Cissites populoides Lx. Fl. Dak. Gr., p. 162, pl. xviii, f. 12-14, 1892.

Dakota group: Kansas.

Cissites salisburiaefolius Lx. Cret. and Tert. Fl., p. 66, 1883.

Populites salisburiaefolius Lx. Am. Journ. Sci., vol. xlvi, p. 94, 1868.

Sassafras obtusum Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 424, 1872 [1873].

Cissites obtusum Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 354, 1874 [1876].

Dakota group: Kansas and Nebraska.

CISSUS Linnæus. Diss. Dass., p. 6, 1747.

Cissus Browniana Lx. Geol. and Nat. Hist. Surv. Minn., vol. iii, p. 17, pl. A, f. 8, 1893.

Dakota group: New Ulm, Minnesota.

Cissus corylifolia Lx. Bull. Mus. Comp. Zoöl., vol. xvi, p. 52, 1888.

Denver group: Golden, Colorado.

Cissus duplicato-serrata Lx. Bull. Mus. Comp. Zoöl., vol. xvi, p. 52, 1888.

Denver group: Golden, Colorado.

Cissus lævigata Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 380, 1872 [1873]; Tert. Fl., p. 238, pl. xl, f. 12, 13, 1878.

Denver beds: Golden, Colorado.

Arapahoe beds?: Sedalia, Colorado.

Cissus lobato-crenata Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 396, 1872 [1873]; Tert. Fl., p. 240, pl. xli, f. 1-3, 1878.

Denver group: Golden, Mount Bross, Colorado.

Laramie group: Black Buttes, Wyoming.

Cissus parrotiaefolia Lx. Bull. U. S. Geol. and Geogr. Surv. Terr., vol. i, p. 388, 1875 [1876]; Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 314, 1874 [1876]; Tert. Fl., p. 239, pl. xl, f. 15-17; pl. xlii, f. 1, 1878.

Denver beds: Golden, Colorado.

Green River group?: Medicine Bow, Wyoming.

Cissus tricuspидata (Heer) Lx. Tert. Fl., p. 240, pl. xli, f. 4-7, 1878.

Vitis (*Cissus*) *tricuspидata* Heer. Mioc. Balt. Fl., p. 91, pl. xxviii, f. 18, 19, 1869; Lx., Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 396, 1872 [1873].

Laramie group: Black Buttes, Wyoming.

CLADOPHLEBIS Brongniart. Tab. des genres de vég. foss., p. 25, 1849.

Cladophlebis acuta Font. Potomac Fl., p. 74, pl. v, f. 7: pl. vii, f. 6; pl. x, f. 6, 7; pl. xi, f. 7, 8; pl. clxvi, f. 5, 1889.

Potomac formation: Potomac Run, and Dutch Gap Canal, Virginia.

Cladophlebis alata Font. Potomac Fl., p. 77, pl. xix, f. 5, 1889.

Potomac formation: Fredericksburg, Virginia.

Cladophlebis angustifolia Newby. Am. Journ. Sci., vol. xli, p. 200, pl. xiv, f. 8, 1891.

Kootanie: Great Falls, Montana.

Cladophlebis brevipennis Font. Potomac Fl., p. 81, pl. xxxvi, f. 1.

Potomac formation: Fishing hut above Dutch Gap Canal, Virginia.

Cladophlebis Browniana (Dunk.) Seward. Cat. Mesoz. Pl. Brit. Mus. Wealden Fl., pt. i, p. 99, 1894.

Pecopteris *Browniana* Dunk. Wealdenbildung, p. 5, 1846; Font., Potomac Fl., p. 88, pl. xxii, f. 10, 11; xxiii, f. 2-7; xxvi, f. 3, 13, 1889; Proc. U. S. Nat. Mus., vol. xv, p. 492, 1892; Dn., Trans. Roy. Soc. Canada, vol. x, sec. iv, p. 84, f. (in text) 3, 1892 [1893].

Potomac formation: Fredericksburg, Dutch Gap Canal, and near Brooke, Virginia; Baltimore, Maryland.

Kootanie: Great Falls, Montana; Anthracite, British Columbia.

Cladophlebis columbiana Dn. Trans. Roy. Soc. Canada, vol. xi, sec. iv, p. 55, pl. v, f. 4, 5, 1893 [1894].

Cretaceous: Vancouver Island.

Cladophlebis constricta Font. Potomac Fl., p. 68, pl. ii, f. 11; pl. iii, f. 2; pl. vi, f. 5, 6, 8-14; pl. xxi, f. 9, 13; pl. clxix, f. 2, 1889.

Kootanie: Great Falls, Montana.

Potomac formation: Fredericksburg, Brooke Station, and Deep Bottom, Virginia; Baltimore, Maryland.

Cladophlebis crenata Font. Potomac Fl., p. 75, pl. ix, f. 7-9; pl. x, f. 1, 2; pl. xiii, f. 1-3; pl. xix, f. 1; pl. xx, f. 6, 1889.

Potomac formation: Fredericksburg, Brooke Station, and Potomac Run, Virginia.

Cladophlebis denticulata Font. Potomac Fl., p. 71, pl. iv, f. 2; pl. vii, f. 7, 1889.

Potomac formation: Fredericksburg and Potomac Run, Virginia.

Cladophlebis distans Font. Potomac Fl., p. 77, pl. xiii, f. 4, 5, 1889.
Potomac Fl.: Near Dutch Gap Canal, Virginia.

Kootanie: Great Falls, Montana.

Cladophlebis Dunkeri (Schimp.) Seward. Cat. Mesoz. Pl. Brit. Mus. Wealden Fl., pt. 1, p. 100, 1894.

Pecopteris Dunkeri Schimp. Pal. Vég., vol. i, p. 539, 1869.

Aspidium Dunkeri (Schimp.) Font. Potomac Fl., p. 101, pl. xxii, f. 9; xxv, f. 11, 12; xxvi, f. 2, 8, 9, 18; liv, f. 3, 9, 1889.

Potomac formation: Telegraph Station, Dutch Gap Canal, and Fredericksburg, Virginia.

Knoxville beds: Tehama County, California.

Cladophlebis falcata Font. Potomac Fl., p. 72, pl. iv, f. 8; pl. v, f. 1-6; vi, f. 7; pl. vii, f. 1, 2, 1889.

Potomac formation: Fredericksburg, Virginia.

Kootanie: Anthracite, British Columbia.

Cladophlebis heterophylla Font. Proc. U. S. Nat. Mus., vol. xv, p. 493, pl. lxxxiv, f. 2, 1892.

Kootanie: Great Falls, Montana.

Cladophlebis inæquiloba Font. Potomac Fl., p. 80, pl. xxv, f. 8, 1889.

Potomac formation: Fredericksburg, Virginia.

Cladophlebis inclinata Font. Potomac Fl., p. 76, pl. x, f. 3, 4; pl. xx, f. 8, 1889.

Potomac formation: Telegraph station, Virginia.

Knoxville beds: Tehama County, California.

Cladophlebis latifolia Font. Potomac Fl., p. 69, pl. iii, f. 1; pl. vi, f. 4, 1889.

Potomac formation: Baltimore, Maryland.

Cladophlebis oblongifolia Font. Potomac Fl., p. 74, pl. vii, f. 3-5, 1889.

Potomac formation: Fredericksburg and Dutch Gap Canal, Virginia.

Cladophlebis pachyphylla Font. Potomac Fl., p. 80, pl. xxv, f. 9, 1889.

Potomac formation: Fredericksburg, Virginia.

Cladophlebis parva Font. Potomac Fl., p. 73, pl. iv, f. 7; pl. vi, f. 1-3, 1889.

Potomac formation: Fredericksburg, Virginia.

Kootanie: Great Falls, Montana.

Cladophlebis petiolata Font. Potomac Fl., p. 80, pl. xxii, f. 8, 1889.
Potomac formation: Dutch Gap Canal, Virginia.

Cladophlebis rotundata Font. Potomac Fl., p. 78, pl. xx, f. 9, 10, 1889.

Potomac formation: Fredericksburg, Virginia.

Cladophlebis sphenopteroides Font. Potomac Fl., p. 79, pl. xxi, f. 4, 1889.

Fishing hut above Dutch Gap Canal, Virginia.

Cladophlebis virginiensis Font. Potomac Fl., p. 70, pl. iii, f. 3-8; -pl. iv, f. 1; 3-6, 1889.

Potomac formation: Fredericksburg, Virginia.

Cladophlebis sp.? Font. Potomac Fl., p. 76, pl. x, f. 5, 8; pl. xx, f. 7, 1889.

Potomac formation: Fredericksburg and Potomac Run, Virginia.

Cladophlebis sp., Font. Potomac Fl., p. 77, pl. xv, f. 6; pl. xix, f. 3, 1889.

Potomac formation: Potomac Run, and near Brooke Station, Virginia.

Cladophlebis sp., Font. Potomac Fl., p. 78, pl. xix, f. 2, 1889.

Potomac formation: Telegraph station, Virginia.

Cladophlebis sp., Font. Potomac Fl., p. 81, pl. xxvi, f. 15.

Potomac formation: Fredericksburg, Virginia.

Cladophlebis sp., Dn. Trans. Roy. Soc. Canada, vol. x, sec. iv., p. 85, 1892.

Kootanie: Anthracite, British Columbia.

Clathropodium mirabile (Lx.) Ward = *Cycadeoidea mirabilis*.

CLETHRA Gronovius ex Linnæus. Syst., ed. i, 1735.

Clethra alnifolia L. Hollick, Bull. Torr. Bot. Club, vol. xix, p. 332, 1892.

Miocene?: Bridgeton, New Jersey.

COCCOLOBA Linnæus. Syst., ed. x, p. 1007, 1759.

Cocoloba lævigata Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 387, 1872 [1873]; Tert. Fl., p. 208, pl. xxxv, f. 7; 1878.

Laramie group?: Carbon, Wyoming.

Cocculus De Candolle. Syst., Veg. V, i, p. 515 = *Cebatha*.

Cocculus Haydenianus Ward = *Cebatha* Haydeniana.

COLUTEA (Tournefort) Linnæus. Syst., ed. i, 1735.

Colutea Boweniana Lx. Cret. and Tert. Fl., p. 255, pl. lvii, f. 4, 1883.
Miocene?: Bowen claim, California.

Colutea primordialis Heer. Fl. Foss. Arct., vol. vi, abt. ii, p. 99, pl. xxvii, f. 7-11; lxiii, f. 78, 1882; Lx., Fl. Dak. Gr., p. 148, pl. xiii, f. 8, 9, 1892; Newby., Fl. Amboy Clays, p. 97, pl. xix, f. 4, 5, 1895 [1896].

Dakota group: Kansas.

Amboy clay: Woodbridge, New Jersey.

Cretaceous: Eatons Neck, Long Island.

- COMPTONIA** Banks. Gært. Fr. and Sem., vol. ii, p. 58, pl. xc, 1791.
Comptonia columbiana Dn. Trans. Roy. Soc. Canada, vol. viii, sec. iv, p. 81, f. (in text) 10, 1890.
 Miocene?: North Similkamen and Kamloops, British Columbia.
Comptonia cuspidata Lx. = *Myrica cuspidata*.
Comptonia premissa Lx. = *Myrica premissa*.
- CONE** of *Pinus*? sp., Font. Potomac Fl., p. 272, pl. clxx, f. 4, 1889.
 Potomac formation: Baltimore, Maryland.
- CONOSPERMITES** Ettingshausen. Sitzb. Wien. Akad., vol. lv, abt. i, p. 254, 1867.
Conospermites ellipticus Font. Potomac Fl., p. 279, pl. cxxxviii, f. 14, 1889.
 Potomac formation: Near Potomac Run, Virginia.
Cordia? *tiliæfolia* Al. Br. = *Ficus tiliæfolia*.
- CORNOPHYLLUM** Newberry. Fl. Amboy Clays, p. 119, 1895 [1896].
Cornophyllum vetustum Newby. Fl. Amboy Clays, p. 119, pl. xix, f. 10, 1895 [1896].
 Amboy clay: Woodbridge, New Jersey.
- CORNUS** (Tournefort) Linnæus. Syst., ed. i, 1735.
Cornus acuminata Newby. = *Cornus* Newberryi.
Cornus Emmonsii Ward = *Cornus impressa*.
Cornus ferox Ung. Gen. et Sp. Pl. Foss., p. 441, 1850; Lx., Proc. U. S. Nat. Mus., vol. xi, p. 21, 1888.
 Eocene?: Cherry Creek, Oregon.
 ? **Cornus Fosteri** Ward. Bull. U. S. Geol. Surv., no. 37, p. 54, pl. xxv, f. 5, 1887.
 Fort Union group: Seven-Mile Creek, Montana.
- Cornus Holmesii** Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 402, 1873 [1874]. [Not afterwards recognized.]
 Laramie group?: Coal Creek, Colorado.
- Cornus hyperborea** Herr. Fl. Foss. Arct., vol. ii, abt. iv, p. 476, pl. 1, f. 3, 4, 1869; Lx., Proc. U. S. Nat. Mus., vol. xi, p. 29, pl. xv, f. 3, 1888.
 Eocene?: Lassen County, California.
 Denver beds: Mount Bross, Middle Park; North Denver, Colorado.
 Laramie group? (upper beds): Point of Rocks, Wyoming.
- Cornus impressa** Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 408, 1873 [1874]; Tert. Fl., p. 243, pl. xlii, f. 3, 1878.
Cornus Emmonsii Ward. Bull. U. S. Geol. Surv., no. 37, p. 55, pl. xxvi, f. 2, 3, 1887.
- Cornus incompletus** Lx. Am. Jour. Sci., vol. xlv, p. 206, 1868. [Not afterwards referred to by its author.]
 Laramie group: Marshalls, Colorado.
- Cornus Kelloggii** Lx. Mem. Mus. Comp. Zoöl., vol. vi, no. 2, p. 23, pl. vi, f. 3, 1878.
 Miocene: Chalk Bluffs, California.

Cornus Newberryi Hollick. nom. nov. MSS.

Cornus acuminata * Newby. Later Extinct Floras, p. 71, 1868; Ill., pl. xx, f. 2-4, 1878.

[* *Cornus acuminata* Newby. 1868. Preoccupied by *C. acuminata* O. Weber, Paleontogr., ii, p. 192. 1852.]

Cornus obesus Dn. Trans. Roy. Soc. Canada, vol. xi, sec. iv, p. 62, pl. ix, f. 30, 1893 [1894].

Upper Cretaceous: Vancouver Colliery, Vancouver Island.

Cornus orbifera Heer = *Cornus suborbifera*.

Cornus ovalis Lx. Mem. Mus. Comp. Zoöl., vol. vi, no. 2, p. 23, pl. vi, f. 1, 2, 1878.

Miocene: Table Mountain, California.

Cornus platyphyloides Lx. Fl. Dak. Gr., p. 126, pl. lxiv, f. 15, 1892.

Dakota group: Kansas.

Cornus præcox Lx. Fl. Dak. Gr., p. 125, pl. xxiii, f. 5, 1892.

Dakota group: Kansas.

Cornus rhamnifolia O. Web. Paleontogr., vol. ii, p. 192, pl. iv, f. 8, 1852; Lx., Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., 1871, suppl., p. 9, 1871 [1872]; Tert. Fl., p. 244, pl. lxii, f. 6, 1878.

Laramie group: Bozeman coal field, Montana.

Montana formation: Point of Rocks, Wyoming.

Cornus Sanderi ? Heer. Fl. Tert. Helv., vol. iii, p. 27, pl. cv, f. 18-21, 1859; Lx., Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 293, 1871 [1872]; Tert. Fl., p. 244, pl. xlii, f. 4, 5, 1878.

Denver beds: Golden, Colorado.

Montana formation: Point of Rocks, Wyoming.

Cornus suborbifera Lx. Tert. Fl., p. 243, pl. xlii, f. 2, 1878.

Cornus orbifera Heer, Lx. Ann. Rept., op. cit., p. 402, 1873 [1874].

Eocene?: Cook Inlet, Alaska.

Laramie group: Golden, Colorado.

Cornus sp., Penhallow. Trans. Roy. Soc. Canada, 2d ser., vol. ii, sec. iv, p. 70, 1896.

Pleistocene: Greenville, New Jersey.

CORYLUS (Tournefort) Linnæus. Syst., ed. i, 1735.**Corylus americana** Walt. Flora Caroliniana, p. 236, 1788; Newby., Later Extinct Floras, p. 59, 1868.

Fort Union group: Seven-Mile Creek, Montana; Fort Union, Dakota.

Canadian Upper Laramie: Porcupine Creek.

Corylus Fosteri Ward. Bull. U. S. Geol. Surv., no. 37, p. 29, pl. xiii, f. 5, 6, 1887.

Fort Union group: Clear Creek, Montana.

Corylus grandifolia Newby. Later Extinct Floras, p. 59, 1868.

Fort Union group: Fort Union, Dakota.

Corylus MacQuarrii (Forbes) Heer. *Urwelt d. Schweiz*, p. 321, 1865.
Alnites? *M'Quarrii* Forbes. *Quat. Journ. Geol. Soc.*, vol. vii, p. 103, pl. iv, f. 3, 1851.

Eocene?: Alaska, Mackenzie River.

Fort Union: Montana; Porcupine Creek, British Columbia.

Laramie group?: Carbon, Wyoming.

Corylus MacQuarrii macrophylla Heer. *Fl. Foss. Arct.*, vol. i, p. 105, 1868; vol. ii, abt. ii (*Fl. Foss. Alask.*), p. 30, pl. iv, f. 6, 7, 1869.
 Eocene?: Alaska.

Corylus orbiculata Newby. *Later Extinct Floras*, p. 58, 1868.

Fort Union group: Fort Union, Dakota.

Corylus rostrata Ait. *Hort. Kew.*, vol. iii, p. 364, 1789; Newby., *Later Extinct Floras*, p. 60, 1868.

Fort Union group: Seven-Mile Creek, Montana; Fort Union, Dakota.

Canadian Upper Laramie: Porcupine Creek.

CRATÆGUS (Tournefort) Linnæus. *Syst.*, ed. i, 1735.

Cratægus acerifolia Lx. *Cret. and Tert. Fl.*, p. 198, pl. xxxvi, f. 10, 1883.

Green River group: Florissant, Colorado.

Cratægus aceroides Lx. *Fl. Dak. Gr.*, p. 143, pl. liv, f. 8; pl. lv, f. 1, 1892.

Dakota group: Kansas.

Cratægus ? æquidentata Lx. *Tert. Fl.*, p. 297, pl. lviii, f. 4, 4a, 1878.

Laramie group?: Carbon, Wyoming.

Cratægus antiqua Heer. *Fl. Foss. Arct.*, vol. i, p. 125, pl. l, f. 1, 2, 1868; Lx., *Bull. Mus. Comp. Zoöl.*, vol. xvi, p. 57, 1888.

Denver group: Golden, Colorado.

Cratægus atavina Heer. *Fl. Foss. Arct.*, vol. vii, p. 43, pl. lxiv, f. 11, 1883; Lx., *Geol. and Nat. Hist. Surv. Minn.*, vol. iii, p. 20, pl. B, f. 8, 1893.

Dakota group: New Ulm, Minn.

Cratægus betulæfolia Lx. *Bull. Mus. Comp. Zoöl.*, vol. xvi, p. 56, 1888.

Denver group: Golden, Colorado.

Cratægus Engelhardti Lx. *Bull. Mus. Comp. Zoöl.*, vol. xvi, p. 56, 1888.

Denver group: Golden, Colorado.

Cratægus flavescens Newby. *Proc. U. S. Nat. Mus.*, vol. v, p. 507; 1882 [1883].

Myrica diversifolia Lx. *Cret. and Tert. Fl.*, p. 148, pl. xxv, f. 6-15, 1883.

Miocene?: Bridge Creek, John Day Valley, Oregon.

Green River group: Florissant, Colorado.

Cratægus Holmesii Lx. *Proc. U. S. Nat. Mus.*, vol. x, p. 43, pl. iii, f. 7-9, 1887.

Denver group: Silver Cliff, Colorado.

- Cratægus Lacoëi** Lx. Fl. Dak. Gr., p. 143, pl. lxiv, f. 14, 1892.
Dakota group: Kansas.
- Cratægus lawrenciana** Lx. Fl. Dak. Gr., p. 142, pl. xxxviii, f. 1, 1892.
Dakota group: Kansas.
- Cratægus Marcouiana** Lx. Proc. U. S. Nat. Mus., vol. xi, p. 36, pl. xiv, f. 2; pl. xv, f. 1, 2, 1888.
Unknown: "Fossil Point, P. Y. Sheet."
- Cratægus Marcouiana subintegrifolia** Lx. Proc. U. S. Nat. Mus., vol. xi, p. 36, pl. xiv, f. 2, 1888.
Unknown: "Fossil Point, P. Y. Sheet."
- Cratægus myricoides** Lx. Bull. Mus. Comp. Zoöl., vol. xvi, p. 56, 1888.
Denver group: Golden, Colorado.
- Cratægus tenuinervis** Lx. Fl. Dak. Gr., p. 142, pl. liv, f. 5-7, 1892.
Dakota group: Kansas.
- CREDNERIA** Zenker. Beiträge z. Naturgeschichte der Urwelt, p. 15, 1833.
- ? **Credneria daturæfolia** Ward. Bull. U. S. Geol. Surv., no. 37, p. 97, pls. xlii, f. 4; xliii, xlv, xlv, 1887.
Fort Union group: Seven-Milè Creek, Montana.
Credneria Leconteana Lx. = *Protophyllum Leconteanum*.
- Credneria ? microphylla** Lx. Bull. U. S. Geol. and Geogr. Surv. Terr., vol. i, p. 397, 1875 [1876].
Dakota group: Kansas.
- CTENIS**, Lindley and Hutton. Foss Fl. Great Britain, vol. ii, p. 63, 1834.
- Ctenis imbricata** Font. Potomac Fl., p. 177, pl. cxxxviii, f. 10-12, 1889.
Potomac formation: Fredericksburg, Virginia.
- CTENOPHYLLUM** Schimper. Pal. Vég., vol. ii, p. 143, 1870.
- Ctenophyllum latifolium** Font. Potomac Fl., p. 175, pl. lxviii, f. 2, 3, 1889.
Potomac formation: Fredericksburg, Virginia.
- CTENOPTERIS** Brongniart, in litt. Saporta. Plantes Jurassiques, vol. i, p. 351, 1873.
- Ctenopteris angustifolia** Font. Potomac Fl., p. 159, pl. lxxv, f. 2; lxxvii, f. 4, 1889.
Potomac formation: Near Potomac Run, Virginia.
- Ctenopteris insignis** Font. Potomac Fl., p. 156, pl. lxi, f. 4, 5; lxii, f. 1; lxiii, f. 1, 2, 1889.
Potomac formation: Fredericksburg, and near Potomac Run, Virginia.
- Ctenopteris integrifolia** Font. Potomac Fl., p. 158, pl. lxii, f. 2; lxxv, f. 3, 1889.
Potomac formation: Near Potomac Run, and Fredericksburg, Virginia.

- Ctenopteris longifolia** Font. Potomac Fl., p. 159, pl. lxxvii, f. 5, 1889.
Potomac formation: Fredericksburg, Virginia.
- Ctenopteris minor** Font. Potomac Fl., p. 157, pl. lxxvii, f. 3, 1889.
Potomac formation: Fredericksburg, Virginia.
- Ctenopteris virginensis** Font. Potomac Fl., p. 157, pl. lxxii, f. 4; lxxv, f. 1; lxxvi, f. 4, 1889.
Potomac formation: Fredericksburg, Virginia.
- CUNNINGHAMITES** Presl. In Sternb., Vers., vol. ii, p. 203, 1833.
- Cunninghamites elegans** (Corda) Endl. Synop. Conif., p. 305, 1847; Newby., Fl. Amboy Clays, p. 48, pl. v, f. 1-7, 1895 [1896].
Amboy clay: Keyport, New Jersey.
Clay marl (Upper Cretaceous): Cliffwood, New Jersey.
- Cunninghamites squamosus** Heer. Kreide Fl. v. Quedlinburg, p. 9, pl. i, f. 5-7, 1872; Hollick, Trans. N. Y. Acad. Sci., vol. xvi, p. 129, pl. xi, f. 3, 1897.
Clay marl (Upper Cretaceous): Cliffwood, New Jersey.
- CUPRESSINOXYLON** Göppert. Monogr. d. foss. Conif., p. 196, 1850.
- Cupressinoxylon arkansanum** Kn. Ann. Rept. Geol. Surv. of Ark. for 1889, vol. ii, p. 253, pl. ix, f. 1, 2, 1889.
Tertiary [Orange Sand]: Near Wittsburg, Cross County, Arkansas.
- Cupressinoxylon Calli** Kn. Ann. Rept. Geol. Surv. of Ark. for 1889, vol. ii, p. 254, pl. ix, f. 3-7, 1889.
Tertiary: 5½ miles northwest of Gainesville, Green County, Arkansas.
- Cupressinoxylon? Bibbinsi** Kn. Science, new ser., vol. iii, no. 68, p. 584, f. (in text) 1-4, 1896.
Upper Potomac formation: Cape Sable, Maryland.
- Cupressinoxylon columbianum** Kn. Bull. U. S. Geol. Surv., no. 56, p. 49, pl. iv, f. 5; pl. v, f. 3, 4; pl. vi, f. 1-5; pl. vii, f. 1, 1888.
Potomac formation: Dutch Gap Canal, James River, Virginia.
- Cupressinoxylon dubium** Cramer. In Heer's, Fl. Foss. Arct., vol i, p. 173, pl. xxxiv, f. 3; xxxviii, f. 1-6, 1868.
——: Banks Land.
- Cupressinoxylon elongatum** Kn. Proc. U. S. Nat. Mus., vol. xi, p. 7, pl. iii, f. 1-4, 1888.
Fort Union group: Near Glendive, Montana.
- Cupressinoxylon eutreton** Felix. Zeitschr. d. Deutschen geol. Gesell. Jahr. 1896, p. 255, 1896.
Eocene: Yanceys, Yellowstone National Park.
- Cupressinoxylon Glasgowi** Kn. Proc. U. S. Nat. Mus., vol. xi, p. 6, pl. ii, f. 1-5, 1888.
Cretaceous?: Emmet County, Iowa.
- Cupressinoxylon McGeei** Kn. Bull. U. S. Geol. Surv., no. 56, p. 46, pl. ii, f. 5; pl. iii, f. 1-5, 1888.
Potomac formation: Washington, District of Columbia.

Cupressinoxylon polyommatum Cramer. In Heer's Fl. Foss. Arct., vol. i, p. 172, pl. xxxiv, f. 2a, b; xxxv, f. 2, 3; xxxvii, 1868.

——: Banks Land.

Cupressinoxylon pulchellum Kn. Bull. U. S. Geol. Surv., no. 56, p. 45, pl. ii, f. 1-4, 1889.

Potomac formation: Spring Hill, Appomattox River, Virginia.

Cupressinoxylon pulchrum Cramer. In Heer's Fl. Foss. Arct., vol. i, p. 171, pl. xxxiv, f. 1; xxxvi, f. 6-8, 1868.

——: Banks Land.

Cupressinoxylon taxodioides Couwentz. Schriften d. Naturf. Gesell. Danzig, vol. iv, p. 124, 1878; Neues Jahrb. f. 1878, p. 812, pl. xiii, xiv, 1878.

Tertiary: Calistoga, California.

Cupressinoxylon Wardi Kn. Bull. U. S. Geol. Surv., no. 56, p. 48, pl. iv, f. 1-4; pl. v, f. 1, 2, 1888.

Potomac formation: Near Montello, District of Columbia; Neabsco Creek, Virginia.

Cupressinoxylon sp., Kn. In Turner, Bull. Geol. Soc. Am., vol. ii, p. 394, 1891.

Knoxville beds: Eagle Point, California.

Cupressoxylon sp., Dn. Geol. Surv. Canada, Rept. of Progress for 1872-73, Appen. i, p. 67, 1873.

Lower Cretaceous: British Columbia.

Cupressoxylon sp. (a), Dn. Rept. on Geol. and Res. near 49th Parallel, Appen. A, p. 331, pl. xv, f. 3, 1875.

Lignitic tertiary: "Forty-ninth parallel."

Cupressoxylon sp. (b), Dn. Rept. on Geol. and Res. near 49th Parallel, Appen. A, p. 331, 1875.

Lignitic tertiary: "Forty-ninth parallel."

Cupressoxylon sp. (c), Dn. Rept. on Geol. and Res. near 49th Parallel, Appen. A, p. 331, pl. xv, f. 4, 1875.

Lignitic tertiary: "Forty-ninth parallel."

Cupressoxylon sp. (d), Dn. Rept. on Geol. and Res. near 49th Parallel, Appen. A, p. 331, 1875.

Lignitic tertiary: "Forty-ninth parallel."

Cupressoxylon sp. (e), Dn. Rept. on Geol. and Res. near 49th Parallel, Appen. A, p. 331, pl. xv, f. 5, 1875.

Lignitic tertiary: "Forty-ninth parallel."

Cupressoxylon sp. (f), Dn. Rept. on Geol. and Res. near 49th Parallel, Appen. A, p. 331, 1875.

Lignitic tertiary: "Forty-ninth parallel."

Cupressites Cookii Newby. Later Extinct Floras, p. 9, 1868; Fl. Amboy Clays, p. 61, 1895 [1896]. *Nomen nudum*.

Amboy clay: New Jersey.

Cupressus thyoides L. = *Chamaecyparis thyoides*.

CYATHEITES Göppert. Syst. Fil. Foss., p. 319, 1836.

Cyatheites? nebraskana (Heer) n. comb.

Pecopteris nebraskana Heer. Saporta, Fl. Foss. d. Sézanne, p. 332, f. (in text) 8, 1868; Lx., Cret. Fl., p. 46, pl. xxx, f. 12b, 1874.

Dakota group: Kansas.

CYCADEOIDEA Buckland. Proc. Geol. Soc. London, vol. i, p. 80, 1827.

Cycadeoidea Bibbinsi Ward. Proc. Biol. Soc. Wash., vol. xi, p. 15, 1897.

Potomac formation: Maryland.

Cycadeoidea dacotensis (McBride) Ward. Proc. Biol. Soc. Wash., vol. ix, p. 86, 1894.

Bennettites dacotensis McBride. Am. Geol., vol. xii, p. 249, pl. xi, f. 1, 2, 1893; Bull. Lab. Nat. Hist. State Univ. of Iowa, vol. ii, p. 391, pl. xii, f. 1, 2, 1893.

Lower Cretaceous: Minnekahta Station, South Dakota.

Cycadeoidea Fontaineana Ward. Proc. Biol. Soc. Wash., vol. xi, p. 13, 1897.

Potomac formation: Maryland.

Cycadeoidea Goucheriana Ward. Proc. Biol. Soc. Wash., vol. xi, p. 14, 1897.

Potomac formation: Maryland.

Cycadeoidea Jenneyana Ward. Proc. Biol. Soc. Wash., vol. ix, p. 87, 1894.

Lower Cretaceous: Near Rapid City, South Dakota.

Cycadeoidea marylandica (Font.) Cap. and Solms. Mem. Real. Accad. Sci. Ist. Bologna, ser. v, tom. ii, p. 179, 180, 186, 1892; Ward, Proc. Biol. Soc. Wash., vol. ix, p. 86, 1894.

Cycas sp., Tyson. First Rept. State Agric. Chem. Md., p. 42, 1860.

Bennettites sp., Car. Trans. Linn. Soc. Lond., vol. xxvi, p. 708, 1870.

Cycadeoidea sp., Font. Am. Journ. Sci., vol. xvii, p. 157, 1879.

Tysonia marylandica Font. Potomac Fl., p. 193, pl. clxxiv-clxxx, 1889.

Potomac formation: Maryland.

Cycadeoidea McGeeana Ward. Proc. Biol. Soc. Wash., vol. xi, p. 12, 1897.

Potomac formation: Maryland.

Cycadeoidea mirabilis (Lx.) Ward. Proc. Biol. Soc. Wash., vol. ix, p. 86, 1894.

Zamiostrobus? mirabilis Lx. Bull. U. S. Geol. and Geogr. Surv. Terr., vol. i, 2d ser., no. 5, p. 383, 1875 [1876]; Tert. Fl. p. 70, pl. xliii, f. 1, 1878.

Nelumbium James. Science, vol. iii, p. 434, 1884.

Clathropodium mirabile (Lx.) Ward. Science, vol. iii, p. 532, 1884.

Cycadeoidea Zamostrobus Solms. Mem. Real. Accad. Sci. Ist. Bologna, ser. v, tom. ii, p. 210, 1892.

Unknown: Golden, Colorado.

Cycadeoidea munita Cragin. Bull. Washburn College Lab. Nat. Hist., Topeka, Kans., vol. ii, p. 65, 1889.

Lower Cretaceous: Belvidere, Kansas.

Bull. 152—6

Cycadeoidea Tysoniana Ward. Proc. Biol. Soc. Wash., vol. xi, p. 11, 1897.

Potomac formation: Maryland.

Cycadeoidea Uhleri Ward. Proc. Biol. Soc. Wash., vol. xi, p. 14, 1897.

Potomac formation: Maryland.

Cycadeoidea Zamiestrobis Solms = **Cycadeoidea mirabilis**.

Cycadeoidea sp., Font. = **Cycadeoidea marylandica**.

CYCADEOSPERMUM Saporta. Pl. Jurass., vol. ii, p. 235, 1875.

Cycadeospermum acutum Font. Potomac Fl., p. 270, pl. cxxxv, f. 12, 1889.

Potomac formation: Potomac Run, Virginia.

Cycadespermum angustum Font. Potomac Fl., p. 271, pl. cxxxv, f. 20, 1889.

Potomac formation: Near Potomac Run, Virginia.

Cycadeospermum (**Dioonites**) **columbianus** Dn. = **Dioonites columbianus**.

Cycadeospermum columnare Lx. Fl. Dak. Gr., p. 31, pl. xliv, f. 7, 8, 1891.

Dakota group: Kansas.

Cycadeospermum ellipticum Font. Potomac Fl., p. 271, pl. cxxxv, f. 19, 1889.

Potomac formation: Near Dutch Gap Canal and Fredericksburg, Virginia.

Cycadeospermum lineatum Lx. Fl. Dak. Gr., p. 30, pl. i, f. 14, 1891.

Dakota group: Kansas.

Cycadeospermum obovatum Font. Potomac Fl., p. 270, pl. cxxxv, f. 13, 1889.

Potomac formation: Near Potomac Run, Virginia.

Cycadeospermum rotundatum Font. Potomac Fl., p. 271, pl. cxxxvi, f. 12, 1889.

Potomac formation: Kankeys, Virginia.

Trinity division, Glenrose, Texas.

Cycadeospermum spatulatum Font. Potomac Fl., p. 271, pl. cxxxv, f. 11, 21, 1889.

Potomac formation: Near Potomac Run, Virginia.

CYCADINOCARPUS Schimper. Pal. Vég., vol. ii, p. 208, 1870.

Cycadinocarpus circularis Newby. Fl. Amboy Clays, p. 46, pl. xlvi, f. 1-4, 1895 [1896].

Amboy clay: Woodbridge, New Jersey.

CYCADITES Buckland. Geol. and Mineral., vol. i, p. 496, 1836.

Cycadites pungens Lx. Fl. Dak. Gr., p. 30, pl. ii, f. 6, 1892.

Dakota Group: Kansas.

Cycadites unjiga Dn. Trans. Roy. Soc. Canada, vol. i, sec. iv, p. 20, pl. i, f. 2, 2a, 1882 [1883].

——: Pine River Forks, Table Mountain, and Peace River, Northwest Territory.

Cycas sp., Tyson = *Cycadeoidea marylandica*.

CYPERACITES Schimper. Pal. Vég., vol. ii, p. 412, 1870.

[*Cyperites* Lindl. and Hutt. Foss. Fl. Gr. Brit., vol. i, p. 124, 1831-1833 = *Lepidodendron*. *Cyperites* Heer. Fl. Tert. Helv., vol. i, p. 75, 1855 = *Cyperacites*.]

Cyperacites angustior (Al. Br.) Schimp. Pal. Vég., vol. ii, p. 414, 1870.

Cyperites angustior Al. Br. In Stizenberger, Verstinerung, p. 75, 1851; Lx., Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 403, 1872 [1873]. [Not afterwards mentioned by Lesquereux.]

—— ? : Elk Creek, Yellowstone National Park.

? **Cyperacites borealis** (Heer) n. comb.

Cyperites borealis ? Heer. Fl. Foss. Arct., vol. i, p. 96, pl. xlv, f. 3, 1868; Lx., Proc. U. S. Nat. Mus., vol. x, p. 36, 1887.

Pliocene ? : Applegarth Canyon.

Cyperacites canaliculatus (Heer) Schimp. Pal. Vég., vol. ii, p. 415, 1870.

Cyperites canaliculatus Heer. Fl. Tert. Helv., vol. i, p. 77, pl. xxviii, f. 5, 1855; Lx., Proc. U. S. Nat. Mus., vol. x, p. 36, 1887.

—— ? : Near Strahlenberg, Utah.

Cyperacites paucinervis (Heer) Schimp. Pal. Vég., vol. ii, p. 414, 1870.

Cyperites paucinervis Heer. Fl. Tert. Helv., vol. i, p. 79, pl. xxix, f. 4, 1855; Dn., Trans. Roy. Soc. Canada, 2d ser., vol. i, sec. iv, p. 144, 1895 [1896].

Eocene : Stanley Park, British Columbia.

Cyperacites Haydenii (Lx.) n. comb.

Cyperites Haydenii Lx. Cret. and Tert. Fl., p. 140, pl. xxiii, f. 1-3a, 1883.

Green River Group: Uinta County, formerly but erroneously called Randolph County, Wyoming.

Cyperacites ? sp. (Dn.) n. comb.

Cyperites ? sp., Dn. Trans. Roy. Soc. Canada, vol. viii, sec. iv, p. 90, f. (in text) 31, 1890.

Eocene ? : Similkameen Valley, British Columbia.

Cyperacites sp. (Dn.) n. comb.

Cyperites sp., Dn. Trans. Roy. Soc. Canada, vol. x, sec. iv, p. 91, f. (in text) 16, 1892.

Kootanie : Anthracite ? British Columbia.

Cyperacites sp., Kn. Bull. Geol. Soc. Am., vol. viii, p. 145, 1897.

Fort Union group: Black Buttes, Wyoming.

Cyperites borealis Heer = *Cyperacites borealis*.

Cyperites canaliculatus Heer = *Cyperacites canaliculatus*.

Cyperites angustior Al. Br. = *Cyperacites angustior*.

Cyperites Deucalionis Heer. Fl. Tert. Helv., vol. i, p. 78, pl. xxix, f. 1; pl. xxvi, f. 13b; xxx, f. 3h, 1855; Lx., Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 285, 1871 [1872]. [Not afterwards recognized by Lesquereux.]

Eocene?: Barrell Springs, Wyoming.

Cyperites Haydenii Lx. = **Cyperacites Haydenii**.

Cyperites paucinervis Heer = **Cyperacites paucinervis**.

Cyperites sp., Dn. = **Cyperacites** sp.

CYPERUS (Micheli) Linnæus. Syst., ed. i, 1735.

Cyperus ! Braunianus ? Heer. Fl. Tert. Helv., vol. i, p. 72, pl. xxii, f. 6; pl. xxvii, f. 4-7, 1855; Lx., Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 285, 1871 [1872]. [Not afterwards mentioned by Lesquereux.]

Eocene?: Barrell Springs, Wyoming?

Cyperus Chavanensis "Heer" = **Cyperus Chavannesi**.

Cyperus Chavannesi Heer. Fl. Tert. Helv., vol. i, p. 72, pl. xxii, f. 7; xxviii, f. 1, 1855.

Cyperus Chavanensis Heer. Lesquereux, Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 291, 1871 [1872]; Tert. Fl., p. 92, pl. ix, f. 1, 2, 1878.

Green River group: Green River Station, Wyoming.

Laramie group?: Evanston, Wyoming.

Cyperus sp., Kn. Am. Geol., vol. xviii, p. 371, 1896.

Glacial: Morgantown, West Virginia.

Cyperus sp., Kn. Bull. Geol. Soc. Am., vol. viii, p. 133, 1897.

Laramie group: Lance Creek, Converse County, Wyoming.

CYTISUS Linnæus. Syst., ed. i, 1735.

Cytisus florissantianus Lx. Cret. and Tert. Fl., p. 200, pl. xxxix, f. 14, 1883.

Green River group: Florissant, Colorado.

Cytisus modestus Lx. Cret. and Tert. Fl., p. 200, pl. xxxix, f. 9-11, 1883.

Green River group: Florissant, Colorado.

CZEKANOWSKIA Heer. Fl. Foss. Arct., vol. iv, abt. ii, p. 70, 1876.

Czekanowskia capillaris Newby. Fl. Amboy Clays, p. 61, pl. ix, f. 14-16, 1895 [1896].

Amboy clay: Woodbridge, New Jersey.

DALBERGIA Linnæus; f. Suppl., p. 52, 1781.

Dalbergia apiculata Newby. Fl. Amboy Clays, p. 90, pl. xlii, f. 17-19, 1895 [1896].

Amboy clay: Woodbridge, New Jersey.

Dalbergia cuneifolia Heer. Fl. Tert. Helv., vol. iii, p. 104, pl. cxxxiii, f. 20, 1859; Cret. and Tert. Fl., p. 200, pl. xxxiv, f. 6, 7, 1883.

Green River group: Florissant, Colorado.

Dalbergia hyperborea Heer. Fl. Foss. Arct., vol. vi, abt. ii, p. 102, pl. xxvi, f. 4a, 1882; Hollick, Trans. N. Y. Acad. Sci., vol. xi, p. 7, pl. iv, f. 7, 1892.

Cretaceous: Tottenville, Staten Island.

Dalbergia Rinkiana Heer. Fl. Foss. Arct., vol. vi, abt. ii, p. 102, pl. xxvi, f. 1-3, 1882; Hollick, Trans. N. Y. Acad. Sci., vol. xii, p. 236, pl. vi, f. 4, 5, 1893.

Cretaceous: Brooklyn, New York; Lloyds Neck, Long Island.

DAMMARA Gärtner. Fruct., vol. ii, p. 100, 1791.

Dammara borealis Heer. Fl. Foss. Arct., vol. vi, abt. ii, p. 54, pl. xxxvii, f. 5, 1882; Newby., Fl. Amboy Clays, p. 46, pl. x, f. 8, 1895 [1896]; Hollick, Trans. N. Y. Acad. Sci., vol. xii, p. 31, pl. i, f. 17, 1892.

Amboy clay: No location.

Cretaceous: Tottenville, Staten Island.

Dammara microlepis Heer, Newby. = *Juniperus macilenta*.

Dammara (?) cliffwoodensis Hollick. Trans. N. Y. Acad. Sci., vol. xvi, p. 128, pl. xi, f. 5-8, 1897.

Clay marl (Upper cretaceous): Cliffwood, New Jersey.

DAMMARITES Presl. In Sternberg, Vers., vol. ii, p. 203, 1833.

Dammarites caudatus Lx. Fl. Dak. Gr., p. 32, pl. i, f. 9, 10, 1892.

Podozamites caudatus Lx. Cret. and Tert. Fl., p. 29, 1883.

Podozamites praelongus Lx. Cret. and Tert. Fl., p. 29, 1883.

Dakota group: Kansas.

Dammarites dubius Dn. Trans. Roy. Soc. Canada, vol. xi, sec. iv, p. 56, pl. vi, f. 8, 1893 [1894].

Upper Cretaceous: Nanaimo.

Dammarites emarginatus Lx. Fl. Dak. Gr., p. 33, pl. i, f. 11, 1892.

Podozamites emarginatus Lx. Cret. and Tert. Fl., p. 29, 1883.

Dakota group: Kansas.

DAPHNOGENE Unger. Synop. Pl. Foss., p. 227, 1845.

Daphnogene anglica ? Heer. Fl. Tert. Helv., vol. iii, p. 315, 1859; Lx., Ann. Rept., op. cit., p. 401, 1873 [1874]; Tert. Fl., p. 222, pl. xxxvii, f. 9, 1878.

Denver group: Golden, Colorado.

Daphnogene cretacea Lx. = *Cinnamomum Scheuchzeri*.

Daphnogene elegans Wat.-Ward = *Diospyros ficoidea*.

Daphnogene Heerii Lx. = *Cinnamomum Heerii*.

Daphnogene lanceolata Ung. = *Cinnamomum lanceolatum*.

DAPHNOPHYLLUM Heer. Neue Denkschr. Schw. Ges., vol. xxiii, p. 17, 1869.

Daphnophyllum angustifolium Lx. Fl. Dak. Gr., p. 98, pl. xxxvi, f. 8, 1892.

Dakota group: Kansas.

- Daphnophyllum dakotense** Lx. Fl. Dak. Gr., p. 99, pl. li. f. 1-4; pl. lii, f. 1, 1892.
Dakota group: Kansas.
- Daphnophyllum** sp., Lx. Rept. on Clay in N. J., p. 29, 1878=?
Amboy clay: Sayreville, New Jersey.
- DAVALLIA** Smith. Mem. Act. Turin, vol. v, p. 414, 1791.
- Davallia (Stenoloma) tenuifolia** Sw. Dawson, Rept on Geol. and Res. in Vic. 49th Parallel, Appen. A, p. 329, 1875.
Canadian Upper Laramie: Porcupine Creek.
- DAVALLITES** Dawson. Trans. Roy. Soc. Canada, vol. i, sec. iv, p. 25, 1882 [1883].
- Davallites Richardsoni** Dn. Trans. Roy. Soc. Canada, vol. i, sec. iv, p. 25, pl. v, f. 18-18b, 1882 [1883].
Upper Cretaceous: Protection Island.
- DELESSERIA** Lam. Ann. Mus., vol. xx, p. 122, 1813.
- Delesseria fulva** Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 376, 1872 [1873]; Tert. Fl., p. 39, pl. i, f. 10, 1878.
Laramie group: Golden, Colorado.
- Delesseria incrassata* Lx. = *Caulerpites incrassatus*.
Delesseria ligulata Lx. = *Caulerpites ligulatus*.
- DEWALQUEA** Saporta and Marion. Mém. cour. et des Sav. étrangers de l'Académie, vol. xxxvii, p. 55, 1874.
- Dewalquea dakotensis** Lx. Fl. Dak. Gr., p. 211, pl. lix, f. 5, 6, 1892.
Dakota group: Kansas.
- Dewalquea grönlandica** Heer? Fl. Foss. Arct., vol. vi, abt. ii, p. 87, pl. xxix, f. 18, 19; xlv, f. 11, 1882; Newby, Fl. Amboy Clays, p. 129, pl. xli, f. 2, 3, 12, 1895 [1896].
Amboy clay: New Jersey.
- Dewalquea Haldemiana** (Deb.) Sap. and Mar. Essai, p. 60, pl. 7, f. 1, 2, 1874; Lx., Proc. U. S. Nat. Mus., vol. x, p. 46, 1887; Hollick, Trans N. Y. Acad. Sci., vol. xii, p. 36, pl. ii, f. 10, 2a, 1892.
Cretaceous: Upper Kanab Valley, Utah; Staten Island.
- Dewalquea insignis** Hos. and v. d. Marck. Palæontogr., vol. xxvi, p. 172 [48 of reprint], pl. 32, 33, 34, 1880; Hollick, Trans. N. Y. Acad. Sci., vol. xii, p. 36, pl. i, f. 9, 1892.
Cretaceous: Staten Island.
- Dewalquea primordialis** Lx. Geol. and Nat. Hist. Surv. Minn., vol. iii, p. 18, pl. A, f. 10, 1893.
Dakota group: New Ulm, Minnesota.
- Dewalquea trifoliata** Newby. Fl. Amboy Clays, p. 129, pl. xxii, f. 4-7, 1895 [1896].
Amboy clay: Woodbridge, New Jersey.

DICKSONIA Presl. Pterid., p. 135, 1836.

Dicksonia munda Dn. Trans. Roy. Soc. Canada, vol. iii, sec. iv, p. 11, pl. iii, f. 5, 5a, 1885 [1886].

Mill Creek series: Mill Creek.

Dicksonia sp., Dn. Trans. Roy. Soc. Canada, vol. iii, sec. iv, p. 5, 1885 [1886].

Kootanie: Martin Creek, British Columbia.

DIOÖNITES. Miquel. Tijdschr. v. Wis- en Nat.-Wetens., vol. iv, p. 211 (7 of reprint), 1851.

Dioönites borealis Dn. Trans. Roy. Soc. Canada, vol. i, sec. iv, p. 24, pl. iii, f. 37, 1882 [1883].

Lower Cretaceous?: Willow Creek, Northwest Territory.

Kootanie: Martin Creek and Canmore, British Columbia.

Dioönites Buchianus (Ett.) Born. Org. Reste d. Lettenkohlengr. Thüringens, p. 57, 1856; Font., Potomac Fl., p. 182, pl. lxxviii, f. 1; lxxix, f. 1, 3; lxxx, f. 2, 3; lxxxi, f. 1; lxxxii, f. 1, 2; lxxxiii, f. 1-3; lxxxiv, f. 1-3, 1889.

Pterophyllum Buchianum Ett. Fl. d. Wealdenb., p. 21, 1852.

Potomac formation: James River, Trents Reach, Dutch Gap Canal, Kankeys, and near Telegraph Station, Virginia.

Trinity division: Glenrose, Texas.

Dioönites Buchianus angustifolius Font. Potomac Fl., p. 185, pl. lxxvii, f. 6; lxxviii, f. 4; lxxxi, f. 2, 1889.

Potomac formation: Dutch Gap, Kankeys, and Occoquan, Virginia.

Trinity division: Glenrose, Texas.

Horsetown beds: Shasta County, California.

Dioönites Buchianus obtusifolius Font. Potomac Fl., p. 184, pl. clxxviii, f. 3, 1889.

Potomac formation: Dutch Gap Canal, Virginia.

Dioönites Buchianus rarinervis Font. Proc. U. S. Nat. Mus., vol. xvi, p. 264, pl. xxxvi, f. 3, 4, 1893.

Trinity division: Glenrose, Texas.

Knoxville beds: Tehama County, California.

Dioönites columbianus Dn. Trans. Roy. Soc. Canada, vol. x, sec. iv, p. 91, 1892 [1893].

Cycadeospermum (Dioönites) columbianus Dn. Geol. Surv. Canada, Rept. of Progress for 1872-73, Appen. i, p. 69, pl. i, f. 1-12, 1873.

Lower Cretaceous: Skidegate Channel, Queen Charlotte Island.

Dioönites Dunkerianus (Göpp.) Miq. Tijdschr. v. Wis- en Nat.-Watens., vol. iv, p. 212, 1851; Font. Proc. U. S. Nat. Mus., vol. xvi, p. 265, pl. xxxvi, f. 12; xxxvii, f. 1, 1893.

Trinity division: Glenrose, Texas.

Horsetown beds: Shasta County, California.

DIOSCOREA Plumier ex Linnæus. Gen., ed. i, p. 306, 1737.

Dioscorea? cretacea Lx. Cret. Fl., p. 56, pl. xxviii, f. 10, 1874.

Dakota group: Western Kansas.

DIOSPYROS Linnæus. Gen., ed. i, p. 143, 1737.

Diospyros alaskana Schimp. Pal. Vég., vol. ii, p. 949, 1872.

*Diospyros lancifolia** Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 293, 1871 [1872]; Heer, Neue Denkschr., vol. xxi, p. 8, pl. i, f. 10-12; pl. ii, f. 1-3, 1865.

[* Preoccupied.]

Eocene?: Alaska; Cherry Creek, Oregon; Bellingham Bay.

Laramie group?: Evanston, Wyoming.

Diospyros ambigua Lx. Cret. and Tert. Fl., p. 60; Fl. Dak. Gr., p. 110, 1892.

Diospyros anceps Lx. Cret. Fl., p. 89, pl. vi, f. 6, 1874.

Quercus anceps Lx. Am. Journ. Sci., vol. xlv, p. 96, 1868. [*D. anceps* preoccupied by sp. of Heer.]

Dakota group: Nebraska.

Diospyros anceps Heer. Fl. Tert. Helv., vol. iii, p. 12, pl. cii, f. 15-18, 1859; Lx., Proc., U. S. Nat. Mus., vol. v, p. 448, 1882 [1883].

Eocene?: Cook Inlet, Alaska.

Diospyros anceps Lx. = *Diospyros ambigua*.

Diospyros apiculata Lx. Fl. Dak. Gr., p. 110, pl. xiv, f. 3, 1892; Hollick, Bull. Geol. Soc. Am., vol. vii, p. 13, 1895.

Dakota group: Kansas.

Cretaceous: Marthas Vineyard.

Diospyros brachysepala Al. Br. Neues Jahrb. f. Min. 1845, p. 170, 1845; Lx., Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 394, 1872 [1873]; Tert. Fl., p. 232, pl. xl, f. 7-10; pl. xliii, f. 6, 1878.

Rhamnus inaequalis Lx. Ann. Rept., op. cit., p. 405, 1873 [1874]; Tert. Fl., p. 279, pl. lii, f. 16, 1878.

Laramie group: Golden, Sand Creek, Sedalia, Colorado; Black Buttes and Hodges Pass, Wyoming.

Fort Union group: Yellowstone River, Montana.

Green River group: Florissant, Colorado.

Montana formation?: Point of Rocks, Wyoming.

Diospyros? celastroides Lx. Fl. Dak. Gr., p. 113, pl. xx, f. 7, 1892. Dakota group: Kansas.

Diospyros Copeana Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 414, 1873 [1874]; Tert. Fl., p. 232, pl. xl, f. 11, 1878.

Green River group: Elko Station, Nevada.

Diospyros eminens Dn. Trans. Roy. Soc. Canada, vol. xi, sec. iv, p. 62, pl. x, f. 40, 1893 [1894].

Upper Cretaceous: Port McNeill, Vancouver Island.

Diospyros? ficoidea Lx. Bull. U. S. Geol. and Geogr. Surv. Terr., vol. i, p. 387, 1875 [1876]; Ann. Rept., op. cit., p. 314, 1874 [1876]; Tert. Fl., p. 231, pl. xl, f. 5, 6, 1878; Ward, Bull. U. S. Geol. Surv., no. 37, p. 105, pl. xlix, f. 3, 4, 1887.

Daphnogene elegans Wat. Ward, Bull. U. S. Geol. Surv., no. 37, p. 51, pl. xxv, f. 1, 1887.

Fort Union group: Clear Creek and Burns Ranch, Montana.

Laramie group: Black Buttes and Hodges Pass, Wyoming.

Diospyros lancifolia Lx. = *Diospyros alaskana*.

Diospyros nitida Dn. Trans. Roy. Soc. Canada, vol. i, sec. iv, p. 22, pl. iii, f. 10, 1882 [1883].

——: Peace River, Northwest Territory.

? ***Diospyros obtusata*** Ward. Bull. U. S. Geol. Surv., no. 37, p. 105, pl. xlix, f. 5, 1887.

Fort Union group: Seven-Mile Creek, Montana.

Diospyros primæva Heer. Phyll. Crét. d. Nebr., p. 19, pl. i, f. 6, 7, 1866; Lx., Fl. Dak. Gr., p. 109, pl. xx, f. 1-3, 1892; Newby., Fl. Amboy Clays, p. 124, pl. xxx, f. 1-5, 1895 [1896].

Dakota group: Nebraska and Kansas.

Cretaceous: Glen Cove, Long Island.

Amboy clay: South Amboy, New Jersey.

Diospyros pseudoanceps Lx. Fl. Dak. Gr., p. 111, pl. xxii, f. 1, 1892; Geol. and Nat. Hist. Surv. Minn., vol. iii, p. 17, pl. B, f. 6, 1893.

Dakota group: Kansas; New Ulm, Minnesota.

Diospyros rotundifolia Lx. Cret. Fl., p. 89, pl. xxx, f. 1, 1874; Fl. Dak. Gr., p. 112, pl. xvii f. 8-11, 1892; Hollick, Bull. Torr. Bot. Club, vol. xxi, p. 53, pl. 179, f. 2, 1894.

Dakota group: Western Kansas.

Cretaceous: Glen Cove, Long Island.

Diospyros Steenstrupi? Heer. Fl. Foss. Arct., vol. vii, p. 32, pl. lxiv, f. 1, 1883; Lx., Fl. Dak. Gr., p. 111, pl. xvi, f. 9, 1892.

Dakota group: Kansas; Staten Island?

Diospyros stenosepala Heer. Fl. Foss. Alask., p. 35, pl. viii, f. 7, 8, 1869; Lx., Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 296, 1871 [1872].

Eocene?: Alaska; Snake River, Yellowstone National Park.

Diospyros vancouverensis Dn. Trans. Roy. Soc. Canada, vol. i, sec. iv, p. 28, pl. viii, f. 32, 1882 [1883].

Upper Cretaceous: Nanaimo; Port McNeill, Vancouver Island.

Diospyros virginiana Turneri Lx. Proc. U. S. Nat. Mus., vol xi, p. 35, 1888.

Miocene: Contra Costa, California.

Diospyros Wodani Ung. Gen. et Sp. Pl. Foss., p. 435, 1850; Syll. Pl. Foss., pt. iii, p. 27, pl. ix, f. 10-12, 1859; Lx., Tert. Fl., p. 233, pl. lix, f. 13, 1878.

Calyceites hexaphylla Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 402, 1872 [1873].

Laramie group?: Evanston, Wyoming.

Diospyros (calyx) Dn. Trans. Roy. Soc. Canada, vol. xi, sec. iv, p. 62, pl. x, f. 41, 1893 [1894].

Upper Cretaceous: Port McNeill, Vancouver Island.

***Diospyros* sp.**, Dn. Rept. on Geol. and Res. near 49th Parallel, Appen. A, p. 330, 1875.

Lignitic Tertiary: Porcupine Creek.

Diplazium Muelleri? Heer, Lx. = *Asplenium Crossii*.

DISTICHIMUM Bruchman Schimper and Gumbel. *Bryol. Europ. Foss.*, p. 18-20, 1846.

Distichium capillaceum Bruch. and Schimp. *Penhallow, Trans. Roy. Soc. Canada*, 2d ser., vol. ii, sec. iv, p. 62, 1896.

Pleistocene: Long Portage, Missinaibi River.

DOMBEYOPSIS Unger. *Steiermärkische Zeitschr. Gratz*, vol. ix, 1 heft, p. 47 (?) [24 of reprint], 1848; *Gen. et Sp. Pl. Foss.*, p. 447, 1850. *Dombeyopsis æquifolia* Göpp. Lx. = *Ficus tiliæfolia*.

Dombeyopsis grandifolia? Ung. *Gen. et Sp. Pl. Foss.*, p. 447, 1850: Lx., *Ann. Rept. U. S. Geol. and Geogr. Surv. Terr.*, p. 404, 1873 [1874]; *Tert. Fl.*, p. 255, pl. xlvii, f. 6, 1878.

Denver group: Golden, Colorado.

Dombeyopsis obtusa Lx. *Ann. Rep. U. S. Geol. and Geogr. Surv. Terr.*, p. 375, 1872 [1873]; *Tert. Fl.*, p. 255, pl. xlvii, f. 4, 5, 1878.

Denver group: Golden, Colorado.

Laramie group: Golden, Coal Creek, Colorado.

Dombeyopsis obtusiloba Lx. var. ? = *Menispermities obtusiloba*.

Dombeyopsis occidentalis Lx. = *Ficus occidentalis*.

Dombeyopsis platanoïdes Lx. *Tert., Fl.* p. 254, pl. xlvii, f. 1, 2, 1878.

Quercus platania var., *rotundifolia* Lx. *Ann. Rept. U. S. Geol. and Geogr. Surv. Terr.*, p. 405, 1872 [1873].

Laramie group: Bozeman Coal Field, Montana.

Dombeyopsis tiliæfolia (Al. Br.) Ung. = *Ficus tiliæfolia*.

Dombeyopsis trivialis Lx. *Ann. Rept. U. S. Geol. and Geogr. Surv. Terr.*, p. 380, 1872 [1873]; *Tert. Fl.*, p. 255, pl. xlvii, f. 3, 1878.

Laramie group: Golden, Colorado.

DROSERA Linnæus. *Syst.*, ed. i, 1735.

Drosera rotundifolia L. *Dn. Can. Nat.*, vol. iii, new ser., p. 70, 1868; *Geol. Hist. Pl.*, p. 228, 1888.

Pleistocene: Greens Creek on Ottawa River, Canada.

DRUPA Lesquereux. *Am. Journ. Sci.*, vol. xxxii, 2d ser., p. 360, 1861.

Drupa rhabdosperma Lx. *Am. Journ. Sci.*, vol. xxxii, p. 360, 1861; *Geol. Vt.*, vol. ii, p. 716, f. 150, 1861.

——: Brandon, Vermont.

Dryandroides lignitum (Ung.) Ett. Lx. = *Myrica lignitum*.

DRYOPHYLLUM Debey. *Sur l. feuilles Querciformes d'Aix-la-Chapelle*, p. 7, 1881.

Dryophyllum aquamarum Ward. *Bull. U. S. Geol. Surv.*, no. 37, p. 26, pl. x, f. 2-4, 1887.

Laramie group: Black Buttes, Wyoming.

Dryophyllum basidentatum Ward = *Quercus carbonensis*.

Dryophyllum Bruneri Ward = *Dryophyllum subfalcatum*.

Dryophyllum (Quercus) crenatum Lx. *Bull. U. S. Geol. and Geogr. Surv. Terr.*, vol. i, p. 371, 1875 [1876]; *Ann. Rept. U. S. Geol. and Geogr. Surv. Terr.*, p. 301, 1874 [1876]; *Tert. Fl.*, p. 162, pl. lxii, f. 10, 11, 1878.

Montana formation: Point of Rocks, Wyoming.

Dryophyllum elongatum Dn. = *Quercus occidentalis*.

Dryophyllum falcatum Ward. Bull. U. S. Geol. Surv., no. 37, p. 27, pl. xi, f. 1, 1887.

Laramie group: Hodges Pass, Wyoming.

Dryophyllum (*Quercus*) *Holmesii* Lx. = *Quercus Holmesii*.

Dryophyllum latifolium Lx. = *Quercus latifolia*.

Dryophyllum neillianum Dn. = *Quercus occidentalis*.

Dryophyllum occidentale Dn. = *Quercus occidentalis*.

Dryophyllum primordiale Lx. = *Quercus primordialis*.

Dryophyllum (*Quercus*) *salicifolium* Lx. = *Quercus Holmesii*.

Dryophyllum stanleyanum Dn. Trans. Roy. Soc. Canada, 2d ser., sec. iv, p. 147, pl. vii, f. 13, 1895-96.

Eocene: Stanley Park, Vancouver, British Columbia.

Dryophyllum subfalcatum Lx. Bull. U. S. Geol. and Geogr. Serv. Terr., vol. i, p. 379, 1875; Ann. Rept., p. 301, 1874 [1876]; Tert. Fl., p. 163, pl. lxiii, f. 10, 1878.

Quercus gracilis Newby. Proc. U. S. Nat. Mus., vol. v, p. 504, 1882 [1883]; Plates, pl. lxxvii, f. 4 [ined].

Dryophyllum Bruneri Ward. Bull. U. S. Geol. Surv., no. 37, p. 27, pl. x., f. 5-8, 1887.

Montana formation: Point of Rocks, Wyoming.

Laramie group: Hodges Pass, Wyoming.

Dryophyllum sp., Dn. = *Quercus occidentalis*.

DRYOPTERIS Adanson. Fam. Pl., vol. ii, p. 20, 1763.

Dryopteris angustipinnata (Font.) n. comb.

Aspidium angustipinnatum Font. Potomac Fl., p. 98, pl. xvi, f. 1, 3, 8; xvii, f. 1; xix, f. 10, 1889.

Potomac formation: Trents Reach, Dutch Gap Canal, Fredericksburg, and near Potomac Run, Virginia.

Dryopteris angustipinnata montanense (Font.) n. comb.

Aspidium angustipinnatum montanense Font. Proc. U. S. Nat. Mus., vol. xv, p. 491, pl. lxxxiv, f. 1, 1a, 1892.

Kootanie: Great Falls, Montana.

Dryopteris arguta (Lx.) n. comb.

Lathræa arguta Lx. Am. Journ. Sci., vol. lxxv, p. 207, 1868.

Aspidium Lakesii (Lx.) Kn. Proc. Biol. Soc. Wash., vol. vii; p. 154, 1892; Bull. U. S. Geol. Surv., no. 105, p. 45, pl. vi, f. 1-4, 1893.

Sphenopteris Lakesii Lx. Tert. Fl., p. 49, pl. ii, f. 1, 1a, 1878.

Sphenopteris eocenica Ett. Lx., Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 376, 1872 [1873].

Sphenopteris membranacea Lx. Ann. Rept., op. cit., p. 394, 1873 [1874]; Tert. Fl., p. 50, pl. ii, f. 2-3a, 1878.

Denver group: Golden, Colorado.

Dryopteris cystopteroides (Font.) n. comb.

Aspidium cystopteroides Font. Potomac Fl., p. 99, pl. xvi, f. 2, 1889.

Potomac formation: Fredericksburg, Virginia.

Dryopteris dentata (Font.) n. comb.

Aspidium dentatum Font. Potomac Fl., p. 102, pl. xxv, f. 6, 7, 14, 15, 1889.

Potomac formation: Dutch Gap Canal, near Potomac Run, near telegraph station, Virginia.

Dryopteris elliptica (Font.) n. comb.

Aspidium ellipticum Font. Potomac Fl., p. 95, pl. xiii, f. 9, 10, 1889.

Potomac formation: Near Potomac Run, near Brooke, Virginia.

Dryopteris fredericksburgense (Font.) n. comb.

Aspidium fredericksburgense Font. Potomac Fl., p. 94, pl. xi, f. 1-6; xii, f. 1-6; xvi, f. 9; xix, f. 6, 7, 1889.

Potomac formation: Fredericksburg and near Telegraph Station, Virginia.

Kootanie: Anthracite, British Columbia; Great Falls, Montana.

Dryopteris heterophylla (Font.) n. comb.

Aspidium heterophylla Font. Potomac Fl., p. 96, pl. xiv, f. 1-5; xv, f. 1-5, 1889.

Potomac formation: Fredericksburg, Virginia.

Knoxville beds: Tehama County, California.

Dryopteris idahoensis Kn. Eighteenth Ann. Rept. U. S. Geol. Surv., pt. iii, p. 721, pl. xcix, f. 1, 2, 1898.

Payette formation: Marsh, Idaho.

Dryopteris Kennerleyi (Newby.) n. comb.

Aspidium Kennerleyi Newby. Bost. Journ. Nat. Hist., vol. vii, p. 513, 1863.

Upper Cretaceous: Vancouver Island (Dn.).

Upper Cretaceous?: Newcastle coal, Vancouver Island.

Dryopteris macrocarpa (Font.) n. comb.

Aspidium macrocarpum Font. Potomac Fl., p. 103, pl. xvii, f. 2, 1889.

Potomac formation: Dutch Gap Canal, Virginia.

Dryopteris microcarpa (Font.) n. comb.

Aspidium microcarpum Font. Potomac Fl., p. 103, pl. lix, f. 2, 12; lx, f. 6, 7, 1889.

Potomac formation: Near Potomac Run, Virginia.

Dryopteris monocarpa (Font.) n. comb.

Aspidium monocarpum Font. Proc. U. S. Nat. Mus., vol. xv, p. 490, pl. lxxxiii, f. 4-6a; pl. lxxxiv, f. 3, 3a, 1892.

Kootanie: Great Falls, Montana.

Dryopteris montanese (Font.) n. comb.

Aspidium montanense Font. Proc. U. S. Nat. Mus., vol. xv, p. 490, pl. lxxxii, f. 1-3; pl. lxxxiii, f. 2-3a, 1892.

Kootanie: Great Falls, Montana.

Dryopteris oblongifolia (Font.) n. comb.

Aspidium oblongifolium Font. Potomac Fl., p. 100, pl. xxi, f. 5, 1889.

Potomac formation: Near Potomac Run, Virginia.

Dryopteris Oerstedii? (Heer) n. comb.

Aspidium Oerstedii? Heer. Fl. Foss. Arct., vol. vi, abt. ii, p. 30, pl. xxxiv, f. 3, 4, 1882; Font., Potomac Fl., p. 99, pl. xix, f. 4, 1889.

Potomac formation: Near Telegraph Station, Virginia.

Dryopteris parvifolia (Font.) n. comb.

Aspidium parvifolium Font. Potomac Fl., p. 100, pl. xxi, f. 6; xxiv, f. 8; xxv, f. 10; xxvi, f. 1, 14, 16, 17, 1889.

Potomac formation: Fredericksburg, Dutch Gap Canal, Virginia.

Dryopteris pinnatifida (Font.) n. comb.

Aspidium pinnatifidum Font. Potomac Fl., p. 101, pl. xxi, f. 15, 1889.

Potomac formation: Bank near Brooke, Virginia.

Dryopteris (Lastrea) polypodioides? (Ett.) n. comb.

Lastrea (*Goniopteris*) *polypodioides*? (Ett.) Lesquereux. Tert. Fl., p. 57, pl. iv, f. 11, 12, 1878.

Goniopteris polypodioides Ett. Lesquereux. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 394, 1873 [1874].

Laramie group: Sand Creek, Colorado.

Dryopteris virginica (Font.) n. comb.

Aspidium virginicum Font. Potomac Fl., p. 97, pl. xv, f. 7; xxi, f. 14.

Potomac formation: Near Potomac Run and near Brooke, Virginia.

Dryopteris sp.

Aspidium sp., Kn. Bull. Geol. Soc. Am., vol. viii, p. 140, 1897.

Laramie group?: North Fork Dutton Creek, Wyoming.

ECHITONIUM Unger. Syn. Pl. Foss., p. 230, 1845.

Echitonium Sophieæ O. Web. Palæontogr., vol. ii, p. 187, pl. xx, f. 17, 1852; Lx., Am. Journ. Sci., vol. xlv, f. 206, 1868; Proc. U. S. Nat. Mus., vol. x, p. 41, 1887.

Laramie group?: Marshalls, Colorado.

——?: White River, Dakota.

ELÆAGNUS (Tournefort) Linnæus. Syst., ed. i, 1735.

Elæagnus inæqualis Lx. Am. Journ. Sci., vol. xxvii, p. 364, 1859; Geol. Tenn., p. 428, pl. K, f. 7, 1869.

Pleistocene?: Somerville, Fayette County, Tennessee.

ELÆODENDRON Jacques f. Nova Acta Helv., vol. i, p. 36, 1787.

Elæodendron helveticum Heer. Fl. Tert. Helv., vol. iii, p. 71, pl. cxxii, f. 5, 1859; Lx., Proc. U. S. Nat. Mus., vol. v, p. 449, 1882 [1883].

Eocene?: Unga Island, Alaska.

Elæodendron polymorphum Ward. Bull. U. S. Geol. Surv., no. 37, p. 84, pl. xxxviii, f. 1-7, 1887.

Fort Union group: Burns Ranch, Montana.

Elæodendron serrulatum Ward. Bull. U. S. Geol. Surv., no. 37, p. 83, pl. xxxvii, f. 3-5, 1887.

Fort Union group: Burns Ranch and Seven-Mile Creek, Montana.

Elæodendron speciosum Lx. Fl. Dak. Gr., p. 175, pl. xxxvi, f. 2, 3, 1892.

Dakota group: Kansas.

ELODEA Michaux. Fl. Bor. Am., vol. i, p. 20, 1803.

Elodea canadensis? Mx. Penhallow, Bull. Geol. Soc. Am., vol. i, p. 325, 1890.

Pleistocene: Rolling River, Manitoba.

EMBOTHRITES Unger. Gen. et Sp. Pl. Foss., p. 428, 1850.

Embothrites? *daphneoides* Lx. Cret. and Tert. Fl., p. 51, 1883.

Embothrium? *daphneoides* Lx. Cret. Fl., p. 87, pl. xxx, f. 10, 1874.

Dakota group: Kansas.

Embothrium? *daphneoides* Lx. = *Embothrites?* *daphneoides*.

ENCEPHALARTOPSIS Fontaine. Potomac Fl., p. 174, 1889.

Encephalartopsis nervosa Font. Potomac Fl., p. 174, pl. lxx, f. 4; lxxi, f. 3, 4; lxxii, f. 3, 4, 1889.

Potomac formation: Fredericksburg, Virginia.

ENCEPHALARTOS Lehman. Pugill., vol. vi, p. 3, 1834.

Encephalartos cretaceus Lx. Fl. Dak. Gr., p. 29, pl. i, f. 12, 1891.

Dakota group: Kansas.

ENGELHARDTIA Leschen. In Blume, Bijdr., 528, 1825.

Engelhardtia oxyptera Sap. Études (Ann. d. Sci. Nat., 5th ser., Bot., vol. 4), p. 344, pl. xii, f. 2, 1865; Lx., Cret. and Tert. Fl., p. 192, 1883.

Green River group: Florissant, Colorado.

EQUISETUM (Tournefort) Linnæus. Gen. Pl., p. 322, 1737.

Equisetum arvense L. Knowlton, Am. Geol., vol. xviii, p. 371, 1896.

Glacial: Morgantown, West Virginia.

Equisetum globulosum Lx. Proc. U. S. Nat. Mus., vol. v, p. 444, 1882 [1883]; Cret. and Tert. Fl., p. 222, pl. xlvi, f. 3, 1883.

Eocene?: Alaska.

Fort Union group: Bad Lands, Dakota.

Equisetum Haydenii Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 284, 1871 [1872]; Tert. Fl., p. 67, pl. vi, f. 2-4, 1878.

Green River group: Barrell Springs, Wyoming.

Denver group?: Carbon, Wyoming.

Equisetum Hornii Lx. Proc. U. S. Nat. Mus., vol. xi, p. 23, 1888.

Eocene?: Cherry Creek, Oregon.

Equisetum lævigatum Lx. Tert. Fl., p. 68, pl. vi, f. 6, 7, 1878.

Equisetum? lævigatum Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 395, 1873 [1874].

Laramie group: Golden and Sand Creek, Colorado.

Equisetum Lesquereuxii nom. nov.

Equisetum limosum? L.* Lesquereux, Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 299, 1871 [1872]; Tert. Fl., p. 69, pl. vi, f. 5, 1878. [* Not the living *E. limosum!*]

Miocene?: Yellowstone National Park.

Equisetum limosum L. Penhallow, Bull. Geol. Soc. Am., vol. i, p. 327, 1890; Trans. Roy. Soc. Canada, 2d ser., vol. ii, sec. iv, p. 66, 71, 1896.

Pleistocene: Greens Creek and Besserer's Wharf, Ottawa River.

Equisetum limosum? L. Lx. = *Equisetum Lesquereuxii*.

Equisetum Lyelli Mantell. Geol. S. E. England 1833, p. 217, 1833; Font., Potomac Fl., p. 65, pl. i, f. 7; pl. ii, f. 4, 5, 1889; Dn., Trans. Roy. Soc. Canada, vol. x, sec. iv, p. 83, f. 1, 1892 [1893].

Potomac formation: Fredericksburg and Dutch Gap Canal, Virginia.

Kootanie: Canada.

Equisetum marylandicum Font. Potomac Fl., p. 65, pl. ii, f. 10, 1889.

Potomac formation: Baltimore, Maryland.

Equisetum nodosum Lx. = *Phragmites cretaceus*.

Equisetum oregonense Newby. Proc. U. S. Nat. Mus., vol. v, p. 503, 1882 [1883].

Miocene?: Currant Creek, Oregon.

Equisetum Parlatorii (Heer) Schimp. Pal. Vég., vol. i, p. 261, 1869.

Physagenia Parlatorii Heer. Fl. Tert. Helv., vol. i, p. 109, pl. xlii, f. 2-17, 1885; Dn., Rept. Geol. and Res., near 49th Parallel, Appen. A, p. 329, pl. xvi, f. 3, 4, 1875.

——: Great Valley, Canada.

Equisetum robustum Newby. Bost. Journ. Nat. Hist., vol. vii, p. 513, 1863.

——: Bellingham Bay, Washington.

Equisetum scirpoides Mx. Dn., Can. Nat., vol. iii, new ser., p. 73, 1868; Geol. Hist. Pl., p. 230, 1888.

Pleistocene: Greens Creek, Ottawa River, Canada.

Equisetum similkamense Dn. Geol. Surv. Canada, Rept. of Progress 1877-78, p. 186, pl. B, 1878; Trans. Roy. Soc. Canada, vol. viii, sec. iv, p. 76, f. 1-1*d*, 1890.

Eocene?: Similkameen Valley, British Columbia.

Equisetum sylvaticum? L. Penhallow, Bull. Geol. Soc. Am., vol. i, p. 327, 1890.

Pleistocene: Canada.

Equisetum texense Font. Proc. U. S. Nat. Mus., vol. xvi, p. 263, pl. xxxvi, f. 1, 1893.

Trinity division: Glenrose, Texas.

Knoxville beds: Tehama County, California.

Equisetum virginicum Font. Potomac Fl., p. 63, pl. i, f. 1-6, 8; pl. ii, f. 1-3, 6, 7, 9, 1889.

Potomac formation: Dutch Gap Canal, Virginia.

Equisetum wyomingense Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 409, 1873 [1874]; Tert. Fl., p. 69, pl. vi, f. 8-11, 1878.

Green River group: Green River, Wyoming.

Equisetum sp., Dn. Rept. Geol. and Res. near 49th Parallel, Appen. A, p. 329, 1875.

Canadian Upper Laramie: Porcupine Creek.

Equisetum sp., Paisley. Can. Nat., 2d ser., vol. vii, p. 270, 1875.

Post pliocene: Bathurst, New Brunswick.

Equisetum, rootlets of, Lx. Rept. on Clays in N. J., p. 28, 1878.

Amboy clay: Washington, New Jersey.

Equisetum sp. Lx. Cret. and Tert. Fl., p. 239, pl. 1, f. 8, 1883.

Miocene: Corral Hollow, California.

Equisetum sp., Lx. Cret. and Tert. Fl., p. 239, pl. 1, f. 7, 1883.

Miocene: Contra Costa, California.

Equisetum sp., Dn. Trans. Roy. Soc. Canada, vol. iv, sec. iv, p. 22, pl. i, f. 2, 1886 [1887].

Canadian Upper Laramie: Great Valley, Canada.

Equisetum sp., Font. Potomac Fl., p. 66, pl. clxx, f. 8, 1889.

Potomac formation: Baltimore, Maryland.

Equisetum sp., Font. Potomac Fl., p. 65, pl. ii, f. 8, 1889.

Potomac formation: Fredericksburg, Virginia.

Equisetum sp., Penhallow. Trans. Roy. Soc. Canada, 2d ser., vol. ii, sec. iv, p. 71, 1896.

Pleistocene: Scarboro Heights, Ontario.

Equisetum sp., Kn. Bull. Geol. Soc. Am., vol. viii, p. 133, 1897.

Laramie group: Lance Creek, Converse County, Wyoming.

Equisetum sp., Kn. Eighteenth Ann. Rep. U. S. Geol. Surv., pt. iii, p. 722, 1898.

Payette formation: Idaho City, Idaho.

EREMOPHYLLUM Lesquereux. Cret. Fl., p. 107, 1878.

Eremophyllum fimbriatum Lx. Cret. Fl., p. 107, pl. viii, f. 1, 1874.

Ficus? *fimbriatus* Lx. Am. Journ. Sci., vol. xlvi, p. 96, 1868.

Dakota group: Decatur, Nebraska.

ERIOCAULON Linnæus. Gen., ed. ii, p. 35, 1742.

Eriocaulon? **porosum** Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 396, 1873 [1874]; Tert. Fl., p. 106, pl. xvi, f. 2, 2a, 1878.

Laramie group: Sand Creek and Murpheys, near Golden, Colorado.

EUCALYPTOPHYLLUM Fontaine. Potomac Fl., f. 325, 1889.

Eucalyptophyllum oblongifolium Font. Potomac Fl., p. 325, pl. clxii, f. 4, 1889.

Potomac formation: Near Brooke, Virginia.

EUCALYPTUS L'Héritier. Sert. Angl., p. 18, 1788.

Eucalyptus? **americana** Lx. Tert. Fl., p. 296, pl. lix, f. 11, 12, 1878.

Eucalyptus americanus Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., 1871, suppl., p. 7, 1871 [1872].

Green River group: Green River Station, Wyoming.

Eucalyptus? **angustifolia** Newby. Fl. Amboy Clays, p. 111, pl. xxxii, f. 1, 6, 7, 1895 [1896].

Amboy clay: South Amboy, New Jersey.

Eucalyptus? **attenuata** Newby. Fl. Amboy Clays, p. 111, pl. xvi, f. 2, 3, 5, 1895 [1896].

Amboy clay: South Amboy, New Jersey.

Eucalyptus dakotensis Lx. Fl. Dak. Gr., p. 137, pl. xxxvii, f. 14-19, 1892.

Dakota group: Kansas.

Eucalyptus Geinitzi Heer. Fl. Foss. Arct., vol. vi, abt. ii, p. 93, pl. xix, f. 1c; lxxv, f. 4-9; xlvi, f. 12 c, d, 13, 1882; Lx., Fl. Dak. Gr., p. 138, pl. xxxvii, f. 20, 1892; Newby., Fl. Amboy Clays, p. 110, pl. xxxii, f. 2, 12, 15, 16, 1895 [1896].

Myrtophyllum (Eucalyptus?) Geinitzi Heer. Fl. Foss. Arct., vol. iii, abt. ii, p. 116. pl. xxxii, f. 14-17; xxxiii, f. 6b, 1874.

Dakota group: Kansas.

Amboy clay: New Jersey.

Cretaceous: Staten Island; Glenn Cove, Long Island; Marthas Vineyard.

Eucalyptus Gouldii Ward. Bull. Torr. Bot. Club, vol. xxiv, p. 576, f. (in text) 1, 2, 1897.

Dakota group: Clark County, Kansas.

Eucalyptus Hæringiana? Ett. Abhandl. d. k. k. Geol. Reichsanstalt, vol. ii, pt. 3, p. 84, pl. xxxviii, f. 2-25, 1853; Lx., Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 400, 1872 [1873]; Tert. Fl., p. 296, pl. lix, f. 10, 1878.

Laramie group: Black Buttes, Wyoming.

Eucalyptus? nervosa Newby. MSS. Hollick, Bull. Torr. Bot. Club, vol. xxi, p. 56, pl. 174, f. 10, 1894. Newby. Fl. Amboy Clays, p. 112, pl. xxxii, f. 3-5, 8, 1895 [1896].

Cretaceous: Sea Cliff, Long Island.

Eucalyptus? parvifolia Newby. Fl. Amboy Clays, p. 112, pl. xxxii, f. 9, 10, 1895 [1896.]

Amboy clay: South Amboy, New Jersey.

EUGENIA Micheli ex Linnæus. Syst., ed. i., 1735.

Eugenia primæva Lx. Fl. Dak. Gr., p. 137, pl. liii, f. 5-9, 1892.

Dakota group: Kansas.

EUONYMUS Linnæus. Hort. Cliff, p. 39, 1737.

Euonymus flexifolius Lx. Cret. and Tert. Fl., p. 183, pl. xxxviii, f. 13, 1883.

Green River group: Uinta County, formerly but wrongfully called Randolph County, Wyoming.

Euonymus xantholithensis Ward. Bull. U. S. Geol. Surv., no. 37, p. 82, pl. xxxvii, f. 1, 2, 1887.

Fort Union group: Burns Ranch, Montana.

FAGOPHYLLUM Nathorst. Pal. Abhandl. v. Dames u. Kayser, vol. iv, heft 3, p. 5, 1888.

Fagophyllum nervosum Dn. Trans. Roy. Soc. Canada, vol. xi, sec. iv, p. 58, pl. vii, f. 16, 1893 [1894].

Upper Cretaceous: Port McNeill, Vancouver.

Fagophyllum retosum Dn. Trans. Roy. Soc. Canada, vol. xi, sec. iv, p. 57, pl. vii, f. 15, 1893 [1894].

Upper Cretaceous: Port McNeill, Vancouver.

FAGUS (Tournefort) Linnaeus. Syst., ed. i, 1735.

Fagus Antipofii Abich. Mém. Acad. Sci. St. Petersburg, ser. vi, Sci. math. et physiq., vol. vii, p. (35 of reprint) 572, pl. viii, f. 2, 1858; Heer, Fl. Foss. Arct., vol. ii, abt. ii, p. 30, pl. v, f. 4a; vii, f. 4-8; viii, f. 1, 1869.

Eocene?: Port Graham, Alaska.

Miocene: Table Mountain, California.

Laramie group?: Point of Rocks, Wyoming.

Fagus castaneæfolia Ung. = *Castanea castaneæfolia*.

Fagus cretacea Newby. Later Extinct Floras, p. 23, 1868.

Dakota group: Kansas.

Fagus Deucalionis Ung. Syn. Pl. Foss., p. 218, 1845; Lx., Proc. U. S. Nat. Mus., vol. v, p. 446, 1882 [1883].

Eocene?: Cook Inlet, Alaska.

Fagus Deucalionis Ung. Lx., Ann. Rept., 1871, p. 292 = Unknown. [Not afterwards referred to by Lesquereux.]

Laramie group?: Evanston, Wyoming.

Fagus Feroniæ Ung. Syn. Pl. Foss., p. 219, 1845; Lx., Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 413, 1873 [1874]; Tert. Fl., p. 146, pl. xix, f. 1-3, 1878.

Green River group: Elko Station, Nevada.

Eocene?: Port Graham, Alaska.

Fagus ferruginea Michx. Lesquereux, Am. Journ. Sci., vol. xxvii, p. 363, 1859; Geol. Tenn., p. 427, pl. K, f. 11, 1869; Kn., Am. Geol., vol. xviii, p. 371, 1896.

Pleistocene?: Somerville, Fayette County, Tennessee.

Glacial: Morgantown, West Virginia.

Fagus Hitchcockii Lx. Am. Journ. Sci., vol. xxxii, p. 357, 1861; Geol. Vt., vol. ii, p. 714, f. 126, 127, 1861.

——: Brandon, Vermont.

Fagus macrophylla Ung. Denkschr. Wien. Akad., vol. vii, p. (19 of reprint) 175, pl. ii, f. 10, 1854; Heer, Fl. Foss. Arct., vol. ii, abt. ii, p. 31, pl. viii, f. 2, 1869.

Eocene?: Port Graham, Alaska.

Fagus orbiculata Lx. Fl. Dak. Gr., p. 51, pl. xlvii, f. 6, 1892.

Dakota group: Ellsworth County, Kansas.

Fagus polycladus Lx. Am. Journ. Sci., vol. xlvi, p. 95, 1868.

Dakota group: Decatur, Nebraska; Kansas.

Fagus proto-nucifera Dn. Trans. Roy. Soc. Canada, vol. i, sec. iv, p. 21, pl. ii, f. 6, 6a, 1882 [1883].

——: Peace River, Northwest Territory.

Fagus pseudo-ferruginea Lx. Mem. Mus. Comp. Zool., vol. vi, no. 2, p. 3, pl. ii, f. 14, 1878.

Miocene: Chalk Bluffs, California.

Ficus asarifolia Ett. Denkschr. d. k. Akad. Wissensch., vol. xxvi, p. 156, 1867; Lx., Bull. U. S. Geol. and Geogr. Surv. Terr., vol. i, p. 366, 1875 [1876]; Ann. Rept., op. cit., p. 378, 1872 [1873]; Tert. Fl., p. 207, pl. lxi, f. 18-21, 1878.

Denver beds?: Golden, Colorado.

Laramie group: Black Buttes, Wyoming.

Montana formation: Point of Rocks.

Ficus asarifolia minor Lx. Bull. U. S. Geol. and Geogr. Surv. Terr., vol. i, p. 367, 1875 [1876]; Tert. Fl., p. 208, 1878.

Montana formation: Point of Rocks, Wyoming.

Ficus asiminæfolia Lx. Cret. and Tert. Fl., p. 250, pl. lvi, f. 1-3, 1883.

Miocene?: Rock Corral, Placer County, California.

Ficus atavina Heer. Fl. Foss. Arct., vol. vi, abt. ii, p. 69, 1882; Lx., Proc. U. S. Nat. Mus., vol. x, p. 40, 1887.

———: Upper Kanab Valley, Utah.

Ficus auriculata Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 379, 1872 [1873]; Tert. Fl., p. 206, pl. xxx, f. 4-6, 1878.

Ficus truncata ? Lx. [nec Heer, 1859]. Ann. Rept., op. cit., p. 400, 1873 [1874].

Ficus subtruncata Lx. Tert. Fl., p. 205, pl. xxx, f. 7-9, 1878.

Laramie group: Golden, Colorado.

Livingston beds: Bozeman coal field, Montana.

Ficus austiniana Lx. Geol. and Nat. Hist. Surv. Minn., vol. iii, p. 14, pl. A, f. 5, 1893.

Dakota group: Cottonwood River, Minnesota.

Ficus Beckwithii Lx. Cret. and Tert. Fl., p. 46, pl. xvi, f. 5; pl. xvii, f. 3, 4, 1883.

Dakota group: Morrison, Colorado.

Ficus Berthoudi Lx. Bull. Mus. Comp. Zoöl., vol. xvi, p. 49, 1888.

Denver group: Golden, Colorado.

Ficus Berthoudi Lx. Fl. Dak. Gr., p. 78, 1892 = *Ficus Lesquereuxii*.

Ficus cinnamomoides Lx. Trans. Am. Phil. Soc., vol. xiii, p. 417, pl. xvii, f. 8, 1869.

Eolignitic: Mississippi.

Ficus Clintoni Lx. = *Ficus planicostata Clintoni*.

Ficus Condoni Newby. Proc. U. S. Nat. Mus., vol. v, p. 512, 1882 [1883].

Miocene?: Bridge Creek, Oregon.

Ficus contorta Dn. Trans. Roy. Soc. Canada, vol. xi, sec. iv, p. 60, pl. ix, f. 31, 1893 [1894].

Upper Cretaceous: Port McNeill, Vancouver Island.

Ficus ? corylifolius Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 394, 1872 [1873]. [Not afterwards recognized by its author.]

Laramie group?: Black Buttes, Wyoming.

FEILDENIOPSIS Fontaine. Potomac Fl., p. 204, 1889.

Feildeniopsis crassinervis Font. Potomac Fl., p. 205, pl. lxxxvi, f. 5, 1889.

Potomac formation: Kankeys, Virginia.

FICOPHYLLUM Fontaine. Potomac Fl., p. 290, 1889.

Ficophyllum crassinerve Font. Potomac Fl., p. 291, pl. cxliv, f. 3; cxlv, f. 3; cxlvi, f. 1; cxlvii, f. 4; cxlviii, f. 1, 2, 4; cxlvii, f. 4; clxxiii, f. 10, 1889.

Potomac formation: Fredericksburg, near Dutch Gap Canal, Deep Bottom, Virginia.

Ficophyllum eucalyptoides Font. Potomac Fl., p. 294, pl. cxiv, f. 1, 2, 1889.

Potomac formation: Near Brooke, Virginia.

Ficophyllum serratum Font. Potomac Fl., p. 294, pl. cxlv, f. 2; cxix, f. 9, 1889.

Potomac formation: Fredericksburg, Virginia.

Ficophyllum tenuinerve Font. Potomac Fl., p. 292, pl. cxl, f. 3; cxli, f. 2; cxlx, f. 1, 4; cxlvii, f. 2; cxlix, f. 1, 3, 5; clvi, f. 1, 1889.

Potomac formation: Near Potomac Run and Fredericksburg, Virginia.

FICUS Tournefort ex Linnæus. Syst., ed. v, 1735.

Ficus aligera Lx. Fl. Dak. Gr., p. 84, pl. x, f. 3-6, 1892.

Dakota group: Cloud County, Kansas.

Ficus alkalina Lx. Cret. and Tert. Fl., p. 164, pl. xlv, f. 7-9, 1883.

Green River group: Alkali Station, Wyoming.

Ficus alaskana Newby. Proc. U. S. Nat. Mus., vol. v, p. 512, 1882 [1883].

Eocene?: Cook Inlet and Admiralty Inlet, Alaska.

Ficus Andræi Lx. Bull. Mus. Comp. Zoöl., vol. xvi, p. 50, 1888.

Denver group: Golden, Colorado.

Ficus? angustata Lx. Cret. and Tert. Fl., p. 47, 1883.

Dakota group: Bluff Creek, Kansas.

Ficus appendiculata Heer. Fl. Tert. Helv., vol. ii, p. 67, pl. lxxxv, f. 12, 13, 1856; Lx., Proc. U. S. Nat. Mus., vol. xi, p. 31, 1888.

Eocene?: Lassen County, California.

Ficus arenacea Lx., ex. p.=*Ficus lanceolata*.

Ficus arenacea Lx., ex. p.=*Ficus uncata*.

Ficus arenacea brevipetiolata Lx.=*Ficus uncata*.

Ficus artocarpoides Lx. Cret. and Tert. Fl., p. 227, pl. xlvii, f. 1-5, 1883.

Fort Union group: Bad Lands, Dakota.

- Ficus crassipes** Heer. Fl. Foss. Arct., vol. vi, abt. ii, p. 70, pl. xvii, f. 9a; pl. xxiv, f. 1, 2, 1882; Lx., Fl. Dak. Gr., p. 79, pl. xiii, f. 3, 1892.
Proteoids crassipes Heer. Fl. Foss. Arct., vol. iii, abt. ii, p. 110, 1874.
 Dakota group: Kansas.
- Ficus Crossii** Ward = *Ficus uncata*.
- Ficus ? cuneatus** Newby. Bost. Journ. Nat. Hist., vol. vii, p. 524, 1863.
 Cretaceous?: Orcas Island, Washington.
- Ficus dalmatica** Ett. Denkschr. d. Wien. Akad., vol. viii, p. 13, pl. vii, f. 11, 1855; Lx., Bull. U. S. Geol. and Geogr. Surv. Terr., vol. i, p. 367, 1875 [1876]; Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 303, 1874 [1876]; Tert. Fl., p. 199, pl. lxiii, f. 3-5, 1878.
 Laramie group: Coal Creek, Colorado.
 Montana formation: Point of Rocks, Wyoming.
- Ficus deflexa** Lx. Fl. Dak. Gr., p. 80, pl. iii, f. 13; pl. xvi, f. 3, 1892.
 Dakota group: Kansas.
- Ficus distorta** Lx. Bull. U. S. Geol. and Geogr. Surv. Terr., vol. i, p. 393, 1875 [1876]; Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 342, pl. v, f. 5, 1874 [1876].
 Dakota group: Fort Harker, Kansas.
- Ficus ? fimbriatus** Lx. = *Eremophyllum fimbriatum*.
- Ficus Fredericksburgensis** Font. Potomac Fl., p. 295, pl. cxlviii, f. 3, 5, 1889.
 Potomac formation: Fredericksburg, Virginia.
- Ficus Gaudini** Lx. = *Ficus uncata*.
- Ficus glascœana** Lx. Cret. and Tert. Fl., p. 48, 1883; Fl. Dak. Gr., p. 76, pl. xiii, f. 1, 2, 1892.
 Dakota group: Glascoe, Kansas.
- Ficus goldiana** Lx. = *Ficus planicostata* Clintoni.
- Ficus ? Halliana** Lx. Cret. Fl., p. 68, pl. xxviii, f. 3, 9, 1874.
 Dakota group: Minnesota.
- Ficus Haydenii** Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 394; 1872 [1873]; Tert. Fl., p. 197, pl. xxx, f. 1, 1878.
 Laramie group: Black Buttes, Wyoming.
- Ficus inæqualis** Lx. Fl. Dak. Gr., p. 82, pl. xlix, f. 6-8; pl. 1, f. 3, 1892.
 Dakota group: Kansas.
- Ficus irregularis** Lx. Bull. U. S. Geol. and Geogr. Surv. Terr., vol. i, p. 368, 1875 [1876]; Tert. Fl., p. 196, pl. xxxiv, f. 4-7; pl. lxiii, f. 9, 1878.
Ulmus ? irregularis Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr. p. 378, 1872 [1873].
 Denver group: Golden; Colorado.
 Laramie group: Golden, Colorado; Black Buttes, Wyoming.
 Montana formation: Point of Rocks, Wyoming.
- Ficus Jynx** Ung. Gen. et Sp. Pl. Foss., p. 413, 1850. Lx., Ann. Rept. U. S. Geol. and Geogr. Surv. Terr. p. 414, 1873 [1874]; Tert. Fl., p. 193, pl. xxviii, f. 6, 1878.
 Green River group: Elko Station, Nevada.

Ficus Krausiana Heer. *Neue Denkschr. Schw. Ges.*, vol. xxiii, p. 15, pl. v. f. 3-6, 1869; *Lx.*, *Fl. Dak. Gr.*, p. 81, pl. 1, f. 5, 1892; *Hollick, Bull. Geol. Soc. Am.*, vol. vii, p. 13, 1895.

Dakota group: Kansas.

Cretaceous: Marthas Vineyard.

Ficus lanceolata Heer. *Fl. Tert. Helv.*, vol. ii, p. 62, pl. lxxxii, f. 2-5, 1856; *Lx.*, *Ann. Rept. U. S. Geol. and Geogr. Surv. Terr.*, p. 300, 1871 [1872]; *Tert. Fl.*, p. 192, pl. xxviii, f. 1-5, 1878.

Ficus arenacea *Lx.*, ex. p. *Ann. Rept.*, loc. cit., p. 300; *Tert. Fl.*, p. 195, pl. xxix, f. 1, 4, 1878.

Laramie group: Marshall's mine, Coal Creek, and near Mount Carbon, Colorado.

Ficus lanceolato-acuminata Ett. *Denkschr. Wien. Akad.*, vol. xxxii (Foss. *Fl. v. Sagor*), p. 182, pl. vi, f. 3, 4, 1872; *Lx.*, *Fl. Dak. Gr.*, p. 85, pl. xiii, f. 4, 1892.

Dakota group: Kansas.

Ficus latifolia (*Lx.*) n. comb.

Ficus planicostata latifolia *Lx.* *Ann. Rept. U. S. Geol. and Geogr. Surv. Terr.*, p. 393, 1872 [1873]; *Tert. Fl.*, p. 202, pl. xxi, f. 9, 1878.

Laramie group: Golden and Marshalls, Colorado; Black Buttes, Wyoming.

Ficus laurophylla *Lx.* = *Ficus reticulata*.

Ficus laurophyllidia Dn. *Trans. Roy. Soc. Canada*, vol. xi, sec. iv, p. 60, pl. x, f. 37, 1893 [1894].

Upper Cretaceous: Wellington mine, Nanaimo.

Ficus Lesquereuxii nom. nov.

Ficus Berthoudi * *Lx.* *Fl. Dak. Gr.* p. 78, pl. xii, f. 3, 1892; *Hollick, Bull. Geol. Soc. Am.*, vol. vii, p. 13, 1895. [*Name preoccupied by *F. Berthoudi* of *Lesquereux*, 1888.]

Dakota group: Kansas.

Cretaceous: Marthas Vineyard.

Ficus limpida Ward. *Bull. U. S. Geol. Surv.*, no. 37, p. 42, pl. xxii, f. 3, 1887.

Fort Union group: Clear Creek, Montana.

Ficus macrophylla *Lx.* *Fl. Dak. Gr.*, p. 76, pl. xi, f. 1, 1892.

Dakota group: Kansas.

Ficus magnoliæfolia *Lx.* *Cret. and Tert. Fl.*, p. 47, pl. xvii, f. 5, 6, 1883.

Dakota group: Morrison, Colorado.

Upper Cretaceous: Vancouver Island.

Ficus maxima Dn. *Trans. Roy. Soc. Canada*, vol. i, sec. iv, p. 21, pl. ii, f. 5, 1882 [1883].

— : Coal Brook, Northwest Territory.

Ficus melanophylla *Lx.* *Fl. Dak. Gr.*, p. 83, pl. 1, f. 2, 1892.

Dakota group: Kansas.

Ficus membranacea Newby. *Proc. U. S. Nat. Mus.*, vol. v., p. 512, 1882 [1883].

Eocene?: Cook Inlet, Alaska.

Ficus microphylla Lx. Mem. Mus. Comp. Zoöl., vol. vi, no. 2, p. 18, pl. iv, f. 10, 11, 1878.

Miocene: Table Mountain and Shasta County, California.

Ficus Mudgei Lx. Fl. Dak. Gr., p. 83, pl. xii, f. 4, 1892.

Dakota group: Kansas.

Ficus multinervis Heer. Fl. Tert. Helv., vol. ii, p. 63, pl. lxxxii, f. 6-10, 1856; Lx., Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 300, 1871 [1872]; Tert. Fl., p. 194, pl. xxviii, f. 7, 8, 1878.

Laramie group: Coal Creek, Colorado, etc.

———?: Graves County, Kentucky.

Ficus myricoides Hollick. In Newby., Fl. Amboy Clays, p. 71, pl. xxxii, f. 18; xli, f. 8, 9, 1895 [1896].

Amboy clay: No location.

Ficus (Proficus) nervosa Newby. Proc. U. S. Nat. Mus., vol. v, p. 512, 1882 [1883].

Laramie group?: Evanston, Wyoming.

Ficus oblanceolata Lx. = *Pistacia oblanceolata*.

Ficus occidentalis Lx. Tert. Fl., p. 200, pl. xxxii, f. 4, 1878.

Dombeyopsis occidentalis Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 380, 1872 [1873].

Denver group: Golden, Colorado.

Ficus? oregoniana Lx. Proc. U. S. Nat. Mus., vol. xi, p. 18, pl. ix, f. 3, 1888.

Miocene: John Day Valley, Oregon.

Ficus ovalis Lx. Bull. U. S. Geol. and Geogr. Surv. Terr., vol. i, p. 387, 1875 [1876]; Tert. Fl., p. 198, pl. xxx, f. 2, 1878.

———?: Pleasant Park, Colorado.

Ficus ovata Newby. Fl. Amboy Clays, p. 70, pl. xxiv, f. 1-3, 1895 [1896].

Amboy clay: Woodbridge, New Jersey.

Ficus planicostata Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 393, 1872 [1873]; Tert. Fl., p. 201, pl. xxxi, f. 1-8, 10-12, 1878.

Denver beds: Golden, Colorado.

Laramie group: Coal Creek, Marshalls, Colorado; Black Buttes, Wyoming.

Ficus planicostata Clintoni (Lx.) n. comb.

Ficus planicostata goldiana Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 399, 1873 [1874]; Tert. Fl., p. 202, pl. xxxiii, f. 1, 1a, 2, 3, 1878.

Ficus Clintoni Lx. Ann. Rept., loc. cit., p. 393, 1872 [1873].

Denver beds: Golden, Colorado.

Eoligintic: Cross Lake, Louisiana.

Ficus planicostata goldiana Lx. = *Ficus planicostata Clintoni*.

Ficus planicostata latifolia Lx. = *Ficus latifolia*.

Ficus populina Heer. Fl. Tert. Helv., vol. ii, p. 66, pl. lxxxv, f. 1-7; lxxxvi, 1856; Lx., Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., 1871, suppl., p. 6, 1871 [1872]. [Not afterwards referred to by Lesquereux.]

Eocene?: Green River, Wyoming.

- Ficus præcursor** Lx. Fl. Dak. Gr., p. 81, pl. xlix, f. 5, 1892.
Dakota group: Kansas.
- Ficus primordialis** Heer. Phyll. Crét. d. Nebr., p. 16, pl. iii, f. 1, 1866.
Dakota group; Tekamah, Nebraska.
- Ficus proteoides** Lx. Fl. Dak. Gr., p. 77, pl. xii, f. 2, 1892.
Dakota group: Kansas.
- Ficus protogæa?** Ett. Sitzb. Wien. Akad., vol. lv, p. 249, pl. ii, f. 5, 1867; Hollick, Bull. Torr. Bot. Club, vol. xxi, p. 51, pl. 175, f. 4, 1894.
Cretaceous: Glen Cove, Long Island.
- Ficus pseudo-populus** Lx. Bull. U. S. Geol. and Geogr. Surv. Terr., vol. i, p. 387, 1875 [1876]; Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 313, 1874 [1876]; Tert. Fl., p. 204, pl. xxxiv, f. 1a, 2, 1878.
Green River group: Unknown.
Laramie group?: Evanston, Wyoming.
- Ficus reticulata** (Lx.) n. comb.
Laurophyllum reticulatum Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 425, 1872 [1873]; Cret. Fl., p. 76, pl. xv, f. 4, 5, 1874.
Ficus laurophyllum Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 342, pl. v, f. 7, 1874 [1876]; Cret. and Tert. Fl., p. 49, pl. i, f. 12, 13, 1878; Fl. Dak. Gr., p. 85, 1892.
Dakota group: Kansas.
- Ficus?** rhomboideus Lx. = Phyllites rhomboideus.
- Ficus rotundata** Dn. Trans. Roy. Soc. Canada, vol. xi, sec. iv, p. 60, pl. ix, f. 32, 33a, 1893 [1894].
Upper Cretaceous: Vancouver Island.
- Ficus Schimperi** Lx. Trans. Am. Phil. Soc., vol. xiii, p. 417, pl. xviii, f. 1-3, 1869.
Eolignitic: Mississippi.
- Ficus shastensis** Lx. Proc. U. S. Nat. Mus., vol. xi, p. 28, pl. xi, f. 3, 1888.
Miocene: Shasta County, California.
- Ficus sinuosa** Ward. Bull. U. S. Geol. Surv., no. 37, p. 41, pl. xxii, f. 2, 1887.
Laramie group: Black Buttes, Wyoming.
- Ficus?** Smithsonianiana Lx. Tert. Fl., p. 200, pl. xxxii, f. 5, 1878.
Juglans Smithsonianiana Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., 1871, suppl., p. 16, 1871 [1872].
Laramie group: Raton Mountains, New Mexico; Mount Carbon, near Morrison, Colorado.
- Ficus sordida** Lx. Mem. Mus. Comp. Zoöl., vol. vi, no. 2, p. 17, pl. iv, f. 6, 7, 1878.
Miocene: Chalk Bluffs, California.
- Ficus speciosissima** Ward. Bull. U. S. Geol. Surv., no. 37, p. 39, pl. xxi, f. 3, 1887.
Montana formation: Point of Rocks, Wyoming.

- Ficus spectabilis** Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 379, 1872 [1873]; Tert. Fl., p. 199, pl. xxxiii, f. 4-6, 1878.
 Denver group: Golden, Colorado.
 Eolignitic: Cross Lake and McLees, Louisiana.
- Ficus Sternbergii** Lx. Fl. Dak. Gr., p. 82, pl. 1, f. 1, 1892.
 Dakota group: Kansas.
- Ficus Sternbergii** Lx. [1872]=*Persea Sternbergii*.
- Ficus subtruncata** Lx.=*Ficus auriculata*.
- Ficus tenuinervis** Lx. Cret. and Tert. Fl., p. 164 pl. xliv, f. 4, 1883.
 Green River group: Alkali Station, Wyoming.
 Eocene?: Cherry Creek, Oregon.
- Ficus tiliaefolia** (Al. Br.) Heer. Fl. Tert. Helv., vol. ii, p. 68, pl. lxxxiii, f. 3-12; lxxxiv, f. 1-6; lxxxv, f. 14, 1856; Lx., Tert. Fl., p. 203, 1878.
Cordia? *tiliaefolia* Al. Br. Leonh. and Brown, N. Jahrb., 1845, p. 170, 1845.
Dombeyopsis tiliaefolia (Al. Br.) Ung. Gen. et Sp. Pl. Foss., p. 447, 1850.
Dombeyopsis aquifolia Göpp. Lesquereux, Ann. Rept., op. cit., p. 10, 1871 [1872].
 Miocene: California.
 Fort Union group: Burns Ranch, Montana.
 Denver group: Golden, Colorado.
 Laramie group: Many localities.
- Ficus truncata?** Lx.=*Ficus auriculata*.
- Ficus ulmifolia** Lx.=*Ficus uncata*.
- Ficus uncata** Lx. Tert. Fl., p. 197, pl. xxxv, f. 1, 1a, 2, 1878.
Ficus ulmifolia Lx. Ann. Rept. Geol. and Geogr. Surv. Terr. 1871, suppl., p. 14, 1871 [1872].
Ficus arenacea Lx., ex. p. Ann. Rept., loc. cit., p. 300, 1871 [1872].
Ficus arenacea brevipetiolata Lx. Tert. Fl., p. 195, pl. xxix, f. 2, 3, 5, 1878.
Populus monodon Lx. Tert. Fl., p. 180, pl. xxiv, f. 1, 1878.
Ficus Gaudini Lx. Ann. Rept., loc. cit., p. 300, 1871 [1872].
Ficus Crossii Ward. Bull. U. S. Geol. Surv., p. 39, pl. xxi, fig. 2, 1887.
 Laramie group: Fishers Peak, New Mexico; Coal Creek, Colorado.
- Ficus ? undulata** Lx. Fl. Dak. Gr., p. 84, pl. xii, f. 5, 1892.
 Dakota group: Kansas.
- Ficus Ungerii** Lx. Ann. Rept., U. S. Geol. and Geogr. Surv. Terr. 1871, suppl., p. 7, 1871 [1872]; Tert. Fl., p. 195, pl. xxx, f. 3, 1878; Cret. and Tert. Fl., p. 163, pl. xliv, f. 1-3, 1883.
 Green River group: Green River?
- Ficus viburnifolia** Ward. Bull. U. S. Geol. Surv., no. 37, p. 42, pl. xxii, f. 4-8, 1887.
 Fort Union group: Clear Creek, Montana.
- Ficus virginienensis** Font. Potomac Fl., p. 295, pl. cxliii, f. 1, 3; cxliv, f. 1, 1889.
 Potomac formation: Fredericksburg, Virginia.
- Ficus wellingtoniæ** Du. Trans. Roy. Soc. Canada, vol. xi, sec. iv, p. 60, pl. ix, f. 33, 34, 1893 [1894].
 Upper Cretaceous: Wellington Mine and Port McNeill, Vancouver Island.

Ficus Willisiana Hollick. Bull. Torr. Bot. Club, vol. xxi, p. 52, pl. 176, f. 2, 5, 1894.

Cretaceous: Glen Cove and Sea Cliff, Long Island.

Ficus Woolsoni Newby. In MSS. Hollick, Trans. N. Y. Acad. Sci., vol. xii, p. 33, pl. ii, f. 1, 2c, 1892; Newby., Fl. Amboy Clays, p. 70, pl. xx, f. 3; xxiii, f. 1-6, 1895 [1896].

Cretaceous: Staten Island.

Amboy clay: Woodbridge, Sayreville, New Jersey.

Ficus wyomingiana Lx. Bull. U. S. Geol. and Geogr. Surv. Terr., vol. i, p. 387, 1875 [1876]; Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 314, 1874 [1876]; Tert. Fl., p. 205, pl. xxxiv, f. 3, 1878.

Laramie group?: Evanston, Wyoming.

Ficus zizyphoides Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 399, 1873 [1874].

—— ? : Golden, Colorado.

Ficus ? sp., Dn. Trans. Roy. Soc. Canada, vol. viii, sec. iv, p. 89, f. (in text) 27, 1890.

Eocene?: Similkameen Valley, British Columbia.

Ficus sp., Lx. Am. Journ. Sci., vol. xxvii, p. 361, 1859.

—— : Nanaimo, Vancouver Island.

Ficus sp., Kn. In Vaughan, Am. Geol., vol. xvi, p. 308, 1895.

Eolignitic: Old Port Caddo Landing, Harrison County, Texas.

Ficus sp., Kn. In Vaughan, Am. Geol., vol. xvi, p. 308, 1895.

Eolignitic: Old Port Caddo Landing, Harrison County, Texas.

Ficus sp., Kn. Bull. Geol. Soc. Am., vol. viii, p. 154, 1897.

Montana formation: Point of Rocks, Wyoming.

Ficus sp., Kn. Bull. Geol. Soc. Am., vol. viii, p. 154, 1897.

Montana formation: Point of Rocks, Wyoming.

Ficus sp., Kn. Bull. Geol. Soc. Am., vol. viii, p. 154, 1897.

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Montana formation: Point of Rocks, Wyoming.

Ficus sp., Kn. Bull. Geol. Soc. Am., vol. viii, p. 154, 1897.

Montana formation: Point of Rocks, Wyoming.

Ficus sp., Kn. Bull. Geol. Soc. Am., vol. viii, p. 141, 1897.

Laramie group ? : "Dutton Creek Coal," Wyoming.

Ficus sp., Kn. Bull. Geol. Soc. Am., vol. viii, p. 141, 1897.

Laramie group ? : "Dutton Creek Coal," Wyoming.

Ficus sp., Kn. Bull. Geol. Soc. Am., vol. viii, p. 140, 1897.

Laramie group ? : North Fork Dutton Creek, Wyoming.

Ficus sp., Kn. Bull. Geol. Soc. Am., vol. viii, p. 145, 1897.

Laramie group: Rock Springs, Wyoming.

Ficus sp., Kn. Bull. Geol. Soc. Am., vol. viii, p. 145, 1897.

Fort Union group: Black Buttes, Wyoming.

FITTONIA Carruthers. Trans. Linn. Soc. London, vol. xxvi, p. 680, 1868.

FLABELLARIA (comm.) L'Héritier. Stirp. Nov., p. 59, 1785.

Flabellaria communis Lx. = *Flabellaria eocenica*.

Flabellaria eocenica Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 391, 1872 [1873]; Tert. Fl., p. 111, pl. xiii, f. 1-3, 1878.

Sabal communis Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 311, 1874 [1876].

Flabellaria communis Lx. Bull. U. S. Geol. and Geogr. Surv. Terr., vol. i, p. 385, 1875 [1876].

Laramie group: Black Buttes, Wyoming; Golden, Colorado.

Flabellaria florissanti Lx. Cret. and Tert. Fl., p. 144, pl. xxiv, f. 1-2a, 1883.

Green River group: Uinta County, formerly but wrongly called Randolph County, Wyoming.

Flabellaria latania Rossm. Verstein. Braunkohl. v. Altsattel, p. 39, pl. xi, f. 49, 1840; Lx., Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 377, 1872 [1873]. [Not afterwards recognized by Lesquereux.]

—: Golden, Colorado.

Flabellaria longirachis Ung. Lx. 1873 = *Geonomites tenuirachis*.

Flabellaria? minima Lx. Cret. Fl., p. 56, pl. xxx, f. 12, 1874.

Dakota group: Western Kansas.

Flabellaria Zinckeni Heer Lx. 1872 = *Geonomites goldianus*.

FONTAINEA Newberry. Fl. Amboy Clays, p. 94, 1895 [1896.]

Fontainea grandifolia Newby. Fl. Amboy Clays, p. 96, pl. xlv, f. 1-4, 1895 [1896].

Amboy clay: Woodbridge, New Jersey.

FONTINALIS Linnæus. Gen. Pl., p. 323, 1737.

Fontinalis pristina Lx. Cret. and Tert. Fl., p. 135, pl. xxi, f. 9, 1883.

Green River group: Florissant, Colorado.

Fontinalis sp., Dn. Can. Nat., vol. iii, new ser., p. 73, 1868.

Pleistocene: Greens Creek, Ottawa River, Canada.

Fontinalis sp., Hinde. Canadian Journal [Can. Institute], vol. xv, p. 399, 1878.

Interglacial: Scarboro Heights, Ontario.

Fragment No. 1 Font. Potomac Fl., p. 190, 1889.

Potomac formation: Between Washington and Baltimore.

Fragment No. 2 Font. Potomac Fl. p. 192, 1889.

Potomac formation: Baltimore, Maryland.

FRAVINUS Tournefort ex Linnæus. Syst., ed. i, 1735.

Fraxinus abbreviata Lx. Cret. and Tert. Fl., p. 170, pl. xxviii, f. 5, 6, 1883.

Green River group: Florissant, Colorado.

Fraxinus affinis Newby. Proc. U. S. Nat. Mus., vol. v, p. 510, 1882 [1883].

Miocene?: Bridge Creek, Oregon.

Fraxinus Brownellii Lx. Tert. Fl., p. 230, 1878.

Green River group: South Park, Colorado.

Fraxinus denticulata Heer. Fl. Foss. Arct., vol. i, p. 118, pl. xvi, f. 4, 1868; Lx., Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 407, 1872 [1873]; Tert. Fl., p. 228, pl. xl, f. 1, 2, 1878.

Livingston beds: Bozeman coal field, Montana.

Laramie group?: Evanston, Wyoming?

Fraxinus eocenica Lx. Tert. Fl., p. 229, 1878; Cret. and Tert. Fl., p. 123, pl. xx, f. 1-3, 1883.

Denver beds: Golden, Colorado.

Fraxinus Heerii Lx. Cret. and Tert. Fl., p. 169, pl. xxxiii, f. 5, 6, 1883.

Green River group: Florissant, Colorado.

Fraxinus herendeenensis Kn. Proc. U. S. Nat. Mus., vol. xvii, p. 224, pl. ix, f. 7, 1894.

Eocene?: Herendeen Bay, Alaska.

Fraxinus intigrifolia Newby. Proc. U. S. Nat. Mus., vol. v, p. 509, 1882 [1883].

Miocene?: Bridge Creek, Oregon.

Fraxinus Libbeyi Lx. Cret. and Tert. Fl., p. 171, pl. xxvii, f. 5-7, 9, 1883.

Green River group: Florissant, Colorado.

Fraxinus mespilifolia Lx. Cret. and Tert. Fl., p. 169, pl. xxxiii, f. 7-12, 1883.

Green River group: Florissant, Colorado.

Fraxinus ? myricæfolia Lx. Cret. and Tert. Fl., p. 170, pl. xxxiii, f. 13, 14, 1883.

Green River group: Florissant, Colorado.

Fraxinus prædicta Heer. Fl. Tert. Helv., vol. iii, p. 22, pl. civ, f. 12, 13, 1859; Lx., Ann. Rept., op. cit., p. 414, 1873 [1874]; Tert. Fl., p. 229, pl. xl, f. 3, 1878.

Denver beds: Golden, Colorado.

Green River group: Near Florissant, Colorado.

Fraxinus quadrangulata Michx. Penhallow in Coleman, Journ. Geol., vol. iii, p. 635, 1895.

Interglacial: Don Valley, Canada.

Fraxinus Ungerii Lx. Cret. and Tert. Fl., p. 171, 1883.

Green River group: Florissant, Colorado.

Fraxinus sp., Kn. Bull. Geol. Soc. Am., vol. viii, p. 142, 1897.

Laramie group?: "Dutton Creek Coal," Wyoming.

FRENELITES Endlicher. Synop. Conif., p. 273, 1847.

Frenelites Reichii Ett. Hollick, Trans. N. Y. Acad. Sci., vol. xii, p. 29, pl. i, f. 23, 1892.

Cretaceous: Kreischerville, Staten Island; Marthas Vineyard.

FRENELOPSIS Schenk. Palaeontographica, vol. xix, p. 13, 1869.

Frenelopsis gracilis Newby. Fl. Amboy Clays, p. 59, pl. xii, f. 1-3a, 1895 [1896].

Amboy clay: Woodbridge, New Jersey.

Frenelopsis Hoheneggeri (Ett.) Schenk? Palaeontographica, vol. xix, heft i, p. 13, pl. iv, f. 5-7; v, f. 1, 2; vi, f. 1-6; vii, f. 1, 1869; Newby., Fl. Amboy Clays, p. 58, pl. xii, f. 4, 5, 1895 [1896].

Amboy clay: Woodbridge, New Jersey.

Trinity division: Glenrose, Texas.

Frenelopsis parceramosa Font. Potomac Fl., p. 218, pl. cxi, f. 1-5; cxii, f. 1-5; clxviii, f. 1, 1889.

Potomac formation: Trents Reach, Virginia.

Frenelopsis ramosissima Font. Potomac Fl., p. 215, pl. xcv-xcix; c, f. 1-3; ci, f. 1, 1889.

Potomac formation: Fredericksburg, Virginia; Baltimore, Maryland.

Frenelopsis varians Font. Proc. U. S. Nat. Mus., vol. xvi, p. 273, pl. xl, f. 1, 2; pl. xli, f. 1-3a, 1893.

Trinity division: Glenrose, Texas.

Fruit capsules sp., Font. Potomac Fl., p. 272, pl. cxxxv, f. 14, 1889.

Potomac formation: Near Dutch Gap Canal, Virginia.

FUCUS (Tournefort) Linnæus. Gen. Pl., p. 326, 1737.

Fucus lignitum Lx. Bull. U. S. Geol. and Geog. Surv. Terr., vol. i, p. 364, 1875 [1876]; Tert. Fl., p. 42, pl. lxi, f. 24, 24a, 1878.

Montana formation: Point of Rocks, Wyoming.

Fort Union group: Burns Ranch, Montana.

Fucus digitatus Penhallow. Trans. Roy. Soc. Canada, 2d ser., vol. ii, sec. iv, p. 66, 71, 1896.

Fucus sp., Penhallow. Bull. Geol. Soc. Am., vol. i, p. 332, 1890.

Pleistocene: Greens Creek and Besserer wharf, Ottawa River.

Fucus sp., Penhallow = Fucus digitatus.

GALLA Ludwig. Palaeontogr., vol. v, p. 108, 1857.

Galla quercina Lx. Fl. Dak. Gr., p. 58, pl. vii, f. 2, 1892.

Dakota group: Kansas.

GAYLUSSACCIA Humbolt, Bonpland, and Kunth. Nov. Gen. et Sp., vol. iii, p. 275, 1818.

Gaylussaccia resinosa T. and G. Dn., Can. Nat., vol. iii, new ser., p. 71, f. (in text.) 1, 1868; Geol. Hist. Pl., p. 228, f. 77, 1888.

Pleistocene: Greens Creek, Ottawa River, Canada.

- GEINITZIA** Endlicher. Synops. Conif., p. 280, 1847. °
- Geinitzia formosa** Heer. Neue Denkschr. Schweiz. Ges., vol. xxiv, p. 6, pl. i, f. 9, pl. ii, 1871; Newby., Fl. Amboy Clays, p. 51, pl. ix, f. 9, 1895 [1896].
Amboy clay: New Jersey.
Clay marl (Upper Cretaceous): Cliffwood, New Jersey.
- Geinitzia** sp., Newby. Proc. Lyc. Nat. Hist. N. Y., 2d ser., Jan. 3 to Mar. 3, 1873, p. 10, 1873.
Cretaceous: Keyport, New Jersey.
- Geinitzia** Heer, species? Lx., Cret. Fl., p. 54, 1874.
Dakota group: Sioux City, Iowa.
- GEONOMITES** Visiani. Mem. dell' Istituto Veneto (Palmae Pinatae Tertiariae) 1864, p. 456, 1864.
- Geonomites goldianus** Lx. Tert. Fl., p. 115, pl. iv, f. 9, 1878.
Palmacites goldianus Lx. Bull. U. S. Geol. and Geogr. Surv. Terr., vol. i, p. 385, 1875; Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 311, 1874 [1876].
Flabellaria Zinckenii Heer. Lesquereux, Ann. Rept., op. cit., p. 377, 1872 [1873]; Tert. Fl., p. 110, pl. ix, f. 6-8, 1878.
Denver group?: Golden, Colorado.
Green River group?: Barrell Springs, Wyoming.
- Geonomites graminifolius** Lx. Bull. Mus. Comp. Zoöl., vol. xvi, p. 44, 1888.
Denver group: Golden, Colorado.
- Geonomites Schimperi** Lx. Tert. Fl., p. 116, pl. x, f. 1, 1878.
Laramie group?: Yellowstone National Park.
Miocene?: Contra Costa, California.
- Geonomites tenuirachis** Lx. Tert. Fl., p. 117, pl. xi, f. 1, 1878.
Flabellaria longirachis? Ung. Gen. et. Sp. Pl. Foss., p. 332, 1850; Lx., Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 396, 1873 [1874].
Laramie group: Raton Mountains, New Mexico.
- Geonomites Ungeri** Lx. Tert. Fl., p. 118, pl. xi, f. 2, 1878.
Laramie group: Raton Mountains, New Mexico.
- GINKGO** Linnaeus. Mant., ii, p. 313, 1771.
- Ginkgo adiantoides** (Ung.) Heer. Fl. Foss. Arct., vol. v, abt. iii, p. 21 pl. ii, f. 7-10, 1878; Ward, Bull. U. S. Geol. Surv., no. 37, p. 15, pl. i, f. 5, 6, 1887.
Salisbury adiantoides Ung. Synop. Pl. Foss., p. 211, 1845.
Livingston beds: Bozeman coal field, Montana.
Fort Union group: Seven-Mile Creek, Montana; Similkameen River, British Columbia.
- Ginkgo baynesiana** (Dn.) n. comb.
Salisbury baynesiana Dn. Trans. Roy. Soc. Canada, vol. i, sec. iv, p. 25, pl. v, f. 21, 21a, 1882 [1883].
Upper Cretaceous: Baynes Sound and Beaver Harbor, Vancouver Island.
- Ginkgo? binervata** (Lx.) n. comb.
Salisbury binervata Lx. Trans. Am. Phil. Soc., vol. xiii, p. 412, pl. xv, f. 3-6, 1869.
Eolignitic: Mississippi.

Ginkgo laramiensis Ward. Science, vol. v, p. 496, f. 7, 1885; Bull. U. S. Geol. Surv., no. 37, p. 15, pl. i, f. 4, 1887.

Montana formation: Point of Rocks, Wyoming.

Ginkgo lepida Heer. Fl. Foss. Arct., vol. iv, abt. ii, p. 62, pl. xii; vii, f. 7, 1876.

Salisburia (*Ginkgo*) *lepida* Heer. Dn., Trans. Roy. Soc. Canada, vol. iii, sec. iv, p. 8, pl. ii, f. 2, 1885 [1886].

Kootanie: Martin and Coal Creek, British Columbia.

Ginkgo nana (Dn.) n. comb.

Salisburia (*Ginkgo*) *nana* Dn. Trans. Roy. Soc. Canada, vol. iii, sec. iv, p. 8, pl. ii, f. 3, 1885 [1886].

Kootanie: Coal Creek, British Columbia.

Ginkgo pusilla (Dn.) n. comb.

Salisburia *pusilla* Dn. Trans. Roy. Soc. Canada, vol. xi, sec. iv, p. 56, pl. vi, f. 11-13, 1893 [1894].

Upper Cretaceous: Port McNeill, Vancouver.

Ginkgo sibirica Heer. Fl. Foss. Arct., vol. iv, abt. ii, p. 61, pl. vii, f. 6; ix, f. 5f; xi, 1876.

Salisburia (*Ginkgo*) *sibirica* Heer. Dn., Trans. Roy. Soc. Canada, vol. iii, sec. iv, p. 8, pl. ii, f. 1, 1885 [1886].

Kootanie: Martin Creek, British Columbia.

Ginkgo sp.

Carpites myricarum Lx. Tert. Fl., p. 303, pl. lx, f. 8-11, 1878.

Laramie group: Black Buttes, Wyoming.

Ginkgo sp. (Dn.) n. comb.

Salisburia sp., Dn. Trans. Roy. Soc. Canada, vol. iii, sec. iv, p. 18, 1885 [1886].

Canadian Upper Laramie: Near Calgary, Canada.

Ginkgo sp.

Salisburia, nuts of, Dn. Trans. Roy. Soc. Canada, vol. iii, sec. iv, p. 9, pl. ii, f. 4, 1885 [1886].

Kootanie: Kootanie series, British Columbia (no locality).

Ginkgo sp., Dn. Trans. Roy. Soc. Canada, vol. v, sec. iv, p. 33, 1887. [Wood.]

Belly River series: South Saskatchewan; West of Medicine Hat.

Ginkgo sp., Dn. Trans. Roy. Soc. Canada, vol. v, sec. iv, p. 34, 1887. [Wood.]

Canadian Upper Laramie: Souris River, Mackenzie River.

GLEDITSCHIA Clayton, ex Linnæus. Gen., ed. ii, p. 480, 1742.

Gleditschia triacanthos L. Lesquereux, Am. Journ. Sci., vol. xxvii, p. 365, 1859.

Pleistocene: Banks of Mississippi River, near Columbus, Kentucky.

GLEICHENIA Smith. Mem. Ac. Turin, vol. v, p. 418, 1791.

Gleichenia Giesekiana ? Heer. Fl. Foss. Arct., vol. i, p. 78, pl. xliii, f. 1a, 2a, 3a, 1868; Fl. Amboy Clays, p. 36, pl. iv, f. 12, 1895 [1896].

Amboy clay: Woodbridge, New Jersey.

Gleichenia gracilis Heer. Fl. Foss. Arct., vol. iii, abt. ii, p. 52, pl. x, f. 1-11, 1874; Dn., Trans. Roy. Soc. Canada, vol. iii, sec. iv, p. 11, pl. iii, f. 4, 1885 [1886].

Mill Creek series: Mill Creek.

Gleichenia Kurriana Heer. *Neue Denkschr. Schw. Ges.*, vol. xxiii, p. 6, pl. ii, f. 1-4, 1869; *Lx.*, *Ann. Rept. U. S. Geol. and Geogr. Surv. Terr.*, p. 421, 1872 [1873].

Mill Creek series: Mill Creek.

Dakota group: Fort Harker, Kansas.

Gleichenia micromera Heer? *Fl. Foss. Arct.*, vol. iii, abt. ii, p. 55, pl. x, f. 14, 15, 1874; *Fl. Amboy Clays*, p. 36, pl. iii, f. 6, 1895 [1896].
Amboy clay: Sayreville, New Jersey.

Gleichenia Nordenskiöldi? Heer. *Fl. Foss. Arct.*, vol. iii, abt. ii, p. 50, pl. ix, f. 8-12, 1874; *Font.*, *Potomac Fl.*, p. 119, pl. xxi, f. 11, 1889.
Potomac formation: Dutch Gap Canal, Virginia.

Dakota group: Kansas.

Gleichenia Zippei Heer? *Fl. Foss. Arct.*, vol. i, p. 79, pl. xlviii, f. 4, 1868; *Fl. Amboy Clays*, p. 37, pl. iii, f. 5, 1895 [1896].

Amboy clay: Woodbridge, New Jersey.

GLOSSOZAMITES Schimper. *Pal. Vég.*, vol. ii, p. 163, 1870.

Glossozamites distans Font. *Potomac Fl.*, p. 176, pl. lxxviii, f. 5, 1889.
Potomac formation: Fredericksburg, Virginia.

Glossozamites Klipsteini (Dunk.) Font. In *Diller and Stanton*, *Bull. Geol. Soc. Am.*, vol. v, p. 450, 1894.

Cyclopteris Klipsteini Dunk. *Monogr. d. Nordd. Wealdenb.*, p. 11, pl. ix, f. 7, 1846.

Horsetown beds: Tehama and Shasta counties, California.

GLYPTOSTROBUS Endlicher. *Synop. Conif.*, p. 69, 1847.

Glyptostrobus brookense (Font.) Ward. *15th Ann. Rept. U. S. Geol. Surv.*, p. 359, 1895.

Taxodium (*Glyptostrobus*) *brookense* Font. *Potomac Fl.*, p. 254, pl. cxxii, f. 1; cxxiv, f. 3-9; cxxxi, f. 5; clxv, f. 1-3; clxvi, f. 4, 7; clxvii, f. 3, 1889.

Potomac formation: Near Brooke, Virginia.

Glyptostrobus brookense angustifolium (Font.) n. comb.

Taxodium (*Glyptostrobus*) *brookense angustifolium* Font. *Potomac Fl.*, p. 256, pl. clxvii, f. 1, 1889.

Potomac formation: White House Bluff.

Glyptostrobus europæus (Brongn.) Heer. *Fl. Tert. Helv.*, vol. i, p. 51, pl. xix; xx, 1855; *Lx.*, *Tert. Fl.*, p. 74, pl. vii, f. 1, 2, 1878.

Taxodium europæum Brongn. *Ann. d. Sci. Nat.*, vol. xxx, p. 168, 1833.

Taxodites europæus (Brongn.) Endl. *Synop. Conif.*, p. 278, 1847.

Miocene?: Birch Bay, British Columbia.

Eocene?: Alaska.

Green River group: Florissant, Colorado.

Fort Union group: Mouth of Yellowstone, Montana.

Glyptostrobus europæus Ungeri Heer. *Fl. Tert. Helv.*, vol. iii, p. 159, 1859; *Lx.*, *Cret. and Tert. Fl.*, p. 222, pl. xlvi, f. 1-1c, 1883.

Glyptostrobus Ungeri Heer. *Fl. Tert. Helv.*, vol. i, p. 52, 1855.

Eocene?: Alaska.

Fort Union group: Bad Lands, Dakota; Porcupine Creek.

Glyptostrobus fastigiatus (Font.) Ward. Fifteenth Ann. Rept. U. S. Geol. Surv., p. 380, 1895.

Taxodium (*Glyptostrobus*) *fastigiatum* Font. Potomac Fl., p. 253, pl. cxxv, f. 1, 3, 1889.

Potomac formation: Near Brooke, near Potomac Run, Virginia.

Glyptostrobus gracillemus Lx. = *Sequoia gracillima*.

Glyptostrobus groenlandicus Heer. Fl. Foss. Arct., vol. iii, abt. ii, p. 76, pl. xvii, f. 9, xx, f. 9, 10, xxii, f. 12, 1874; Dn., Trans. Roy. Soc. Canada, vol. iii, sec. iv., p. 9, pl. iii, f. 8, 1885 [1886].

Kootanie: North Branch Old Man River, British Columbia.

Glyptostrobus Unger Heer.* Fl. Tert., Helv., vol. i, p. 52, 1855; Dn., Trans. Roy. Soc. Canada, vol. vii, sec. iv, p. 70, 1889 [1890]; Lx., Cret. and Tert. Fl., p. 139, pl. xxii, f. 1-6a, 1883. [*This is probably the same as that referred above to *G. europæus Unger*. It is left in this unsatisfactory manner until the subject can be thoroughly revised with abundant material at hand for determining the exact status. F. H. K.]

Miocene: John Day Valley, Oregon.

Green River group: Florissant, Colorado.

Eocene?: Mackenzie River.

Glyptostrobus Unger Heer = *G. europæus Unger*?

Glyptostrobus sp., Dn. Trans. Roy. Soc. Canada, vol. i, sec. iv, p. 25, 1882 [1883].

Upper Cretaceous: Baynes Sound, Vancouver Island.

Glyptostrobus sp., Dn. Trans. Roy. Soc. Canada, vol. viii, sec. iv, p. 79, f. (in text) 7, 1890.

Miocene?: Similkameen River and Stump Lake, British Columbia.

Goniopteris polypodioides Ett. = *Dryopteris polypodioides*.

Goniopteris pulchella? Heer.* Lesquereux, Bull. U. S. Geol. and Geogr. Surv. Terr., vol. i, p. 383, 1875 [1876]. [*Not afterwards referred to by Lesquereux; included in some other species, but no record remains of transfer.]

Laramie group?: Golden, Colorado.

GREWIA Linnæus. Syst., ed. i, 1735.

Grewia auriculata Lx. Cret. and Tert. Fl., p. 252, pl. lv, f. 1, 1883.

Miocene: Bridge Creek, Oregon.

? **Grewia celastroides** Ward. Bull. U. S. Geol. Surv., no. 37, p. 86, pl. xxxix, f. 2, 1887.

Fort Union group: Iron Bluff, Montana.

Grewia crenata (Ung.) Heer. Fl. Tert. Helv., vol. iii, p. 42, pl. cix, f. 12-21; ex, f. 1-11, 1859; Ward, Bull. U. S. Geol. Surv., no. 37, p. 85, pl. xxxix, f. 1, 1887.

Dombeyopsis crenata Ung. Gen. et Sp. Pl. Foss., p. 448, 1850.

Fort Union group?: Bull Mountains, Montana.

Bull. 152—8

Grewia obovata Heer. Fl. Foss. Arct., vol. iv, abt. i, p. 86, pl. xix, f. 15, 15b, 1876; Ward, Bull. U. S. Geol. Surv., no. 37, p. 88, pl. xxxix, f. 6, 7, 1887.

Fort Union group: Seven-Mile Creek, Montana.

?**Grewia Pealei** Ward. Bull. U. S. Geol. Surv., no. 37, p. 87, pl. xxxix, f. 3-5, 1887.

Fort Union group?: Bull Mountains, Montana.

GREWIOPSIS Saporta. Études, ii, p. 45, 1866.

Grewiopsis acuminata Lx. Proc. U. S. Nat. Mus., vol. x, p. 44, pl. iii, f. 12, 13; iv, f. 1, 2, 1887.

Laramie group?: Unknown.

Grewiopsis æquidentata L. Fl. Dak. Gr., p. 180, pl. lviii, f. 4, 1892.
Dakota group: Kansas.

Gre(v)wiopsis Cleburni Lx. Bull. U. S. Geol. and Geogr. Surv. Terr., vol. i, p. 380, 1875 [1876]; Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 306, 1874 [1876]; Tert. Fl., p. 259, pl. lxii, f. 12, 1878.

Laramie group: Hodges Pass, Wyoming.

Montana formation: Point of Rocks.

Grewiopsis eocenica (Lx.) n. comb.

Grewiopsis Saportanea Lx. Tert. Fl., p. 257, pl. 1, f. 10-12, 1878.

Aleurites eocenica Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 397, 1872 [1873].

Laramie group: Black Buttes, Wyoming.

Grewiopsis ficifolia Ward. Bull. U. S. Geol. Surv., no. 37, p. 92, pl. xli, f. 1, 2, 1887.

Laramie group, Black Buttes, Wyoming.

Grewiopsis flabellata (Lx.) n. comb.

Populites flabellata Lx. Am. Journ. Sci., vol. xlvi, p. 94, 1868.

Populites fagifolia Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 422, 1872 [1873].

Grewiopsis Haydenii Lx. Cret. Fl., p. 97, pl. iii, f. 2, 4; pl. xxiv, f. 3, 1874.

Dakota group: Fort Harker, Kansas.

Grewiopsis Haydenii Lx. = *Grewiopsis flabellata*.

Grewiopsis Mudgei Lx. Fl. Dak. Gr., p. 181, pl. lxvi, f. 3, 1892.

Dakota group: Kansas.

Grewiopsis paliurifolia Ward. Bull. U. S. Geol. Surv., no. 37, p. 92, pl. xli, f. 3, 1887.

Laramie group: Black Buttes, Wyoming.

Grewiopsis platanifolia Ward. Bull. U. S. Geol. Surv., no. 37, p. 89, pl. xl, f. 1, 1887.

Fort Union group: Seven-Mile Creek, Montana.

Grewiopsis populifolia Ward. Bull. U. S. Geol. Surv., no. 37, p. 90, pl. xl, f. 3-5, 1887.

Fort Union group: Burns's Rancho, Montana.

Grewiopsis Saportanea Lx. = *Grewiopsis eocenica*.

Grewiopsis tenuifolia Lx. Tert. Fl., p. 258, pl. xl, f. 14, 1878.

Denver group: Golden, Colorado.

Grewiopsis viburnifolia Ward. Bull. U. S. Geol. Surv., no. 37, p. 89, pl. xl, f. 2, 1887; Hollick, Bull. Torr. Bot. Club, vol. xxi, p. 59, pl. 174, f. 8, 1894.

Fort Union group: Burns's Ranche, Montana.

Cretaceous: Lloyds Neck, Long Island.

Grewiopsis Walcottii Lx. Proc. U. S. Nat. Mus., vol. x, p. 45, pl. iv, f. 3, 4, 1887.

—: Upper Kanab Valley, Utah.

GYMNOGRAMMA Desv. Berl. Mag. V., p. 304, 1811.

Gymnogramma Gardneri Lx. Tert. Fl., p. 58, pl. iv, f. 2, 1878.

Pteris Gardneri Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 393, 1873 [1874].

Laramie group?: Sand Creek, Colorado.

Gymnogramma Haydenii Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 295, 1871 [1872]; Tert. Fl., p. 59, pl. v, f. 1-3, 1878.

Laramie group?: Yellowstone National Park, Wyoming.

Gymnospermous fruits Font. Potomac Fl., p. 262, 1889.

HALYMENTITES Sternberg. Versuch., vol. ii, Fasc. v and vi, p. 29, 1833.

Halymentites major Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 373, 1872 [1873]; Tert. Fl., p. 38, pl. i, f. 7, 8, 1878.

Halymentites minor F. O. Ann. Rept., op. cit., p. 373, 1872 [1873]; Tert. Fl., p. 39, pl. i, f. 9, 1878.

Widely distributed from the Montana formation to the Eocene.

Halymentite minor F. O. Lx. = Halymentites major Lx.

Halymentites striatus Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 373, 1872 [1873]; Tert. Fl., p. 37, pl. i, f. 6, 1878.

Laramie group: Raton Mountains, New Mexico.

HAMAMELITES Saporta. Études, II: Ann. d. Sci. Nat., 5th ser., Bot., vol. iii, p. 47 [43], 1865.

Hamamelites? cordatus Lx. Cret. and Tert. Fl., p. 71, pl. iv, f. 3, 1883.

Dakota group: Fort Harker, Kansas.

Hamamelites fothergilloides Sap. Études, II: Ann. Sci. Nat., Bot., 5th ser., vol. iii, p. 47, 1865; Ward, Bull. U. S. Geol. Surv., no. 37, p. 64, pl. xxix, f. 1, 1887.

Fort Union group: Seven-Mile Creek, Montana.

Hamamelites kansaseana Lx. = Quercus kanseana.

Hamamelites quadrangularis Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 355, 1874 [1876]; Cret. and Tert., Fl., p. 70, 1883.

Alnites quadrangularis Lx. Cret. Fl., p. 62, pl. iv, f. 1, 1874.

Populites quadrangularis Lx. Am. Journ. Sci., vol. xlvi, p. 94, 1868.

Dakota group: Kansas?

Hamamelites quercifolius Lx. Cret. and Tert. Fl., p. 71, 1883.

Dakota group: Kansas.

- Hamamelites tenuinervis** Lx. Cret. and Tert. Fl., p. 70, 1883.
Dakota group: Kansas.
- HAUSMANNIA** F. Mueller. Fragm. Phyt. Austral., vol. iv, p. 148, 1864.
- Hausmannia rigida** Newby. Fl. Amboy Clays, p. 35, pl. i, f. 2, 3, 5, 1895 [1896].
Amboy clay: Woodbridge, South Amboy, New Jersey.
- HEDERA** Tournefort ex. Linnæus. Gen., ed. i, p. 56, 1737.
Hedera aquamara Ward = *Quercus aquamara*.
- Hedera auriculata** Heer. Fl. Foss. Alask., p. 36, pl. ix, f. 6, 1869.
Eocene?: Port Graham, Alaska.
- Hedera Bruneri** Ward. Bull. U. S. Geol. Surv., no. 37, p. 58, pl. xxvi, f. 6, 1887.
Laramie group: Black Buttes, Wyoming.
- Hedera cretacea** Lx. Fl. Dak. Gr., p. 127, pl. xviii, f. 1, 1892.
Dakota group: Kansas.
- Hedera decurrens** Lx. Fl. Dak. Gr., p. 130, pl. xviii, f. 6, 1892.
Dakota group: Kansas.
- Hedera MacClurii** Heer. Fl. Foss. Arct., vol. i, p. 119 pl. xvii, f. 1a, 2c, 3, 4, 5a; p. 138; pl. xxi, f. 17a, 1868.
Miocene?: Mackenzie River.
- Hedera marginata** Lx. Cret. and Tert. Fl., p. 177, pl. xl, f. 8, 1883.
Green River group: Florissant, Colorado.
- Hedera microphylla** Lx. Fl. Dak. Gr., p. 127, pl. xviii, f. 2, 3, 1892.
Dakota group: Kansas.
- Hedera minima** Ward. Bull. U. S. Geol. Surv., no. 37, p. 57, pl. xxvi, f. 5, 1887.
Fort Union group: Clear Creek, Montana.
- Hedera obliqua** Newby. Fl. Amboy Clays, p. 113, pl. xxxvii, f. 8; xxxviii, f. 5, 1895 [1896].
Amboy clay: Woodbridge, New Jersey.
- Hedera orbiculata** (Heer) Lx. Fl. Dak. Gr., p. 129, pl. xvii, f. 12-14, 1892.
Chondrophyllum orbiculatum Heer. Fl. Foss. Arct., vol. iii, abt. ii, p. 115, pl. xxxi, f. 3c, 1874.
Dakota group: Kansas.
- Hedera ovalis** Lx. Cret. Fl., p. 91, pl. xxv, f. 3; pl. xxvi, f. 4, 1874.
Chondrophyllum Nordenskiöldi? Heer. In Lx., Fl. Dak. Gr., p. 129.
Dakota group: Nebraska and Kansas.
Mill Creek series: Mill Creek.
- Hedera parvula** Ward. Bull. U. S. Geol. Surv., no. 37, p. 57, pl. xxvi, f. 4, 1887.
Fort Union group: Clear Creek, Montana.
- Hedera platanoidea** Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 351, pl. iii, f. 3, 1874 [1876]; Fl. Dak. Gr., p. 128, 1892.
Dakota group: Fort Harker, Kansas.

Hedera primordialis Sap. Le Monde des Pl., p. 200, f. 29, 1879; Newby., Fl. Amboy Clays, p. 113, pl. xix, f. 1, 9; xxxvii, f. 1-7, 1895 [1896].

Amboy clay: Woodbridge, New Jersey.

Hedera Schimperi Lx. Bull. U. S. Geol. and Geogr. Surv. Terr., vol. i, p. 395, 1875 [1876]; Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 351, pl. vii, f. 5, 1874 [1876]; Cret. and Tert. Fl., p. 65, pl. iv, f. 7, 1883.

Dakota group: Fort Harker, Kansas.

HEDERÆPHYLLUM Fontaine. Potomac Fl., p. 323, 1889.

Hederæphyllum angulatum Font. Potomac Fl., p. 324, pl. clxii, f. 1, 1889.

Potomac formation: Near Brooke, Virginia.

Hederæphyllum crenulatum Font. Potomac Fl., p. 324, pl. clxii, f. 3, 1889.

Potomac formation: Near Brooke, Virginia.

Hemitelites Torelli Heer. Fl. Foss. Arct., vol. ii, abt. iv, p. 462, 1869; Lx., Ann. Rept. U. S. Geol. and Geogr. Surv. Terr. 1871, suppl., p. 5, 1871 [1872]. [This specimen was not afterwards referred to by Lesquereux.]

Eocene?: Green River, Wyoming.

Hemitelites Torelli Heer = *Osmunda Doroschkiana*.

HICORIA Rafinesque. Med. Rep. (II), vol. 5, p. 352, 1808.

Hicoria antiquorum (Newby.) n. comb.

Carya antiquorum Newby. Later Extinct Floras, p. 72, 1868; Lx., Tert. Fl., p. 289, pl. lviii, f. 1-5; pl. lviii, f. 2, 1878.

Fort Union group: Yellowstone Valley, Montana.

Denver group?: Carbon and Evanston, Wyoming; ? Cross Lake, Louisiana.

Upper Laramie group?: Poreupine Creek and Rocky Mountain House, Northwest Territory.

Hicoria Bruckmanni (Heer) n. comb.

Carya Bruckmanni? Heer. Fl. Tert. Helv., vol. iii, p. 93, pl. cxxvii, f. 52, 1859; Lx., Cret. and Tert. Fl., p. 191, pl. xxxix, f. 6, 1883.

Green River group: Florissant, Colorado.

Hicoria elænoïdes (Ung.) n. comb.

Carya elænoïdes (Ung.) Heer. Fl. Tert. Helv., vol. iii, p. 92, pl. cxxxi, f. 1-4, 1859; Lx., Proc. U. S. Nat. Mus., vol. xi, p. 18, 1888.

Miocene: John Day Valley, Oregon.

Hicoria juglandiformis (Sternb.) n. comb.

Carya bilinica (Ung.) Ett. Abhandl. k. k. geol. Reichs., vol. i, p. 12, pl. ii, f. 17, 1852; Lesquereux, Cret. and Tert. Fl., p. 191, pl. xxxix, f. 1, 2, 13, 1883.

Juglans bilinica Ung. Gen. et Sp. Pl. Foss., p. 469, 1850.

Phyllites juglandiformis Sternb. Vers. 4. Index, Ic., pl. xxxv, f. 1, 1825.

Green River group: Florissant, Colorado.

Miocene: Spanish Peak and Shasta County, California.

Hicoria pecan (Marsh) Britton. Hollick, Bull. Torr. Bot. Club, vol. xix, p. 332, 1892.

Carya oliviformis Nutt. Lx., Am. Journ. Sci., vol. xxvii, p. 365, 1859.

Miocene?: Bridgeton, New Jersey.

Pleistocene: Banks of Mississippi River, near Columbus, Kentucky.

Hicoria rostrata (Göpp.) n. comb.

Carya rostrata (Göpp.) Schimp. Pal. Vég., vol. iii, p. 257, 1874; Lx., Cret. and Tert. Fl., p. 191, pl. xxxix, f. 4, 1883.

Juglans rostrata Göpp. Palæontogr., vol. viii, p. 136, pl. lv, 1861.

Green River group: Florissant, Colorado.

Hicoria vermontana (Lx.) n. comb.

Carya vermontana Lx. Am. Journ. Sci., vol. xxxv, p. 357, 1861; Geol. Vt., vol. ii, p. 714, f. 130, 1861.

——: Brandon, Vermont.

Hicoria verrucosa (Lx.) n. comb.

Carya verrucosa Lx. Am. Journ. Sci., vol. xxxii, p. 357, 1861; Geol. Vt., vol. ii, p. 714, f. 129, 1861.

——: Brandon, Vermont.

Hicoria (Dn. sp.).

Carya sp., Dn. Trans. Roy. Soc. Canada, vol. v, sec. iv, p. 33, 1887. [Wood.]

Fort Pierre series: Head of Swift Current.

HYMENÆA Linnæus. Gen. Pl., p. 366, 1737.

Hymenæa dakotana Lx. Fl. Dak. Gr., p. 145, pl. lv, f. 2, 3; pl. lvi, f. 1, 2; pl. lxii, f. 2, 1892.

Dakota group: Kansas.

Amboy clay: New Jersey.

Cretaceous: Sea Cliff, ? Long Island.

Hymenæa virginiensis Font. Potomac Fl., p. 320, pl. clxiii, f. 6, 1889.

Potomac formation: Near Brooke, Virginia.

HYMENOPHYLLUM Smith. In Römer, Arch. I, 2, p. 56, 1797.

Hymenophyllum confusum Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 395, 1873 [1874]; Tert. Fl., p. 51, pl. ii, f. 6-6a, 1878.

Denver group: Golden, Colorado.

Hymenophyllum cretaceum Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 421, 1872 [1873].

Dakota group: Fort Harker, Kansas.

HYPNUM Linnæus. Gen. Pl., p. 323, 1737.

Hypnum columbianum Penhallow. In Dn., Trans. Roy. Soc. Canada, vol. viii, sec. iv, p. 77, f. 3, 1890.

Miocene?: Quensel, Similkameen Valley, British Columbia.

Hypnum commutatum Hédw. Hinde, Canadian Journal [Can. Institute], vol. xv, p. 399, 1878.

Interglacial: Scarboro Heights, Ontario.

Hypnum fluitans L. Penhallow, Trans. Roy. Soc. Canada, 2d ser., vol. ii, sec. iv, p. 65, 71, 1896.

Pleistocene: Besserer's wharf, Ottawa River.

- Hypnum Haydenii** Lx. Bull. U. S. Geol. and Geogr. Surv. Terr., vol. i, p. 383, 1875; Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 309, 1874 [1876]; Tert. Fl., p. 44, pl. v, f. 14-14b, 1878.
Green River group: South Park, Colorado.
- Hypnum recurvans** Schw. Penhallow, Trans. Roy. Soc. Canada, 2d ser., vol. ii, sec. iv, p. 62, 71, 1896.
Pleistocene: Long Portage, Missinaibi River, Ontario.
- Hypnum revolvens** Swartz. Hinde, Canadian Journal [Can. Institute], vol. xv, p. 399, 1878.
Interglacial: Scarboro Heights, Ontario.
- Hypnum** sp., Hinde. Canadian Journal [Can. Institute], vol. xv, p. 399, 1878.
Interglacial: Scarboro Heights, Ontario.
- ILEX** (Tournefort) Linnæus. Syst., ed. i, 1735.
- Ilex? affinis** Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr. 1871, suppl., p. 8, 1871 [1872]; Tert. Fl., p. 270, pl. 1, f. 2, 3, 1878.
Green River group: Green River Station, Wyoming.
- Ilex armata** Lx. Fl. Dak. Gr., p. 176, pl. xxix, f. 8, 1892.
Dakota group: Kansas.
- Ilex borealis** Heer. Fl. Foss. Arct., vol. vii, p. 39, pl. lxiv, f. 3, 4, 1883; Lx., Fl. Dak. Gr., p. 176, pl. xxxv, f. 8, 1892.
Dakota group: Kansas.
- Ilex Cassine** L. Hollick, Bull. Torr. Bot. Club, vol. xix, p. 331, 1892.
Miocene?: Bridgeton, New Jersey.
- Ilex dakotensis** Lx. Fl. Dak. Gr., p. 178, pl. xxix, f. 11, 1892.
Dakota group: Kansas.
- Ilex dissimilis** Lx. Tert. Fl., p. 271, pl. 1, f. 7-9, 1878.
Quercus ilicoides? Heer. Lx., Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 291, 1871 [1872].
Green River group?: Sage Creek, Montana.
- Ilex? elongata** Newby. Fl. Amboy Clays, p. 98, pl. xviii, f. 1, 5, 1895 [1896].
Amboy clay: Sayreville, New Jersey.
- Ilex grandifolia** Lx. Cret. and Tert. Fl., p. 187, pl. xxxviii, f. 1, 1883.
Green River group: Florissant, Colorado.
- Ilex insignis** Heer. Fl. Foss. Alask., p. 37, pl. x, f. 1, 1869.
Eocene?: Port Graham, Alaska.
- Ilex integrifolia** (Hill) Chapm.
Prinos integrifolia Ell. Lesquereux, Am. Journ. Sci., vol. xxvii, p. 365, 1859.
Pleistocene: Banks of Mississippi River, near Columbus, Kentucky.
- Ilex Knightiæfolia** Lx. Cret. and Tert. Fl., p. 188, pl. xl, f. 4, 5, 1883.
Green River group: Florissant, Colorado.
- Ilex? longifolia** Heer. In Sismonda, Prod. Fl. Tert. Piémont, Mem. Acad. Sci. Turin, sec. ii, vol. xviii, p. — [reprint 29], pl. iii, f. 8, 1859; Lx., Proc. U. S. Nat. Mus., vol. xi, p. 21, 1888.
Eocene: Cherry Creek, Oregon.

- Ilex maculata** Lx. Cret. and Tert. Fl., p. 186, pl. xliv, f. 5, 1883.
Green River group: Alkali Station, Wyoming.
- Ilex Masoni** Lx. Fl. Dak. Gr., p. 179, pl. vii, f. 6; lxiii f. 6, 1892.
Dakota group: Kansas.
- Ilex microphylla** Newby. Proc. U. S. Nat. Mus., vol. v, p. 510, 1882
[1883].
Fort Union group: Fort Union, Dakota.
- Ilex microphylla** Lx. Cret. and Tert. Fl., p. 186, 1883.
Green River group: Florissant, Colorado.
- Ilex opaca** Ait. Hollick, Bull. Torr. Bot. Club, xix, p. 331, 1892.
Miocene?: Bridgeton, New Jersey.
- Ilex? ovata** Newby. Fl. Amboy Clays, p. 98, pl. xviii, f. 2, 1895 [1896].
Amboy clay: Sayreville, New Jersey.
- Ilex papillosa** Lx. Fl. Dak. Gr., p. 177, pl. xxix, f. 9, 10; pl. lviii, f. 3, 1892.
Dakota group: Kansas.
- Ilex prunifolia** Lx. Mem. Mus. Comp. Zoöl., vol. vi, no. 2, p. 27, pl. ix, f. 7, 1878.
Miocene: Table Mountain, California.
- Ilex pseudo-stenophylla** Lx. Cret. and Tert. Fl., p. 185, 1883.
Ilex stenophylla Ung. Chlor. Prot., p. 149, pl. 1, f. 10-13, 1847; Lx., Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., suppl., p. 8, 1871 [1872].
Green River group: Florissant, Colorado.
- Ilex quercifolia** Lx. Cret. and Tert. Fl., p. 186, pl. xxxviii, f. 2-5, 1883.
Green River group: Florissant, Colorado.
- Ilex Scudderi** Lx. Fl. Dak. Gr., p. 178, pl. lviii, f. 2, 1892.
Dakota group: Kansas.
- Ilex sphenophylla?** Heer. Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 415, 1873 [1874]. [Apparently not afterwards mentioned.]
Green River group?: Florissant, Colorado.
- Ilex stenophylla** Ung. Lesquereux = **Ilex pseudo-stenophylla**.
- Ilex strangulata** Lx. Bull. U. S. Geol. and Geogr. Surv. Terr., vol. i, p. 399, 1875 [1896]; Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 359, pl. viii, f. 3, 1874 [1876]; Cret. and Tert. Fl., p. 84, pl. iii, f. 7, 1883.
Dakota group?: Southwestern Colorado.
- Ilex subdenticulata** Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 416, 1873 [1874]; Tert. Fl., p. 271, pl. 1, f. 5, 6, 6a, 6b, 1878.
Green River group: Florissant, Colorado.
- Ilex undulata** Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 416, 1873 [1874].
———?: Unknown.
- Ilex wyomingiana** Lx. Tert. Fl., p. 270, pl. 1, f. 1, 1878.
Green River group: Green River Station, Wyoming.

ILLICCIUM L. Syst., ed. x, p. 1050, 1759.

Illicium lignitum Lx. Am. Journ. Sci., vol. xxxii, p. 360, 1861; Geol. Vt., vol. ii, p. 716, f. 149, 1861.

———: Brandon Vermont.

INGA Scopoli. Introd., 298, 1777.

Inga cretacea Lx. Fl. Dak. Gr., p. 153, pl. lv, f. 11, 1892.

Dakota group: Kansas.

INOLEPIS Heer. Fl. Foss. Arct., vol. iii, abt. ii, p. 72, 1874.

Inolepis? sp., Lx. Bull. U. S. Geol. and Geogr. Surv. Terr., vol. i, p. 392, 1875; Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 337, pl. iv, f. 8, 1874 [1876].

Dakota group: Kansas.

ISCETES Linnæus. Amœn. Acad., iii, 1751.

Isœtes brevifolius Lx. Cret. and Tert. Fl.; p. 136, 1883.

Green River group: Florissant, Colorado.

IOXYLON Rafinesque. Am. Mo. Mag., vol. iv, p. 195, 1818.

Ioxylon pomiferum Raf. Hollick, Bull. Torr. Bot. Club, vol. xix, p. 332, 1892.

Maclura auriantia Nutt. Penhallow, Trans. Roy. Soc. Canada, 2d ser., vol. ii, p. 69, 1896.

Miocene?: Bridgeton, New Jersey.

Pleistocene: Don Valley, Toronto.

JUGLANDIPHYLLUM Fontaine. Potomac Fl., p. 315, 1889.

Juglandiphyllum integrifolium Font. Potomac Fl., p. 315, pl. clvii, f. 3, 5, 6, 1889.

Potomac formation: Deep Bottom, White House Bluff, Virginia.

JUGLANDITES Sternberg. Vers., vol. i, p. xl, 1825.

Juglandites cretacea Dn. Trans. Roy. Soc. Canada, vol. iii, sec. iv, p. 14, 1885 [1886].

Mill Creek series: North Fork Old Man River, Canada.

Juglandites ellsworthianus Lx. Fl. Dak. Gr., p. 70, pl. xxxvii, f. i, 1892.

Dakota group: Kansas.

Juglandites fallax Dn. Trans. Roy. Soc. Canada, vol. xi, sec. iv, p. 59, pl. xi, f. 48, 1893 [1894].

Upper Cretaceous: Vancouver Colliery, Vancouver Island.

Juglandites Lacoëi Lx. Fl. Dak. Gr., p. 71, pl. xlvi, f. 5, 1892.

Dakota group: Kansas.

Juglandites primordialis Lx. Fl. Dak. Gr., p. 70, pl. xxxv, f. 15, 1892.

Dakota group: Kansas.

Juglandites sinuatus Lx. Fl. Dak. Gr., p. 71, pl. xxxv, f. 9-11, 1892.

Dakota group: Kansas.

Juglandites? sp., Dn. Trans. Roy. Soc. Canada, vol. xi, sec. iv, p. 59, pl. x, f. 43; pl. xiii, f. 56, 1893 [1894].

Upper Cretaceous: Port McNeill, Vancouver Island.

JUGLANS Linnaeus. Gen., ed. i, p. 291, 1737.

Juglans acuminata Al. Br. Neues Jahrb. 1845, p. 170, 1845.

Eocene?: Port Graham, Alaska.

Juglans alkalina Lx. Bull. U. S. Geol. and Geogr. Surv. Terr., vol. i, p. 382, 1875 [1876]; Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 308, 1874 [1876]; Tert. Fl., p. 288, pl. lxii, f. 6-9, 1878.

Green River group?: Alkali Station, Wyoming.

Juglans appressa Lx. Trans. Am. Phil. Soc., vol. xiii, p. 420, pl. xx, f. 6, 1869; Ann. Rept., op. cit., p. 294, 1871 [1872].

Eolignitic: Mississippi.

Juglans arctica Heer. Fl. Foss. Arct., vol. 6, abt. ii, p. 71, pl. xl, f. 2, 1882; in Lx., Fl. Dak. Gr., p. 68, pl. xix, f. 3; pl. xxxix, f. 5, 1892.

Amboy clay: Woodbridge, New Jersey?

Dakota group: Kansas.

Cretaceous: Glen Cove, Long Island; Marthas Vineyard, Mass.

Juglans baltica? Heer. Mioc. Balt. Fl., p. 98, pl. xxix, f. 8-12, 1869; Lx., Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 398, 1872 [1873]. [Not afterwards mentioned by Lesquereux.]

——: Black Buttes, Wyoming.

Juglans bilinica Ung., 1850 = *Hicoria juglandiformis*.

Juglans californica Lx. Mem. Mus. Comp. Zoöl., vol. vi, no. 2, p. 34, pl. ix, f. 14; pl. x, f. 2, 3, 1878.

Miocene: Chalk Bluffs, California.

Juglans cinerea? Dn. Rept. on Geol. and Res. near 49th Parallel, Appen. A, p. 330, 1875.

——: Porcupine Creek, Canada.

Juglans costata (Presl.) Brongn. Tableau d. Genres Vég. Foss., p. 168 [119], 1849; Lx., Cret. and Tert. Fl., p. 190, pl. xxxix, f. 5, 1883.

Juglandites costatus Presl. In Sternberg, Versuch, vol. ii, p. 207, 1833.

Juglans acuminata? Heer. Lesquereux, Ann. Rept. U. S. Geol. and Geogr. Surv. Terr. 1871, suppl., p. 8, 1871 [1872].

Green River group: Florissant, Colorado.

Juglans crassipes Heer. Neue Denkschr. Schw. Gesel., vol. xxiii, mem. 2, p. 23, pl. vi, f. 3, 1869; Lx., Fl. Dak. Gr., p. 69, pl. xlix, f. 1-3; Hollick, Bull. Torr. Bot. Club, vol. xxi, p. 51, pl. 175, f. 3, 1894.

Dakota group: Kansas.

Cretaceous: Brooklyn, New York.

Juglans Crossii nom. nov.

Juglans denticulata Heer. Fl. Foss. Arct., vol. ii, abt. iv, p. 483, 1869; Lx., Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 298, 1871 [1872]; Tert.

Fl., p. 289, pl. lviii, f. 1, 1878. [J. *denticulata* Heer, 1869, preoccupied by J. *denticulata* O. Web., 1852].

Green River group: Green River, Wyoming.

Livingston beds: Bozeman coal field, Montana.

Denver group?: Carbon, Wyoming.

- Juglans Debeyana** (Heer) Lx. Am. Journ. Sci., vol. xlvi, p. 101, 1868.
Populus? Debeyana Heer. Phyll. Crét. d. Nebr., p. 14, pl. i, f. 1, 1866.
Dakota group: Decatur, Nebr.; New Ulm, Minnesota.
- Juglans dentata** Newby. Proc. U. S. Nat. Mus., vol. v, p. 507, 1882
[1883].
Eocene: Green River, Wyoming.
- Juglans denticulata** Heer = **Juglans Crossii**.
- Juglans egregia** Lx. Mem. Mus. Comp. Zoöl., vol. vi, no. 2, p. 36, pl. ix,
f. 12; pl. x, f. 1, 1878.
Miocene: Chalk Bluffs, California.
- Juglans florissanti** Lx. Cret. and Tert. Fl., p. 190, 1883.
Green River group: Florissant, Colorado.
- Juglans harwoodensis** Dn. Trans. Roy. Soc., Canada, vol. i, sec. iv,
p. 28, pl. viii, f. 31, 1882 [1883].
Upper Cretaceous: Nanaimo, Vancouver Island.
- Juglans hesperia** Kn. Eighteenth Ann. Rept. U. S. Geol. Surv., pt. iii,
p. 723, pl. xcix, f. 8, 1898.
Payette formation: Marsh, Idaho.
- Juglans laurinea** Lx. Mem. Mus. Comp. Zoöl., vol. vi, no. 2, p. 35, pl.
ix, f. 11, 1878.
Miocene: Chalk Bluffs, California.
- Juglans Leconteana** Lx. Tert. Fl., p. 285, pl. liv, f. 10-13, 1878.
Denver group?: Evanston, Wyoming.
Laramie group: Marshall, Colorado.
Eocene?: Cherry Creek, Oregon.
- Juglans nigella** Heer. Fl. Foss. Alask., p. 38, pl. ix, f. 2-4, 1869; Lx.,
Cret. and Tert. Fl., p. 235, pl. xlviA, f. 11, 1883.
Eocene?: Port Graham, Alaska.
Fort Union group: Montana; Bad Lands, Dakota.
- Juglans nigella** Heer, Dn. Rept. 49th Parallel = **Juglans rugosa**.
- Juglans obtusifolia** Heer. Fl. Tert. Helv., vol. iii, p. 89, pl. cxxix,
f. 9, 1859; Lx., Ahn. Rept. U. S. Geol. and Geogr. Surv. Terr. 1871,
suppl., p. 12, 1871 [1872]. [Not afterwards mentioned by Lesquereux.]
Laramie group?: Evanston, Wyoming.
- Juglans occidentalis** Newby. Proc. U. S. Nat. Mus., vol. v, p. 507,
1882 [1883].
Eocene: Green River, Wyoming.
- Juglans oregoniana** Lx. Mem. Mus. Comp. Zoöl., vol. vi, no. 2, p.
35, pl. ix, f. 10, 1878.
Miocene: Chalk Bluffs, California.
- Juglans picroides** Heer. Fl. Foss. Alask., p. 39, pl. ix, f. 5, 1869.
Eocene?: Port Graham, Alaska.

Juglans rhamnoides Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 294, 1871 [1872]; Tert. Fl., p. 284, pl. liv, f. 6-9, 1878.

Rhamnus Rossmüssleri Ung. Lx., Ann. Rept., op. cit., p. 314, 1874 [1876].
Livingston beds: Bozeman coal field, Montana.

Laramie group: Black Buttes, Wyoming.

Montana formation: Point of Rocks, Wyoming.

Fort Union group: Bad Lands, Dakota; Porcupine Creek, British Columbia.

Eocene?: Cherry Creek, Oregon.

Juglans rostrata Göpp. = *Hicoria rostrata*.

Juglans rugosa Lx. Am. Journ. Sci., vol. xlv, 2d ser., p. 206, 1868; Tert. Fl., p. 286, pl. liv, f. 5, 4; pl. lv, f. 1-9; pl. lvi, f. 1, 2, 1878.

Nyssa lanceolata Lx. Tert. Fl., p. 245, pl. xxxv, f. 5 [non f. 6], 1878.

Juglans nigella Heer, Dn. Rept. 49th Parallel.

Denver group: Bozeman coal field, Montana; Golden, Colorado.

Canadian upper Laramie: Great Valley.

Laramie group: Evanston, Wyoming? Black Buttes, Wyoming.

Eolignitic: Wickliffe, Kentucky.

Eocene?: Cherry Creek, Oregon; Lassen County, California.

Juglans Saffordiana Lx. Trans. Am. Phil. Soc., vol. xiii, p. 421, pl. xx, f. 7, 1869.

Eolignitic: Lagrange, Tennessee.

Juglans Schimperii Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr. 1871, suppl., p. 8, 1871 [1872]; Tert. Fl., p. 287, pl. lvi, f. 5-10, 1878

Green River group: Green River, Wyoming.

Denver group: Golden, Colorado.

Canadian upper Laramie: Great Valley.?

Juglans Smithsonianiana Lx. = *Ficus Smithsonianiana*.

Juglans thermalis Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr. 1871, suppl., p. 17, 1871 [1872]; Tert. Fl., p. 287, pl. lvi, f. 3, 4, 1878.

Denver beds: Golden, and Hot Springs, Middle Park, Colorado.

Juglans Townsendi Kn. Proc. U. S. Nat. Mus., vol. xvii, p. 222, pl. ix, f. 5, 1894.

Eocene?: Herendeen Bay, Alaska.

Juglans Ungeri Heer. Tert. Fl. Helv., vol. iii, p. 199, pl. clv, f. 18, 1859; Ward, Bull. U. S. Geol. Surv. No. 37, p. 33, pl. xiv, f. 6, 1887.

Fort Union group?: Burns's Ranch, Montana.

Juglans vetusta Heer. Fl. Tert. Helv., vol. iii, p. 90, pl. cxxvii, f. 40-44, 1859; Lx., Proc. U. S. Nat. Mus., vol. xi, p. 22, 1888.

Eocene?: Cherry Creek, Oregon.

Juglans Woodiana Heer. Neue Denkschr., vol. xxi, p. 9, pl. ii, f. 4-7, 1865; Lx., Cret. and Tert. Fl., p. 236, 1883.

Eocene?: Burrard Inlet, British Columbia; Chignik Bay, Alaska.

Fort Union group: Bad Lands, Dakota.

Juglans sp., Dn. Trans. Roy. Soc. Canada, vol. v, sec. iv, p. 34, 1887.
[Fossil wood.]

Canadian upper Laramie: Souris River.

Juglans sp., Kn. In Vaughan, *Am. Geol.*, vol. xvi, p. 308, 1895.

Eolignitic: Old Port Caddo Landing, Harrison County, Texas.

Juglans sp., Kn. *Bull. Geol. Soc. Am.*, vol. viii, p. 145, 1897.

Fort Union group: Black Buttes, Wyoming.

JUNCUS (Tournefort.) Linnæus. *Syst.*, ed. i, 1735.

Juncus sp., Lx. *Ann. Rept. U. S. Geol. and Geogr. Surv. Terr.* 1871, suppl., p. 5, 1871 [1872].

Green River group: Green River, Wyoming.

JUNIPERUS (Tournefort.) Linnæus. *Syst.*, ed. i, 1735.

Juniperus hypnoides Heer. *Fl. Foss. Arct.*, vol. vi, abt. ii, p. 47, pl. xlv, f. 3; xlvi, f. 18, 1882; Hollick, *Trans. N. Y. Acad. Sci.*, vol. xii, p. 29, pl. i, f. 1, 1892.

Cretaceous: Kreischerville, Staten Island; Marthas Vineyard, Mass.

Juniperus macilenta Heer. *Fl. Foss. Arct.*, vol. vi, abt. ii, p. 47, pl. xxv, f. 10, 10b, 11, 1882; Newby., *Fl. Amboy Clays*, p. 54, pl. x, f. 7, 1895 [1896].

Dammara microlepis Heer. *Fl. Foss. Arct.*, vol. vi, abt. ii, p. 47, 1882.

Amboy clay: Woodbridge, New Jersey.

KALMIA Linnæus. *Diss. Chen.*, p. 18, 1750.

Kalmia Brittoniana Hollick. *Trans. N. Y. Acad. Sci.*, vol. xii, p. 34, pl. ii, f. 6-8, 1892.

Cretaceous: Staten Island.

LARICOPSIS Fontaine. *Potomac Fl.*, p. 232, 1889.

Laricopsis angustifolia Fontaine. *Potomac Fl.*, p. 233, pl. cii, f. 9, 10; ciii, f. 1, 4, 1889.

Potomac formation: Near Dutch Gap Canal and Trents Reach, Virginia.

Laricopsis brevifolia Font. *Potomac Fl.*, p. 234, pl. cii, f. 5, 6, 1889.

Potomac formation: Near Dutch Gap Canal and Trents Reach, Virginia.

Laricopsis longifolia Font. *Potomac Fl.*, p. 233, pl. cii, f. 7, 8; ciii, f. 2, 3; clxv, f. 4; clxviii, f. 5, 6, 1889.

Potomac formation: Near Dutch Gap Canal, Virginia.

Trinity division: Glenrose, Texas.

LARIX Adanson. *Fam. Pl.*, vol. 2, p. 480, 1763.

Larix americana Mx. = *Larix laricina*.

Larix churchbridgensis Penhallow. *Am. Geol.*, vol. ix, p. 370, 1892.

Interglacial: Churchbridge, Manitoba.

Larix larcina (Du Roy) Kock.

Larix americana Mx. Penhallow, *Bull. Geol. Soc. Am.*, vol. i, p. 326, 1890; *Trans. Roy. Soc. Canada*, 2d ser., sec. iv, p. 60, 1896.

Pleistocene: Moose River, Montreal; Fort Madison, Iowa; New Brunswick; Scarboro Heights, Ontario.

LASTREA Presl. Pterid, p. 73, 1836.

Lastrea (Goniopteris) Fischeri Heer. Fl. Tert. Helv., vol. i, p. 34, pl. ix, f. 3, 1855; Lx., Cret. and Tert. Fl., p. 239, pl. I, f. 1, 1a, 1883.

Miocene: John Day Valley, Oregon.

Lastrea (Goniopteris) goldiana Lx. Tert. Fl., p. 56, pl. iv, f. 13, 1878.

Aspidium goldianum Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 393, 1873 [1874].

Denver beds: Golden, Colorado.

Lastrea (Goniopteris) intermedia Lx. Tert. Fl., p. 56, pl. iv, f. 14, 1878.

Aspidium (Lastræa) pulchellum Heer. In Lx., Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 384, 1870 [1872].

Aspidium (Lastræa) Fischeri Heer. In Lx., loc. cit., p. 384, 1870 [1872].

Denver beds?: Golden, Colorado.

Lastrea (Goniopteris) Knightiana Newby. Proc. U. S. Nat. Mus., vol. v, p. 503, 1882 [1883].

Miocene?: Currant Creek, Oregon.

Lastræa (Goniopteris) polypodioides? Ett. = *Dryopteris (Goniopteris) polypodioides*.

Lastræa styrica Heer. Lx., Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 418, 1873 [1874]. [Not afterwards mentioned by Lesquereux.]

——?: Blakes Fork, Uinta Mountains.

Lathræa arguta Lx. = *Dryopteris arguta*.

LAURELIA Jussieu. In Ann. Mus. Par., vol. xiv, p. 134, 1809.

Laurelia primæva Lx. Fl. Dak. Gr., p. 108, pl. xx, f. 8, 1892.

Dakota group: Kansas.

LAURINOXYLON Felix. Die Holzopale Ungarns: Jahrb. d. k. Geol. Anstalt, vol. vii, p. 27, 1884.

Laurinoxylon aromaticum Felix = *Perseoxylon aromaticum*.

Laurinoxylon Branneri Kn. Ann. Rept. Geol. Surv. Ark. for 1889, vol. ii, p. 256, pl. ix, f. 8, 9; x, f. 1, 2; xi, f. 4, 1889.

Tertiary [Orange Sand]: Bolivar Creek, Poinsett County, and Big and Little Crow Creeks, St. Francis County, Arkansas.

Laurinoxylon Lesquereuxiana Kn. Ann. Rept. Geol. Surv. Ark. for 1889, vol. ii, p. 258, pl. x, f. 3, 4; xi, f. 3, 4, 1889.

Tertiary: Near Wittsburg, Cross County, Arkansas.

Laurinoxylon? sp., Kn. Ann. Rept. Geol. Surv. Ark. for 1889, vol. ii, p. 259, 1889.

Tertiary [Orange Sand]: Red Bluff, Jefferson County, Arkansas.

LAUROPHYLLUM Göppert. Neues Jahrb. 1853, p. 434, as nomen nudum: Die Tertiärl. Java., p. 45, 1854.

Laurophyllum angustifolium Newby. Fl. Amboy Clays, p. 86, pl. xvii, f. 10, 11, 1895 [1896].

Amboy clay: Woodbridge, New Jersey.

Laurophyllum debile Dn. Trans. Roy. Soc. Canada, vol. i, sec. iv, p. 22, pl. ii, f. 7, 7a, 1882 [1883].

Mill Creek series: Forks of Peace River, Northwest Territory; North Fork Old Man River.

Laurophyllum ellsworthianum Lx. = *Quercus ellsworthianus*.

Laurophyllum insigne Dn. Trans. Roy. Soc. Canada, vol. xi, sec. iv, p. 61, pl. vii, f. 24, 25, 1893 [1894].

Upper Cretaceous: Port McNeill, Vancouver Island.

Laurophyllum lanceolatum Newby. Fl. Amboy Clays, p. 87, pl. xvii, f. 1, 12, 1895 [1896].

Amboy clay: Woodbridge, New Jersey.

Laurophyllum minus Newby. Fl. Amboy Clays, p. 86, pl. xvi, f. 7-9, 1895 [1896].

Amboy clay: New Jersey.

Laurophyllum reticulatum Lx. = *Ficus reticulata*.

LAURUS L. Gen., ed. i, p. 120, 1737.

Laurus acuminata Newby. Proc. U. S. Nat. Mus., vol. v, p. 511, 1882 [1883].

Fort Union group: Valley of the Yellowstone, Yellowstone.

Laurus angusta Heer. Fl. Foss. Arct., vol. vi, abt. ii, p. 76, pl. xx, f. 1b, 7; pl. xliii, f. 1c, 1882; Lx., Fl. Dak. Gr., p. 93, pl. xvi, f. 7, 1892.

Dakota group: Kansas.

Laurus antecedens Lx. Fl. Dak. Gr., p. 92, pl. xi, f. 3, 1892.

Dakota group: Kansas.

Laurus Brossiana Lx. = *Persea Brossiana*.

Laurus californica Lx. Cret. and Tert. Fl., p. 252, pl. lviii, f. 3; lviii, f. 6-8, 1883; Proc. U. S. Nat. Mus., vol. xi, p. 12, pl. iv, f. 1, 1888.

Miocene: Corral Hollow, California; Boaz, Graves County, Kentucky.

Laurus carolinensis Michx. = *Persea Borbonia*.

Laurus crassinervis Dn. Trans. Roy. Soc. Canada, vol. i, sec. iv, p. 23, 1882 [1883].

Cretaceous: Susqua River, Northwest Territory.

Intermediate series (Cretaceous): North Fork Old Man River, British Columbia.

Mill Creek series (Cretaceous): Mill Creek.

Laurus Colombi Heer. Neue Denkschr., vol. xxi, p. 7, pl. i, f. 6, 1865.

—?: Nanaimo; Vancouver Island.

Laurus Fürstenbergii Al. Br. In Unger, Gen. et Sp. Pl. Foss., p. 423, 1850; Lx., Proc. U. S. Nat. Mus., vol. xi, p. 26, 1888.

Miocene?: Corral Hollow, California.

Laurus grandis Lx. Cret. and Tert. Fl., p. 251, pl. lviii, f. 1, 3, 1883.

Miocene: Corral Hollow, California.

Laurus Hollæ Heer. Fl. Foss. Arct., vol. vi, abt. ii, p. 76, pl. xxxiii, f. 13; pl. xlv, f. 5b; xlv, f. 3, 1882; Lx., Fl. Dak. Gr., p. 92, pl. xii, f. 8, 1892.

Dakota group: Kansas; Staten Island?

Laurus Knowltoni Lx. Fl. Dak. Gr., p. 94, pl. 1, f. 4, 1892.

Dakota group: Kansas.

Laurus labrusca Ung. = *Sterculia labrusca*.

Laurus macrocarpus Lx. Am. Journ. Sci., vol. xlvi, p. 98, 1868; Cret. Fl., p. 74, pl. x, f. 2, 1874; Fl. Dak. Gr., p. 95, 1892.

Dakota group: Decatur, Nebraska.

Laurus (Carpites) microcarpa Lx. Fl. Dak. Gr., p. 93, pl. xvi, f. 8, 1892.

Dakota group: Kansas.

Laurus modesta Lx. Cret. and Tert. Fl., p. 53, pl. xvi, f. 4, 1883.

Dakota group: Morrison, Colorado.

Laurus nebrascensis Lx. Am. Journ. Sci., vol. xlvi, p. 98, 1868; Cret. Fl., p. 74, pl. x, f. 1; xxviii, f. 14, 1874.

Persea nebrascensis Lx. Trans. Am. Phil. Soc., vol. xiii, p. 431, pl. xxiii, f. 9, 10, 1869.

Dakota group: Decatur, Nebraska; Kansas; New Ulm, Minnesota. Amboy clay?: Sayreville, New Jersey?

Laurus Newberryana Hollick. Bull. Torr. Bot. Club, vol. xxi, p. 52, pl. 179, f. 5, 1892; Bull. Géol. Soc. Am., vol. vii, p. 13, 1895.

Cretaceous: Marthas Vineyard, Massachusetts.

Laurus obovata Web. Palæontogr., vol. ii, p. 180, pl. xx, f. 4, 1853; Lx., Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 399, 1872 [1873]. [Not afterwards referred to by Lesquereux.]

—?: Black Buttes, Wyoming.

Laurus ocoteoides Lx., 1878 = *Laurus Wardiana*.

Laurus Omalii Sap. and Mar. Essai Vég. d. Marnes Heers., d. Gelin-den, Mem. Cour. Acad. Belg., vol. xxxvii, 1873, p. 49, pl. vi, f. 1, 1874; Hollick, Bull. Torr. Bot. Club, vol. xxi, p. 52, pl. 176, f. 3, 6, 1894.

Cretaceous: Sea Cliff and Glen Cove, Long Island.

Laurus pedatus Lx. Trans. Am. Phil. Soc., vol. xiii, p. 418, pl. xix, f. 1, 1869.

Eolignitic: Mississippi.

Laurus plutonia Heer. Fl. Foss. Arct., vol. vi, abt. ii, p. 75, pl. xix, f. 1d, 2-4, etc., 1882; Lx., Fl. Dak. Gr., p. 91, pl. xiii, f. 5, 6; pl. xii, f. 5, 1892.

Amboy clay: New Jersey.

Clay marl: Cliffwood, New Jersey.

Dakota group: Kansas; New Ulm, Minnesota?

Cretaceous: Glen Cove, Long Island; Marthas Vineyard, Massachusetts.

Laurus præstans Lx. Bull. U. S. Geol. and Geogr. Surv. Terr., vol. i, p. 368, 1875 [1876]; Ann. Rept. U. S. Geol. and Geogr. Surv., p. 305, 1874 [1876]; Tert. Fl., p. 215, pl. lxiii, f. 7, 1878.

Laramie group: Point of Rocks, Wyoming.

Laurus primigenia Ung. Gen. et Sp. Pl. Foss., p. 423, 1850; Heer, Proc. Acad. Nat. Sci. Phila., vol. x, p. 265, 1858; Lx., Ann. Rept., op. cit., p. 406, 1872 [1873]; Tert. Fl., p. 214, pl. xxxvi, f. 5, 6, 8, 1878; Hollick, Trans. N. Y. Acad. Sci., vol. xii, p. 33, pl. ii, f. 20; iii, f. 3, 1892.

Denver beds: Golden, Colorado.

Denver beds?: Carbon and Evanston, Wyoming.

Montana formation: Point of Rocks, Wyoming.

Cretaceous?: Selma, Texas; Staten Island?

Laurus princeps Heer. Fl. Tert. Helv., vol. ii, p. 77, pl. lxxxix, f. 16, 17; xc, f. 17, 20; xcvii, f. 1, 1856; Lx., Cret. and Tert. Fl., p. 250, pl. lviii, f. 2, 1883.

Miocene: Corral Hollow, California.

Laurus proteæfolia Lx. Bull. U. S. Geol. and Geogr. Surv. Terr., vol. i, p. 393, 1875 [1876]; Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 342, pl. v, f. 1, 2, 1874 [1876]; Cret. and Tert. Fl., p. 52, pl. iii, f. 9, 10; xvi, f. 6, 1883.

Dakota group: Morrison, Colorado; Fort Harker, Kansas.

Laurus resurgens Sap. Études: Ann. sci. nat. Bot. 5th ser., vol. iv, p. 132, pl. vii, f. 9a, 9b, 1866; Ward, Bull. U. S. Geol. Surv., no. 37, p. 47, pl. xxiii, f. 7, 1887.

Fort Union group?: Bull Mountains, Montana.

Miocene: Corral Hollow, California.

Laurus salicifolia Lx. Cret. and Tert. Fl., p. 251, pl. lviii, f. 4, 5, 1883.

Miocène: Corral Hollow, California.

Laurus Schmidtiana Heer. Fl. Foss. Arct., vol. v, abt. ii, p. 50, pl. xv, f. 8; 1878; Lx., Bull. Mus. Comp. Zoöl., vol. xvi, p. 50, 1888.

Denver group: Golden, Colorado.

Laurus sessiliflora Lx. = *Malapœna sessiliflora*.

Laurus socialis Lx. Tert. Fl., p. 213, pl. xxxvi, f. 1, 2, 3, 4, 7, 1878.

Eocene?: Lassen County, California.

Denver beds: Golden, Colorado.

Livingston beds: Bozeman coal field, Montana.

Eolignitic?: Cross Lake, Louisiana.

Laramie group: Evanston and Hodges Pass, Wyoming.

Laurus teliformis Lx. Fl. Dak. Gr., p. 94, pl. 1, f. 9, 1892.

Dakota group: Kansas.

Laurus utahensis Lx. Tert. Fl., p. 216, pl. xxvi, f. 11, 1878.

Laramie group: Hodges Pass, Wyoming?; Cross Lake, Louisiana.

Eolignitic: Cross Lake, Louisiana.

Laurus Wardiana nom. nov.

Laurus ocoteoides Lx. Tert. Fl., p. 215, pl. xxxvi, f. 10, 1878. [Not Massalongo, 1858.]

Laramie group: Golden, Colorado.

Laurus sp., Lx. Rept. on Clays in N. J., p. 29, 1878.

Amboy clay: Sayreville, New Jersey.

Bull. 152—9

Laurus sp., Hollick. Bull. Torr. Bot. Club, vol. xix, p. 332, 1892.

Miocene?: Bridgeton, New Jersey.

Laurus sp. Kn. In Vaughan, Am. Geol., vol. xvi, p. 308, 1895.

Eolignitic: Old Port Caddó Landing, Harrison County, Texas.

LEGUMINOSITES Bowerbank. Hist. Foss. Fr. and Seeds Lond. Clay, p. 124, 1840.

Leguminosites alternans Lx. Bull. U. S. Geol. and Geogr. Surv. Terr., vol. i, p. 388, 1875 [1876]; Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 315, 1874 [1876]; Cret. and Tert. Fl., p. 202, 1883.

Green River group: Mouth White River.

Leguminosites? arachioides Lx. Tert. Fl., p. 301, pl. lix, f. 13, 14, 1878; Dn., Geol. Surv. Canada, Rept. of Prog. for 1877-78, p. 186*b*, 1878.

Carpolithes arachioides Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 403, 1872 [1873].

Fort Union group?: Clear Creek, Montana.

Denver group: Middle Park, Colorado.

Laramie group?: Evanston, Wyoming.

Leguminosites atanensis Heer. Fl. Foss. Arct., vol. iii, abt. ii, p. 119, pl. xxxiv, f. 6, 1874; Newby., Fl. Amboy Clays, p. 97, pl. xlii, f. 40, 1895 [1896].

Amboy clay: New Jersey?

Leguminosites? borealis Dn. Trans. Roy. Soc. Canada, vol. vii, sec. iv, p. 72, pl. x, f. 7, 1889.

Miocene?: Mackenzie River.

Leguminosites cassioides Lx., 1878 = **Leguminosites Lesquereuxiana**.

Leguminosites constrictus Lx. Fl. Dak. Gr., p. 151, pl. xliv, f. 3, 1892.

Dakota group: Kansas.

Cretaceous?: Oak Neck, Long Island.

Leguminosites convolutus Lx. Fl. Dak. Gr., p. 151, pl. xliv, f. 4, 1892.

Dakota group: Kansas.

Cretaceous?: Glen Cove, Long Island.

Leguminosites coronilloides? Heer. Fl. Foss. Arct., vol. iii, abt. ii, p. 119, pl. xxxiv, f. 14, 1874; Lx., Fl. Dak. Gr., p. 149, pl. xiii, f. 10, 1892.

Dakota group: Kansas.

Amboy clay: New Jersey.

Leguminosites cultriformis Lx. Cret. and Tert. Fl., p. 86, pl. x, f. 4, 1883.

Dakota group: Locality not given.

Leguminosites dakotensis Lx. Fl. Dak. Gr., p. 150, pl. xxxviii, f. 5, 1892.

Dakota group: Kansas.

Leguminosites frigidus Heer. Fl. Foss. Arct., vol. vii, p. 44, pl. lxxv, f. 13; lv, f. 21a, 22, 1883; Hollick, Trans. N. Y. Acad. Sci., vol. xii, p. 34, pl. ii, f. 11, 1892.

Cretaceous: Staten Island.

Leguminosites hymenophyllus Lx. Fl. Dak. Gr., p. 152, pl. lv, f. 7-9; pl. lvi, f. 3, 1892.

Dakota group: Kansas.

Leguminosites insularis Heer. Fl. Foss. Arct., vol. vi, abt. ii, p. 103, pl. xlv, f. 6, 1882; Lx., Fl. Dak. Gr., p. 152, pl. liv, f. 4, 1892.

Dakota group: Kansas.

Leguminosites Lesquereuxiana nom. nov.

Leguminosites cassioides Lx*. Tert. Fl., p. 300, pl. lix, f. 1-4, 1878. [**L. cassioides* Lx., 1878, preoccupied by *L. cassioides* Engl., 1870.]

Green River group: Green River Station, Wyoming.

Laramie group: Bozeman coal field, Montana.

Leguminosites Marcouanus Heer = *Liriodendron primævum*.

Leguminosites omphalobioides Lx. Fl. Dak. Gr., p. 149, pl. xxxviii, f. 4, 1892; Newby., Fl. Amboy Clays, p. 97, pl. xlii, f. 39, 1895 [1896].

Dakota group: Kansas.

Amboy clay: New Jersey.

Leguminosites phaseolites? Heer. Fl. Foss. Arct., vol. iii, abt. ii, p. 118, pl. xxxiv, f. 7-11, 1874; Lx., Fl. Dak. Gr., p. 153, pl. lv, f. 10, 1892.

Dakota group: Kansas.

Leguminosites pisiformis? Heer. Fl. Tert. Helv., vol. iii, p. 129, pl. cxxxix, f. 37-39, 1859; Lx., Am. Journ. Sci., vol. xxxii, p. 361, 1861; Geol. Vt., vol. ii, p. 716, f. 152, 1861.

——: Brandon, Vermont.

Leguminosites podogonialis Lx. Fl. Dak. Gr., p. 148, pl. xiii, f. 11; pl. xxxviii, f. 16, 1892.

Dakota group: Kansas.

Leguminosites serrulatus Lx. Cret. and Tert. Fl., p. 202, pl. xxxix, f. 7, 8, 1883.

Green River group: Florissant, Colorado.

Leguminosites truncatus Kn. In Lesquereux, Fl. Dak. Gr., p. 150, pl. xxi, f. 7, 1892.

Dakota group: Kansas.

Leguminosites sp., Dn. = *Leguminosites arachioides*.

Leguminosites sp., Heer. Neue Denkschr., vol. xxi, p. 10, pl. ii, f. 8, 1865; Dn.

——: Burrard Inlet, British Columbia.

Leguminosites sp., Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 418, 1873 [1874].

——: Elko Station, Nevada.

Leguminosites sp., Lx. Cret. and Tert. Fl., p. 203, pl. xxxix, f. 16, 17, 1883.

Green River group: Florissant, Colorado.

Leguminosites sp., Lx. Proc. U. S. Nat. Mus., vol. x, p. 43, 1887.

—: Upper Kanab Valley, Utah.

Leguminosites sp., Lx. In Diller, Eighth Ann. Rept. U. S. Geol. Surv., p. 420, 1889.

Miocene?: Lassen County, California.

Leguminosites sp., Lx. Geol. and Nat. Hist. Surv. Minn., vol. iii, p. 21, 1893.

Dakota group: Goodhue Township, Minnesota.

Leguminosites sp., Lx. Proc. U. S. Nat. Mus. vol. xi, p. 30, 1888.

Eocene?: Lassen County, California.

LEMNA Linnæus. Syst., ed. i, 1735.

Lemna? *bullata* Lx. Bull. U. S. Geol. and Geogr. Surv. Terr., vol. i, p. 363, 1875 [1876].

Laramie group: Point of Rocks, Wyoming.

Lemna *penicillata* Lx. Cret. and Tert. Fl., p. 143, pl. xxiii, f. 8, 1883.

Green River group: Florissant, Colorado.

Lemna *scutata* Dn. Rept. on Geol. 49th Parallel, Appen. A, p. 329, pl. xvi, f. 5, 6, 1875; Trans. Roy. Soc. Canada, vol. iv, sec. iv, p. 23, pl. i, f. 6, 1886 [1887].

Fort Union group: Burns's Ranch, Montana.

Lignitic Tertiary: Near forty-ninth parallel.

Montana group: Point of Rocks, Wyoming.

Laramie group: Wood Mountain, Pincher Creek, British Columbia.

LEPTOSTROBUS Heer. Fl. Foss. Arct., vol. iv, abt. ii: Mém. Acad. Imp. Sci. St. P., 7th ser., vol. xxii, no. 12, p. 72, 1876.

Leptostrobos *foliosus* Font. Potomac Fl., p. 230, pl. ci, f. 4; ciii, f. 5; civ, f. 1, 1889.

Potomac formation: Dutch Gap Canal, Virginia.

Leptostrobos *longifolius* Font. Potomac Fl., p. 228, pl. ci, f. 2, 3; cii, f. 1-4; ciii, f. 6-12; civ, f. 6, 1889.

Potomac formation: Fredericksburg, near Brooke, near Potomac Run, and near Dutch Gap Canal, Virginia.

Kootanie: Anthracite and Canmore, British Columbia.

Leptostrobos? *multiflorus* Font. Potomac Fl., p. 230, pl. clxv, f. 6, 1889.

Potomac formation: near Brooke, Virginia.

Leptostrobos? seeds of, sp., Font. Potomac Fl., p. 332, pl. cxxxvi, f. 11, 1889.

Potomac formation: Kankeys, Virginia.

Leptostrobos? seeds of, (a) sp., Font. Potomac Fl., p. 231, pl. cxxxv, f. 6, 1889.

Potomac formation: Near Dutch Gap Canal, Virginia.

Leptostrobos? seeds of, (b) sp., Font. Potomac Fl., p. 231, pl. cxxxvi, f. 10, 1889.

Potomac formation: Near Dutch Gap Canal, Virginia.

LEUCOTHOE D. Don. In Edinb. N. Phil. Journ., vol. xvii, p. 159, 1834.

Leucothoë racemosa (L.) A. Gray. Hollick, Bull. Torr. Bot. Club, vol. xix, p. 332, 1892.

Miocene?: Bridgeton, New Jersey.

Libocedrus cretacea Heer=*Thuja cretacea*.

Lindera=Benzoin.

Lindera Masoni Lx.=Benzoin Masoni.

Lindera venusta Lx.=Benzoin venusta.

LIQUIDAMBAR Linnæus. Hort. Cliff, p. 486, 1737.

Liquidambar californicum Lx. Mem. Mus. Comp. Zoöl., vol. vi, no. 2, p. 14, pl. vi, f. 7c; pl. vii, f. 3, 6, 1878.

Miocene: Chalk Bluffs, California.

Liquidambar europæum Al. Br. In Buckl. Geol., vol. i, p. 115, 1836? Lx., Cret. and Tert. Fl., p. 159, pl. xxxii, f. 1, 1883.

Miocene: John Day Valley, Oregon.

Green River group: Florissant, Colorado.

Eocene?: Port Graham, Alaska.

Liquidambar europæum Al. Br., Lesquereux, 1888 = *Liquidambar styraciflua* L.

Liquidambar gracilis Lx.=*Aralia?* *gracilis*.

Liquidambar integrifolius Lx. Am. Journ. Sci., vol. xlvi, p. 93, 1868; Cret. Fl., p. 56, pl. ii, f. 1-3; xxiv, f. 2; xxix, f. 8, 1874.

Dakota group: Salina, Kansas.

Mill Creek series: Mill Creek.

Liquidambar protensum Ung. Steiermärk. Zeitschr., n. Folge, ix Jahrg., p. 59 [36], 1848; Gen. et Sp. Pl. Foss., p. 415, 1850; Lx., Proc. U. S. Nat. Mus., vol. xi, p. 13, pl. viii, f. 3, 1888.

Miocene: John Day Valley, Oregon.

Liquidambar styraciflua L. Hollick, Bull. Torr. Bot. Club, vol. xix, p. 331, 1892; Kn., Am. Geol., vol. xviii, p. 371, 1896.

Liquidambar europæum Al. Br. Lesquereux, Proc. U. S. Nat. Mus., vol. xi, p. 36, 1888.

Miocene?: Bridgeton, New Jersey.

Glacial: Morgantown, West Virginia.

LIRIODENDRON Linnæus. Spec. Pl., p. 535, 1753.

Liriodendron acuminatum Lx. Bull. Mus. Comp. Zoöl. Camb., vol. vii, p. 227, 1881; Lx., Fl. Dak. Gr., p. 207, pl. xxvii, f. 2, 3, 1892.

Dakota group: Kansas.

Liriodendron acuminatum bilobatum Lx. Fl. Dak. Gr., p. 207, pl. xxviii, f. 4, 1892.

Dakota group: Kansas.

Liriodendron alatum Newby. MSS. Hollick, Bull. Torr. Bot. Club, vol. xxi, no. 11, p. 467, pl. 220, 221, 1894.

Laramie group: Walsenburg, Colorado.

Liriodendron cruciforme Lx.=*L. giganteum cruciforme*.

Liriodendron giganteum Lx. Am. Journ. Sci., vol. xlvi, p. 99, 1868;
Cret. Fl., p. 93, pl. xxii, f. 2, 1874.

Dakota group: Fort Harker, Kansas.

Liriodendron giganteum cruciforme Lx. Fl. Dak. Gr., p. 206, pl. xxviii, f. 1, 2, 1892.

Liriodendron cruciforme Lx. Bull. Mus. Comp. Zoöl. Camb., vol. vii, p. 227, 1881.

Dakota group: Kansas.

Liriodendron intermedium Lx. Am. Journ. Sci., vol. xlvi, p. 99, 1868;
Fl. Dak. Gr., p. 207, pl. xxv, f. 1, 1892.

Dakota group: Southern Nebraska; Kansas.

Liriodendron laramiense Ward. Bull. U. S. Geol. Surv., no. 37, p. 102, pl. xlviii, f. 2, 1887.

Montana formation: Point of Rocks, Wyoming.

Liriodendron oblongifolium Newby. Bull. Torr. Bot. Club, vol. xiv, no. 1, p. 5, pl. lxi, f. 1, 1887; Hollick, op. cit., vol. xxi, p. 62, pl. 179, f. 3, 1894.

Amboy clay: Woodbridge; New Jersey.

Cretaceous: Glen Cove, Long Island.

Liriodendron Meekii Heer. Proc. Phila. Acad. Sci., vol. x, p. 265, 1858; Phyll. Crét. d. Nebr., p. 21, pl. iv, f. 3, 4, 1866; Fl. Dak. Gr., p. 205, pl. xxviii, f. 5, 6, 1892.

Dakota group: Mouth of Big Sioux, Nebraska.

Liriodendron Meekii var. *Marcouana* Heer = *Liriodendron primævum*.

Liriodendron Meekii var. *mucronulata* Heer = *Liriodendron primævum*.

Liriodendron Meekii var. *obcordata* Heer = *Liriodendron primævum*.

Liriodendron pinnatifidum Lx. Bull. Mus. Comp. Zoöl. Camb., vol. vii, p. 227, 1881; Fl. Dak. Gr., p. 209, pl. xxvii, f. 4, 5, 1892.

Dakota group: Kansas.

Liriodendron prætulipiferum Dn. Trans. Roy. Soc. Canada, vol. xi, sec. iv, p. 63, pl. viii, f. 27, 1893 [1894].

Upper Cretaceous: Nanaimo, Vancouver Island.

Liriodendron primævum Newby. Later Extinct Floras, p. 12, 1868;
Lx., Fl. Dak. Gr., p. 203, pl. xxiv, f. 4; xxvi, f. 1-4, 1892.

Leguminosites Marcouanus Heer. Proc. Phil. Acad. Sci., vol. x, p. 265, 1858.

Bumelia Marcouana (Heer) Lx. Cret. Fl., p. 90, pl. xxviii, f. 2, 1874.

Phyllites obcordatus Heer. Proc. Phil. Acad. Sci., vol. x, p. 266, 1858.

Liriodendron Meekii var. *Marcouana* Heer. Fl. Foss. Arct., vol. vi, abt. ii, p. 88, 1882.

Liriodendron Meekii var. *obcordata* Heer. Op. cit., p. 88, 1882.

Liriodendron Meekii var. *mucronulata* Heer. Op. cit., p. 88, 1882.

Phyllites cotinus Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 364, 1874 [1876].

Dakota group: Kansas and Nebraska.

Cretaceous: Staten Island, Long Island, New York.

Liriodendron quercifolium Newby. Bull. Torr. Bot. Club, vol. xiv, p. 6, pl. lxii, f. 1, 1887; Fl. Amboy Clays, p. 81, pl. li, f. 1-6, 1895 [1896].

Amboy clay: Woodbridge, New Jersey.

Liriodendron semialatum Lx. Bull. Mus. Comp. Zoöl. Camb., vol. vii, p. 227, 1881; Fl. Dak. Gr., p. 204, pl. xxv, f. 2-4; pl. xxix, f. 3, 1892.

Dakota group: Kansas.

Liriodendron simplex Newby. = *Liriodendropsis simplex* + *L. angustifolia*.

Liriodendron Snowii Lx. Fl. Dak. Gr., p. 209, pl. xxix, f. 1, 2, 1892.

Dakota group: Kansas.

Liriodendron succedens Dn. Trans. Roy. Soc. Canada, vol. xi, sec. iv, p. 62, pl. viii, f. 26, 1893 [1894].

Upper Cretaceous: Port McNeill, Vancouver Island.

Liriodendron Wellingtonii Lx. Fl. Dak. Gr., p. 208, pl. xxviii, f. 3, 1892.

Dakota group: Kansas.

Liriodendron sp., Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 298, 1871 [1872]. [Not afterwards referred to by author.]

Laramie group?: Six miles above Spring Canyon, Montana.

LIRIODENDROPIS Newberry. Fl. Amboy Clays, p. 82, 1895 [1896].

Liriodendropsis angustifolia Newby. Fl. Amboy Clays, p. 84, pl. liii, f. 8, 1895 [1896].

Liriodendron simplex Newby., in part. Bull. Torr. Bot. Club, vol. xiv, p. 6, pl. lxii, f. 4, 1887.

Amboy clay: New Jersey.

Cretaceous: Marthas Vineyard.

Liriodendropsis simplex Newby. Fl. Amboy Clays, p. 83, pl. xix, f. 2, 3; liii, f. 1-4, 7, 1895 [1896].

Liriodendron simplex Newby., in part. Bull. Torr. Bot. Club, vol. xiv, p. 6, pl. lxii, f. 2, 3, 1887.

Amboy clay: Woodbridge, New Jersey.

Cretaceous: Glen Cove, Long Island; Marthas Vineyard.

LIRIOPHYLLUM Lesquereux. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 482, 1876 [1878].

Liriophyllum Beckwithii Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 482, 1876 [1878]; Cret. and Tert. Fl., p. 76, pl. x, f. 1, 1883; Fl. Dak. Gr., p. 210, 1892.

Dakota group: Morrison, Colorado.

Liriophyllum obcordatum Lx. Cret. and Tert. Fl., p. 77, 1883; Fl. Dak. Gr., p. 210, pl. xxviii, f. 7, 1892.

Dakota group: Morrison, Colorado.

Liriophyllum populoides Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 483, 1876 [1878]; Cret. and Tert. Fl., p. 76, pl. xi, f. 1, 2, 1883.

Dakota group: Colorado and Kansas.

Litsea = *Malapoenna*.

Litsæa carbonensis Ward = *Malapoenna carbonensis*.

Litsea cretacea Lx. = *Malapoenna cretacea*.

Litsea falcifolia Lx. = *Malapoenna falcifolia*.

Litsea Weediana Kn. = *Malapoenna Weediana*.

Litsea sp., Kn. = *Malapoenna* sp.

LOMATIA Robert Brown. Trans. Linn. Soc. Lond., vol. x, p. 199, 1810.

Lomatia abbreviata Lx. Cret. and Tert. Fl., p. 167, xliii, f. 17, 1883.
Green River group: Florissant, Colorado.

Lomatia acutiloba Lx. Cret. and Tert. Fl., p. 167, pl. xliii, f. 11-16, 20, 1883.

Green River group: Florissant, Colorado.

Lomatia hakeæfolia Lx. Cret. and Tert. Fl., p. 166, pl. xxxii, f. 19, 1883.

Green River group: Florissant, Colorado.

Lomatia interrupta Lx. Cret. and Tert. Fl., p. 167, pl. xliii, f. 18, 19, 1883.

Green River group: Florissant, Colorado.

Lomatia microphylla Lx. Bull. U. S. Geol. and Geogr. Surv. Terr., vol. i, p. 389, 1875 [1876]; Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 315, 1874 [1876]; Tert. Fl., p. 211, pl. lxxv, f. 14, 15, 1878.

Green River group: Mouth of White River.

Lomatia ? Saportanea Lx. Ann. Rept. U. S. Geo. and Geogr. Surv. Terr., p. 346, 1874 [1876]; Cret. and Tert. Fl., p. 51, pl. iii, f. 8, 1883.

Todea ? Saportanea Lx. Cret. Fl., p. 48, pl. xxix, f. 1-4, 1874.

Dakota group: Kansas.

Lomatia ? Saportanea var. *longifolia* Lx. Cret. and Tert. Fl., p. 52, 1883.

Dakota group: Morrison, Colorado.

Lomatia spinosa Lx. Cret. and Tert. Fl., p. 166, pl. xliii, f. 1, 1883.

Green River group: Florissant, Colorado.

Eocene?: Similkameen Valley, British Columbia.

Lomatia terminalis Lx. Cret. and Tert. Fl., p. 166, pl. xliii, f. 2-7, 1883.

Green River group: Florissant, Colorado.

Lomatia tripartita Lx. Cret. and Tert. Fl., p. 166, pl. xliii, f. 8-10, 1883.

Green River group: Florissant, Colorado.

LONCHOCARPUS Humbolt Bonpland and Kunth. Nov. Gen. et Sp., vol. vi, p. 383, 1823.

Lonchocarpus novæ-cæsareæ Hollick. Bull. Torr. Bot. Club, vol. xxiii, p. 49, pl. celix, f. 6-8, 1896.

Miocene?: Bridgeton, New Jersey.

LYCOPodium (Ruppino) Linnæus. Gen. Pl., p. 323, 1737.

Lycopodium Lesquereuxii Kn. Bull. Geol. Soc. Am., vol. viii, p. 154, 1897.

Selaginella falcata Lx. Ex. p. Lx., Tert. Fl., p. 46, pl. lxxiv, f. 13, 13a [non pl. lxi, f. 12-15], 1878.

Montana formation: Point of Rocks, Wyoming.

Lycopodium prominens Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 409, 1873 [1874]; Tert. Fl., p. 45, pl. v, f. 13-13b, 1878.

Green River group: Elko Station, Nevada.

Lycopodium sp., Hinde. Canadian Journal [Can. Institute], vol. xv, p. 399, 1878.

Interglacial: Scarboro Heights, Ontario.

Lycopodium sp. Penhallow, Trans. Roy. Soc. Canada, 2d ser., vol. ii, sec. iv, p. 62, 1896.

Pleistocene: Long Portage, Missinaibi River; Scarboro Heights, Ontario.

LYGODIUM Swartz. Schrad. Journ. Bot., vol. ii, p. 106, 1800.

Lygodium compactum Lx. Am. Journ. Sci., vol. xvi, p. 206, 1868; Tert. Fl., p. 64, pl. v, f. 9, 1878.

Laramie group: Coal Creek, Colorado.

Lygodium Dentoni Lx. Bull. U. S. Geol. and Geogr. Surv. Terr., vol. i, p. 383, 1875 [1876]; Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 309, 1874 [1876]; Tert. Fl., p. 63, pl. lxxv, f. 12, 13, 1878.

Green River group: Mouth of White River into Green River.

Lygodium Marvinei Lx. Bull. U. S. Geogr. Surv. Terr., vol. i, p. 383, 1875 [1876]; Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 309, 1874 [1876]; Tert. Fl., p. 62, pl. v, f. 8, 1878.

———?: Eagle Junction.

Lygodium Kaulfusii Heer. Beiträge z. nähern Kennt. d. Sächs.-Thuring. Braunkohle, p. 409, pl. viii, f. 21, 1861.

Lygodium neuropteroides Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 384, 1870 [1871]; Tert. Fl., p. 61, pl. v, f. 4-7; pl. vi, f. 1, 1878.

Green River group?: Barrell Springs, Wyoming.

Eocene?: Cherry and Crescent creeks, Oregon.

Eocene: Elk Creek, Yellowstone National Park; Wilkinson coal field, Washington; Cherry Creek, Oregon.

Lygodium neuropteroides Lx. = *Lygodium Kaulfusii*.

Lygodium trichomanoides Lx. Cret. Fl., p. 45, pl. i, f. 2, 1874.

Lygodium? sp., Lx. Am. Journ. Sci., vol. xlvi, p. 91, 1868.

Dakota group: Fort Harker, Kansas.

Lygodium? sp., Lx. [Am. Journ. Sci., xlvi, 91, 1868] = *Lygodium trichomanoides*.

MACCLINTOCKIA Heer. Fl. Foss. Arct., vol. i, p. 114, 1868.

Macclintockia cretacea Heer. Fl. Foss. Arct., vol. vi, abt. ii, p. 70, pl. xxxvi, f. 1a; pl. xxxvii, f. 2-4, 1882; Lx., Fl. Dak. Gr., p. 197, pl. lix, f. 4, 1892; Dn., Trans. Roy. Soc. Canada, vol. iii, p. 13, pl. iv, f. 3, 1885.

Dakota group: Kansas.

Mill Creek series: Mill Creek.

Macclintockia Lyallii Heer. Fl. Foss. Arct., vol. i, p. 115, pl. xv, f. 1a, 2; xvi, f. 7a, b; xvii, f. 2a, b; xlvii, f. 13; xlviii, f. 8, 1868; Lx., Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 400, 1872 [1873]. [Not afterwards mentioned by Lesquereux.]

———?: Black Buttes, Wyoming.

Macclintockia trinervis Heer. Fl. Foss. Arct., vol. i, p. 115, pl. xv, f. 7-9, 1868; Dn., Trans. Roy. Soc. Canada, vol. xi, sec. iv, p. 64, pl. x, f. 38, 1893 [1894].

Upper Cretaceous: Port McNeill, Vancouver Island.

Maclura aurantiaca Nutt. = *Toxylon pomiferum*.

MACREIGHTIA Alphonse de Candolle. Prod., vol. viii, p. 220, 1844.

Macreightia crassa Lx. Cret. and Tert. Fl., p. 175, pl. xxxiv, f. 16, 17, 1883.

Green River group: Florissant, Colorado.

Macrospores? sp., Font. Potomac Fl., p. 274, pl. cxxxvi, 1889.

Potomac formation: Dutch Gap Canal, Virginia.

MACROTÆNIOPTERIS Schimper. Pal. Vég., vol. i, p. 610, 1869.

Macrotæniopteris vancouverensis Dn. Trans. Roy. Soc. Canada, vol. xi, sec. iv, p. 55, pl. v, f. 1-3, 1893 [1894].

Upper Cretaceous: Nanaimo.

MAGNOLIA Linnæus. Syst., ed. i, 1735.

Magnolia acuminata L. Hollick, Bull. Torr. Bot. Club, vol. xix, p. 331, 1892.

Miocene?: Bridgeton, New Jersey.

Magnolia alternans Heer. Phyll. Crét. d. Nebr., p. 20, pl. iii, f. 2-4; pl. iv, f. 1, 2, 1866; Cret. Fl., p. 92, pl. xviii, f. 4, 1874; Lx., Fl. Dak. Gr., p. 201, pl. xxxiv, f. 11, 1892; Newby., Fl. Amboy Clays, p. 73, pl. iv, f. 1, 2, 4, 6, 1895 [1896].

Dakota group: Nebraska, Kansas, and Minnesota.

Amboy clay: Woodbridge and Sayreville, New Jersey.

Magnolia alternans Heer, Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 300, 1871 [1872]. [Not same as Dakota group plant; affinity not stated by Lesquereux and apparently not afterwards mentioned.]

Laramie group?: Three miles above Spring Canyon, Montana.

Magnolia amplifolia Heer. Kreidefl. v. Moletein in Mähren, Neue Denkschr. Schw. Ges., vol. xxiii, p. 21, pl. viii, f. 2; ix, f. 1, 1869; Lx., Fl. Dak. Gr., p. 200, pl. xxiv, f. 3, 1892.

Dakota group: Kansas.

Magnolia angustifolia Newby. Proc. U. S. Nat. Mus., vol. v, p. 513 1882 [1883].

Magnolia attenuata Web. in Lx. Tert. Fl., p. 250, pl. xlv, f. 6, 1878.

Laramie group: Fishers Peak, New Mexico.

Magnolia attenuata O. Web. Lesquereux, 1878 = *Magnolia angustifolia*.

Magnolia auriculata Newby. MSS. Hollick, Bull. Torr. Bot. Club, vol. xxi, p. 61, pl. clxxix, f. 6, 7, 1894; Newby., Fl. Amboy Clays, p. 75, pl. xli, f. 13; lviii, f. 1-11, 1895 [1896].

Cretaceous: Glen Cove, Long Island.

Amboy clay: Woodbridge, New Jersey.

- Magnolia Boulayana** Lx. Fl. Dak. Gr., p. 202, pl. lx, f. 2, 1892.
Dakota group: Kansas.
- Magnolia californica** Lx. Mem. Mus. Comp. Zoöl., vol. vi, no. 2, p. 25, pl. vi, f. 5-7, 1878.
Miocene: Chalk Bluffs and Contra Costa, California.
Eocene: Lassen County, California.
- Magnolia Capellinii** Heer. Phyll. Crét. d. Nebr., p. 21, pl. iii, f. 5, 6, 1866; Lx., Rept. on Clays in N. J., p. 29, 1878; Fl. Dak. Gr., p. 203, pl. lxvi, f. 1, 1892.
Dakota group: Tekamah, Nebraska.
Amboy clay: Sayreville, New Jersey?
Cretaceous: Glen Cove, Long Island; Marthas Vineyard; Port McNeill, Vancouver Island.
- Magnolia cordifolia** Lx. Trans. Am. Phil. Soc., vol. xiii, p. 422, pl. xxii, f. 1, 2, 1869.
Eolignitic: Mississippi.
- Magnolia ensifolia* Lx. = *Celastrophyllum ensifolium*.
- Magnolia glauca** L. Hollick, Bull. Torr. Bot. Club, vol. xix, p. 331, 1892.
Miocene?: Bridgeton, New Jersey.
- Magnolia glaucoides** Newby. MSS. Hollick, Bull. Torr. Bot. Club, vol. xxi, p. 60, pl. clxxv, f. 1, 7, 1894; Newby., Fl. Amboy Clays, p. 74, pl. lvii, f. 1-4, 1895 [1896].
Cretaceous: Sea Cliff, Long Island; Marthas Vineyard.
Amboy clay: Woodbridge, New Jersey.
- Magnolia Hilgardiana** Lx. Second Rept. Geol. Recon. Arkansas, p. 319, pl. vi, f. 1, 1860; Trans. Am. Phil. Soc., vol. xiii, p. 421, pl. xxi, f. 1, 1869; Tert. Fl., p. 249, pl. xlv, f. 4, 1878.
Eolignitic: Mississippi.
Eocene: Lassen County, California.
Fort Union group: Yellowstone Valley, Montana.
Laramie group: Fishers Peak, New Mexico.
- Magnolia Inglefieldi** Heer. Fl. Foss. Arct., vol. i, p. 120, pl. iii, f. 5c; xvi, f. 5, 6, 8b; xviii, f. 1-3, 1868; Lx., Proc. U. S. Nat. Mus., vol. xi, p. 13, 1888.
Miocene: John Day Valley, Oregon.
Eocene?: Lassen County, California.
- Magnolia Inglefeldi* Heer. Lesquereux, Hayden's Ann. Rept., 1872, p. 396 = *Magnolia tenuinervis*.
- Magnolia Isbergiana** Heer. Fl. Foss. Arct., vol. vi, abt. ii, p. 91, pl. xxxvi, f. 3, 1882; Hollick, Bull. Torr. Bot. Club., vol. xxi, p. 60, 1894.
Cretaceous: Glen Cove, Long Island.
- Magnolia Lacoena** Lx. Fl. Dak. Gr., p. 201, pl. lx, f. 1, 1892; Newby., Fl. Amboy Clays, p. 73, pl. lv, f. 1, 2, 1895 [1896].
Dakota group: Kansas.
Amboy clay: Woodbridge, New Jersey.

- Magnolia lanceolata** Lx. Mem. Mus. Comp. Zoöl., vol. vi, no. 2, p. 24, pl. vi, f. 4, 1878.
Miocene: Chalk Bluffs, California; John Day Valley, Oregon.
Miocene?: Cherry Creek, Oregon.
- Magnolia laurifolia** Lx. Trans. Am. Phil. Soc., vol. xiii, p. 421, pl. xx, f. 2, 3, 1869.
Eolignitic: Mississippi; Cross Lake and McLees, Louisiana.
- Magnolia Lesleyana** Lx. Trans. Am. Phil. Soc., vol. xiii, p. 421, pl. xxi, f. 1, 2, 1869; Tert. Fl., p. 248, pl. xlv, f. 1-3, 1878.
Terminalia Radobojensis Heer. Lx., Ann. Rept., op. cit., 1871, suppl., p. 15, 1871 [1872].
Eolignitic: Mississippi.
Laramie group: Raton Mountains, New Mexico.
Laramie group?: Evanston, Wyoming?
- Magnolia longifolia** Newby. In MSS. Hollick, Trans. N. Y. Acad. Sci., vol. xii, p. 36, pl. iii, f. 9, 1892; Newby., Fl. Amboy Clays, p. 76, pl. lv, f. 3, 5; lvi, f. 1-4, 1895 [1896].
Cretaceous: Staten Island; Marthas Vineyard.
Amboy clay: Woodbridge, New Jersey.
- Magnolia longipes** Newby. In MSS. Hollick, Bull. Torr. Bot. Club, vol. xxi, p. 60, pl. clxxviii, f. 3, 1894; Newby., Fl. Amboy Clays, p. 76, pl. liv, f. 1-3, 1895 [1896].
Amboy clay: Woodbridge, New Jersey.
Cretaceous: Glen Cove, Dosoris Island, Long Island.
- Magnolia magnifica** Dn. Trans. Roy. Soc. Canada, vol. i, sec. iv, p. 22, pl. iii, f. 11, 1882 [1883].
Mill Creek series: Coal Brook, Northwest Territory; Mill Creek.
- Magnolia Nordenskiöldi** Heer. Fl. Foss. Arct., vol. iv, abt. i, p. 82, pl. xxi, f. 3; xxx, f. 1, 1877; Lx., Proc. U. S. Nat. Mus., vol. v, p. 448, 1882 [1883].
Eocene?: Chignik Bay, Alaska.
- Magnolia obovata** Newby. Later Extinct Floras, p. 15, 1868.
Dakota group: Blackbird Hill, Nebraska.
- Magnolia obtusata** Heer. Fl. Foss. Arct., vol. vi, abt. ii, p. 90, pl. xv, f. 12; pl. xxi, f. 3, 1882; Lx., Fl. Dak. Gr., p. 201, pl. lx, f. 5, 6, 1892.
Dakota group: Kansas.
- Magnolia occidentalis** Dn. Trans. Roy. Soc. Canada, vol. xi, sec. iv, p. 63, pl. x, f. 36, 1893 [1894].
Upper Cretaceous: Nanaimo, Vancouver Island.
- Magnolia ovalis** Lx. Trans. Am. Phil. Soc., vol. xiii, p. 422, pl. xxi, f. 3, 4, 1869.
Eolignitic: Mississippi.
- Magnolia pseudoacuminata** Lx. Fl. Dak. Gr., p. 199, pl. xxiv, f. 2, 1892.
Dakota group: Kansas.

Magnolia pulchra Ward. Bull. U. S. Geol. Surv., no. 37, p. 103, pl. xlviii, f. 3, 4, 1887.

Montana formation: Point of Rocks, Wyoming.

Magnolia rotundifolia Newby. Proc. U. S. Nat. Mus., vol. v, p. 513, 1882 [1883].

Laramie group: Fishers Peak, New Mexico.

Magnolia speciosa Heer. Neue Denkschr. Schw. Gesel., vol. xxiii, p. 20, pl. vi, fig. 1; ix, f. 2; x, f. 1, 1869; Lx., Cret. and Tert. Fl., p. 72, 1874; Fl. Dak. Gr., p. 202, pl. lx, f. 3, 4, 1892.

Dakota group: Morrison, Colorado.

Cretaceous: Glen Cove, Long Island; Marthas Vineyard, Massachusetts.

Magnolia tenuifolia Lx. Am. Journ. Sci., vol. xlvi, p. 100, 1868; Cret. Fl., p. 92, pl. xxi, f. 1, 1874; Fl. Dak. Gr., p. 198, pl. xxiv, f. 1, 1872.

Dakota group: Decatur, Nebraska; Kansas; Peace River, Northwest Territory.

Magnolia tenuinervis Lx. Am. Journ. Sci., vol. xlv, p. 207, 1868; Tert. Fl., p. 249, pl. xlv, f. 5, 6; pl. xlv, f. 1-5, 1878.

Magnolia Inglefeldi? Heer. Lx., Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 396, 1872 [1873].

Denver group: Golden, Colorado.

Laramie group: Black Buttes and Hogdes Pass, Wyoming.

Laramie group?: Coalville, Utah?

Magnolia Van Ingeni Hollick. Bull. Torr. Bot. Club, vol. xxi, p. 61, pl. clxxv, f. 6, 1894.

Cretaceous: Sea Cliff, Long Island.

Magnolia woodbridgensis Hollick in Newby. Fl. Amboy Clays, p. 74, pl. xxxvi, f. 11; lvii, f. 5-7, 1895 [1896].

Amboy clay: Woodbridge, New Jersey.

Clay marl (Upper Cretaceous): Cliffwood, New Jersey.

Magnolia sp., Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 287, 1871 [1872]. [Not afterwards referred to by Lesquereux.]

Eocene?: Washakie Station, Wyoming.

Magnolia sp., Lx. Cret. and Tert. Fl., p. 73, pl. xi, f. 6, 1883.

Dakota group: Morrison, Colorado.

Magnolia sp., Kn. Bull. Geol. Soc. Am., vol. viii, p. 145, 1897.

Fort Union group: Black Buttes, Wyoming.

Magnolia ? sp., Dn. Trans. Roy. Soc. Canada, vol. viii, sec. iv, p. 89, f. (in text) 29, 1890.

Eocene?: Similkameen Valley, British Columbia.

MAJANTHEMOPHYLLUM O. Weber. Tertiärf. d. Niederrh. Braunkohlenf.: Paläontographica, vol. ii, p. 156 [reprint 42], 1852.

Majanthemophyllum pusillum Heer. Fl. Foss. Aret., vol. vii, p. 18, pl. lv, f. 17, 1883; Hollick, Trans. N. Y. Acad. Sci., vol. xii, p. 36, pl. i, f. 7, 1892.

Cretaceous: Staten Island.

MALAPOENNA Adanson. Fam. Pl., vol. ii, p. 447, 1763.

Malapoenna carbonensis (Ward) n. comb.

Litsæa carbonensis Ward. Bull. U. S. Geol. Surv., no. 37, p. 48, pl. xxiv, f. 1, 1887.

Laramie group: Carbon, Wyoming.

Malapoenna cretacea (Lx.) n. comb.

Litsea cretacea Lx. Fl. Dak. Gr., p. 96, pl. xv, f. 2, 1892.

Dakota group: Kansas.

Malapoenna falcifolia (Lx.) n. comb.

Litsea falcifolia Lx. Fl. Dak. Gr., p. 97, pl. xi, f. 5, 1892.

Dakota group: Kansas.

Malapoenna sessiliflora (Lx.) n. comb.

Laurus sessiliflora Lx. Ann. Rept., op. cit., p. 407, 1873 [1874].

Tetranthera sessiliflora Lx. Ex. p. Tert. Fl., p. 217, pl. xxxiv, f. 1 c, 1 d; pl. xxxv, f. 8 [non f. 9], 1878.

— : Evanston, Wyoming.

Malapoenna Weediana (Kn.) n. comb.

Litsea Weediana Kn. Bull. U. S. Geol. Surv., no. 105, p. 55, 1893.

Tetranthera sessiliflora Lx. Ex. p. Tert. Fl., p. 217, pl. xxxv, f. 9, 1878.

Livingston beds: Bozeman coal field, Montana.

Malapoenna sp.

Litsea sp., Kn. Bull. Geol. Soc. Am., vol. viii, p. 154, 1897.

Montana formation: Point of Rocks, Wyoming.

MANICARIA Gartner. De Fruct., vol. ii, p. 468, 1802.

Manicaria Haydeni Newby. Proc. U. S. Nat. Mus., vol. v, p. 504, 1882 [1883].

Eocene: Green River, Wyoming.

Manicaria sp.; Dn. Trans. Roy. Soc. Canada, 2d ser., vol. i, sec. iv, p. 143, 1895-96.

Eocene: Burrards Inlet, Vancouver, British Columbia.

MARSILEA (Micheli) Linnæus. Gen. Pl., p. 326, 1737.

Marsilea attenuata (Lx.) Hollick. Bull. Torr. Bot. Club, vol. xxi, p. 256, pl. ccv, f. 10, 1894.

Salvinia attenuata Lx. Bull. U. S. Geol. and Geogr. Surv. Terr., vol. i, p. 377,

1875; Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 296, 1874 [1876]; Tert.

Fl., p. 65, pl. lxiv, f. 14, 14a, 1878.

Laramie group: Point of Rocks, Wyoming.

Marsilea Bendirei Ward = *Porana Bendirei*.

MENISPERMITES Lesquereux. Cret. Fl., p. 94, 1874.

Menispermities acerifolia Lx. = *Menispermities menispermifolia*.

Menispermities acutilobus Lx. Cret and Tert. Fl., p. 78, pl. xiv, f. 2, 1883.

Dakota group: Kansas.

Menispermities borealis Heer? Fl. Foss. Arct., vol. vi, abt. ii, p. 91, pl. xxxix, f. 2, 1882; Newby., Fl. Amboy Clays, p. 84, pl. 1, f. 1-6, 1895 [1896].

Amboy clay: Woodbridge, New Jersey.

Menispermites Brysoniana Hollick. Bull. Torr. Bot. Club, vol. xxi, p. 59, pl. clxx, f. 10, 1894.

Cretaceous: Glen Cove, Long Island.

Menispermites cyclophyllus Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 358, pl. vi, f. 4, 1874 [1876].

Dakota group: Kansas.

Menispermites grandis Lx. Cret. and Tert. Fl., p. 80, pl. xv, f. 1, 2, 1883.

Dakota group: Kansas.

Menispermites menispermifolius (Lx.) n. comb.

Acerites menispermifolius Lx. Am. Journ. Sci., vol. xlvi, p. 101, 1868.

Menispermites acerifolia Lx. Cret. Fl., p. 96, pl. xx, f. 2, 3, 1874.

Dakota group: Decatur, Nebraska.

Menispermites obtusiloba Lx. Cret. Fl., p. 94, pl. xxv, f. 1-2; xxvi, f. 3, 1874; Cret. and Tert. Fl., p. 78, 1883.

Menispermites obtusiloba var. ? Cret. Fl., p. 95, pl. xxii, f. 1, 1874.

Dombeyopsis obtusiloba Lx. Am. Journ. Sci., vol. xlvi, p. 100, 1868.

Dakota group: Salina River, Kansas.

Menispermites ovalis Lx. Bull. U. S. Geol. and Geogr. Surv. Terr., vol. i, p. 398, 1875 [1876]; Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 357, pl. v, f. 4, 1874 [1876].

Dakota group: Kansas.

Menispermites populifolius Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 357, pl. v, f. 3, 1874 [1876]; Cret. and Tert. Fl., p. 79, pl. iv, f. 4, 1883.

Dakota group: Kansas.

Menispermites reniformis Dn. Trans. Roy. Soc. Canada, vol. i, sec. iv, p. 23, pl. iii, f. 12, 1882 [1883].

—: Coal Brook, Northwest Territory.

Menispermites rugosus Lx. Fl. Dak. Gr., p. 196, pl. xxix, f. 7, 1892.

Dakota group: Kansas.

Menispermites salinensis Lx. = *Menispermites salinæ*.

Menispermites salinæ (Lx.) n. comb.

Acer obtusilobium ? Ung. Lesquereux, Am. Journ. Sci., vol. xlvi, p. 100, 1868.

Populites salinæ Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 423, 1872 [1873].

Menispermites salinensis Lx. Cret. Fl., p. 95, pl. xx, f. 1, 4, 1874.

Dakota group: Salina River, Kansas.

Menispermites tenuinervis Font. Potomac Fl., p. 322, pl. clxxii, f. 8, 1889.

Potomac formation: Baltimore, Maryland.

Menispermites virginensis Font. Potomac Fl., p. 321, pl. clxi, f. 1, 2, 1889.

Potomac formation: Near Brooke, Virginia.

Menispermites Wardianus Hollick in Newby. Fl. Amboy Clays, p. 85, pl. xxix, f. 9, 11, 1895 [1896].

Amboy clay: No locality.

Menispermites sp., Dn. Trans. Roy. Soc. Canada, vol. xi, sec. iv, p. 62, pl. xi, f. 50, 1893 [1894].

Upper Cretaceous: Port McNeill, Vancouver Island.

Menispermites sp. Kn. Bull. Geol. Soc. Am., vol. viii, p. 131, 1897.

Laramie group: Lance Creek, Converse County, Wyoming.

MENISPERMUM Linnæus. Syst., ed. i, 1735.

MENYANTHES Linnæus. Syst., ed. i, 1735.

Menyanthes trifoliata L. Penhallow, Bull. Geol. Soc. Am., vol. i, p. 327, 1890.

Pleistocene: Montreal, Canada.

MEZONEURUM Desfontaines. Mem. Mus. Paris, vol. iv, p. 245, 1818.

Mezoneurum bridgetonense Hollick.

Mezoneurum bridgetonense Hollick. Bull. Torr. Bot. Club, vol. xxiii, p. 49, pl. cclviii, f. 1-7, 1896.

Pleistocene?: Bridgeton, New Jersey.

MICROZAMIA Corda in Reuss. Verst. d. Böhm. Kreidef., abt. ii, p. 85, 1846.

Microzamia gibba (Reuss) Corda in Reuss. Verst. d. Böhm. Kreidef. abt. ii, p. 85, 1846; Newby., Fl. Amboy Clays, p. 45, pl. xii, f. 6, 7, 1895 [1896].

Amboy clay: Woodbridge, New Jersey.

MIMOSITES Bowerbank. Hist. Foss. Fr. and Seeds London clay, p. 140, 1840.

Mimosites linearis* (Lx.) n. comb.

Mimosites linearifolius Lx. Tert. Fl., p. 300, pl. lix, f. 7, 1878.

Casalpinia? linearis Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 417, 1873 [1874].

[* Non *M. linearis* Engelh., 1894.]

Green River group: Florissant, Colorado.

MONIMOSOPS Saporta. Prod. Fl. Foss. d. Sézanne: Mem. Soc. Geol. d. France, 2d ser., vol. vii, p. 361, 1868.

?**Monimiopsis amboræfolia** Sap. Foss. Fl. d. Sézanne, p. (73) 361, pl. (viii) xxix, f. 13, 1868; Ward, Bull. U. S. Geol. Surv. no. 37, p. 51, pl. xxv, f. 2, 1887.

Fort Union group: Seven-Mile Creek, Montana.

?**Monimiopsis fraterna** Sap. Fl. Foss. d. Sézanne, p. (74) 362, pl. (viii) xxix, f. 14, 1868; Ward, Bull. U. S. Geol. Surv. no. 37, p. 52, pl. xxv, f. 3, 1887.

Fort Union group: Seven-Mile Creek, Montana.

MORICONIA Debey and Ettingshausen. Urweltlichen Acrobryen v. Aachen: Denkschr. Wien. Akad., vol. xvii, p. 339 [59], 1859.

Moriconia cyclotoxon Deb. and Ett. *Urweltlichen Acrobryen v. Aachen* (Denkschr. Wien. Akad., vol. xvii, p. 239), p. 59, pl. vii, f. 23-27, 1859; Newby., *Fl. Amboy Clays*, p. 55, pl. x, f. 11-21, 1895 [1896].

Amboy clay: South Amboy, New Jersey.

MORUS (Tournefort) Linnaeus. *Syst.*, ed. i, 1735.

Morus affinis Lx. *Ann. Rept. U. S. Geol. and Geogr. Surv. Terr.* 1871, suppl., p. 11, 1871 [1872]. [Not afterwards mentioned by author.]

Laramie group ? : Evanston, Wyoming.

Morus sp., Hollick. *Bull. Torr. Bot. Club*, vol. xix, p. 332, 1892.

Miocene?: Bridgeton, New Jersey.

Muscites Sternbergianus Dunk. = *Sphenolepidium Sternbergianum*.

MUSOPHYLLUM Göppert. *Tertiärl. d. Insel Java*, p. 39, 1854.

Musophyllum complicatum Lx. *Ann. Rept. U. S. Geol. and Geogr. Surv. Terr.*, p. 418, 1873 [1874]; *Tert. Fl.*, p. 96, pl. xv, f. 1-6, 1878.

Green River group?: Green River Station Wyoming?

Laramie group: Golden, Colorado.

MYRICA DeCandolle. *Ex. Guill. in Dict. Class. Hist. Nat.*, vol. xi, pp. 378, 401, 1826.

Myrica acuminata Ung. *Synop. Pl. Foss.*, p. 214, 1845; Lx., *Ann. Rept. U. S. Geol. and Geogr. Surv. Terr.*, p. 411, 1873 [1874]; *Tert. Fl.*, p. 130, pl. xvii, f. 1-4, 1878.

Green River group: Florissant, Colorado; mouth of White River, Utah.

Myrica acuta Hollick in Newby. *Fl. Amboy Clays*, p. 65, pl. xlii, f. 35, 1895 [1896].

Amboy clay: No location.

Myrica alkalina Lx. *Cret. and Tert. Fl.*, p. 149, pl. xlvA, f. 10-15, 1883.

Green River group: Alkali Station, Wyoming.

Myrica amaygdalina Sap. *Ann. d. Sci. Nat.*, 5th ser., bot., vol. ix, p. 21 [153], pl. i, f. 8-10, 1867; Lx., *Cret. and Tert. Fl.*, p. 147, pl. xxvi, f. 1-4, 1883.

Green River group: Florissant, Colorado.

Myrica ambigua Lx. = *Celastrinites ambiguus*.

Myrica aspera Lx. *Fl. Dak. Gr.*, p. 66, pl. ii, f. 11, 1892.

Dakota group: Kansas.

Myrica banksiæfolia Ung. *Synop. Pl. Foss.*, p. 214, 1845; Heer, *Fl. Foss. Alask.*, p. 28, pl. ii, f. 11, 1869.

Eocene?: Port Graham, Alaska.

Bull. 152—10

Myrica Bolanderi Lx. Tert. Fl., p. 133, pl. xvii, f. 17, 1878.

Ilex undulata * Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 416, 1873 [1874].

[* *M. undulata*. Preoccupied by *M. undulata* Heer, Fl. Tert. Helv., iii, p. 188, 1859.]

Green River group?: Locality unknown.

Myrica Brongniarti ? Ett. Tert. Fl., p. 135, pl. xvii, f. 15, 1878.

Myrica (*Comptonia*) *Brongniarti* ? Ett in Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 412, 1873 [1874].

Green River group: Elko Station, Nevada.

Myrica brookensis Font. Potomac Fl., p. 310, pl. cl, f. 11; pl. clvi, f. 10, 1889.

Potomac formation: Near Brooke, Virginia.

Myrica calicomæfolia Lx. = *Myrica drymeja*.

Myrica cinnamomifolia Newby. Fl. Amboy Clays, p. 64, pl. xxii, f. 9-14, 1895 [1896].

Amboy clay: Woodbridge, South Amboy, New Jersey.

Myrica Copiana Lx. Am. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 411, 1873 [1874]; Tert. Fl., p. 131, pl. xvii, f. 5, 1878.

Green River group: Florissant, Colorado.

Eolignitic: Wickliffe, Kentucky.

Myrica cretacea Lx. = *Myrica dakotensis*.

Myrica (Comptonia) cuspidata (Lx.) Dn. Trans. Roy. Soc. Canada 1890, vol. viii, p. 80, f. 9, 1890.

Comptonia cuspidata Lx. Proc. U. S. Nat. Mus., vol. v, p. 445, pl. vi, f. 10-12, 1882 [1883].

Eocene?: Unga Island, Alaska.

Myrica dakotensis * Lx. Cret. and Tert. Fl., p. 35, pl. iv, f. 9, 1883.

Myrica cretacea Lx. Bull. U. S. Geol. and Geogr. Surv. Terr., vol. i, p. 392, 1875 [1876]; Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 339, pl. iii, f. 4, 1874 [1876].

[* *Myrica cretacea* Lx. Preoccupied by *M. cretacea* Heer, Fl. Quedl.]

Dakota group: Fort Harker, Kansas.

Myrica Davisii Hollick. Trans. N. Y. Acad. Sci., vol. xii, p. 32, pl. ii, f. 3, 1892.

Cretaceous: Staten Island.

Myrica diversifolia Lx. = *Cratægus flavescens*.

Myrica drymeja (Lx.) n. comb.

Myrica callicomæfolia Lx. Cret. and Tert. Fl., p. 146, pl. xxvi, f. 5-14, 1883.

Callicoma microphylla Ett. Lx., Tert. Fl., p. 246, pl. xliii, f. 2-4, 1878.

Rhus? *drymeja* Lx. Ann. Rept., op. cit., p. 416, 1873 [1874].

Green River group: Florissant, Colorado; Elko Station, Nevada.

Myrica elæanoides Lx. Proc. U. S. Nat. Mus., vol. xi, p. 12, pl. iv, f. 5, 1888.

Eolignitic: Wickliffe, Kentucky.

Myrica emarginata Heer. Fl. Foss. Aret., vol. vi, abt. ii, p. 66, pl. xli, f. 2, 1882; in Lx., Fl. Dak. Gr., p. 67, pl. xii, f. 1, 1892; Newby., Fl. Amboy Clays, p. 62, pl. xli, f. 10, 11, 1895 [1896].

Dakota group: Kansas.

Amboy clay: New Jersey?

Myrica fallax Lx. Cret. and Tert. Fl., p. 147, pl. xxxii, f. 11-16, 1883.

Green River group: Florissant, Colorado.

Myrica fenestrata Newby. Fl. Amboy Clays, p. 63, pl. xliii, f. 32, 1895 [1896].

Amboy clay: Sayreville, New Jersey.

Myrica grandifolia Hollick = *Myrica Hollicki*.

Myrica Hollicki Ward. Am. Journ. Sci., vol. xlv, p. 437, 1893.

Myrica grandifolia *Hollick. Trans. N. Y. Acad. Sci., vol. xii, p. 32, pl. iii, f. 1, 1892.

[*Preoccupied by *M. grandifolia* (Ung.) Schimp. Pal. Vég., vol. ii, p. 559, 1872.]

Cretaceous: Staten Island.

Myrica ? idahoensis Kn. Eighteenth Ann. Rept. U. S. Geol. Surv., pt. iii, p. 724, pl. xcix, f. 7, 1898.

Payette formation: Marsh, Idaho.

Myrica insignis Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 312, 1874 [1876]; Tert. Fl., p. 135, pl. lxxv, f. 7, 8, 1878.

Green River group: Florissant, Colorado.

Myrica lanceolata Kn. Eighteenth Ann. Rept. U. S. Geol. Surv., pt. iii, p. 724, pl. xcix, f. 5, 6, 1898.

Payette formation: Shafer Creek, Boise County, Idaho.

Myrica latiloba Heer, var. **acutiloba** Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 412, 1873 [1874]; Tert. Fl., p. 134, pl. xvii, f. 13, 1878.

Green River group: Florissant, Colorado.

Myrica Lessigiana Lx. = *Artocarpus Lessigiana*.

Myrica Lessigii Lx. = *Artocarpus Lessigiana*.

Myrica lignitum (Ung.) Sap. Étud.: Ann. sci. nat. Bot., 5th ser., vol. iv, p. 102, pl. 5, f. 10, 1866.

Dryandroides lignitum (Ung.) Ett. Lequereux, Proc. U. S. Nat. Mus., vol. x, p. 41, 1887.

—: Deer Creek coal field, Arizona.

Myrica longa (Heer.) Lx. Fl. Dak. Gr., p. 67, pl. iii, f. 1-6, 1892.

Proteoides longus Heer. Fl. Foss. Arct., vol. iii, abt. ii, p. 110, pl. xxxi, f. 4, 5; xxix, f. 8b, 1874; Dn., Trans. Roy. Soc. Canada, vol. i, sec. iv, p. 22, pl. ii, f. 8, 1882 [1883].

Dakota group: Kansas; Fork of Peace River, Northwest Territory.

Myrica Ludwigii Schimp. Pal. Vég., vol. ii, p. 545, 1872; Lx., Bull. U. S. Geol. and Geogr. Surv. Terr., vol. i, p. 385, 1875 [1876]; Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 311, 1874 [1876]; Tert. Fl., p. 133, pl. lxxv, f. 9, 1878.

Green River group: Mouth of White River.

Myrica Newberryana Hollick in Newby. Fl. Amboy Clays, p. 63, pl. xliii, f. 5, 1895 [1896].

Amboy clay: South Amboy, New Jersey.

Myrica nigricans Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr. 1871, suppl., p. 6, 1871 [1872]; Tert. Fl., p. 132, pl. xvii, f. 9-12, 1878.

Green River group: Green River, Wyoming.

- Myrica obliqua** Kn. in Lx. Fl. Dak. Gr., p. 68, pl. xliv, f. 16, 1892.
Dakota group: Kansas.
- Myrica obscura** Lx. Cret. and Tert. Fl., p. 145, pl. xxxii, f. 8-10, 1883.
Green River group: Florissant, Colorado.
- Myrica obtusa** Lx. Cret. Fl., p. 63, pl. xxix, f. 10, 1874.
Dakota group: Kansas.
- Myrica partita** Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 412, 1873 [1874]; Tert. Fl., p. 134, pl. xvii, f. 14, 1878.
Green River group: Elko Station, Nevada.
- Myrica (Comptonia) parvula** Heer. Fl. Foss. Aret., vol. vii, p. 20, pl. iv, f. 1-3, 1883; Newby., Fl. Amboy Clays, p. 63, pl. xix, f. 6, 1895 [1896].
Amboy clay: Sayreville, New Jersey.
- Myrica polymorpha** Schimp., Études, ii, p. 220, 1868; Lx. Cret. and Tert. Fl., p. 146, pl. xxv, f. 1, 2, 1883.
Green River group: Florissant, Colorado.
- Myrica (Comptonia) premissa** (Lx.) Kn. Proc. U. S. Nat. Mus., vol. xvii, p. 222, 1894.
Comptonia premissa Lx. Proc. U. S. Nat. Mus., vol. v, p. 445, pl. vi, f. 13, 1882 [1883].
Eocene?: Unga Island, Alaska.
- Myrica raritanensis** Hollick In Newby. Fl. Amboy Clays, p. 65, pl. xlii, f. 34, 1895 [1896].
Amboy clay: No location.
- Myrica rigida** Lx. Cret. and Tert. Fl., p. 145, pl. xxv, f. 3, 4, 1883.
Green River group: Florissant, Colorado.
- Myrica Saportana** Lx. Bull. U. S. Geol. and Geogr. Surv. Terr., vol. i, p. 385, 1875 [1876]. [Not afterwards mentioned.]
——: Middle Park, Colorado.
- Myrica salicina** Ung. Gen. et Sp. Pl. Foss., p. 396, 1850; Lx., Ann. Rept. U. S. Geol. and Geogr. Surv. Terr. 1871, suppl., p. 6, 1871 [1872].
——: Green River, Wyoming.
- Myrica Schimperii** Lx. Fl. Dak. Gr., p. 66, pl. ii, f. 12, 1892.
Dakota group: Kansas.
- Myrica Scottii** Lx. Cret. and Tert. Fl., p. 147, pl. xxxii, f. 17, 18, 1883.
Green River group: Florissant, Colorado.
- Myricæ? semina** Lx. Cret. Fl., p. 63, pl. xxvii, f. 4, 4a, 1874.
Dakota group: Decatur, Nebraska.
- Myrica Sternbergii** Lx. Cret. and Tert. Fl., p. 35, 1883.
Dakota group: Kansas.
- Myrica Studeri?** Heer. Fl. Tert. Helv., vol. ii, p. 36, pl. lxx, f. 21-24, 1856; Lx., Proc. U. S. Nat. Mus., vol. x, p. 38, 1887.
Eocene?: White River, Dakota.
- Myrica Torreyi** Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 392, 1872 [1873]; Tert. Fl., p. 129, pl. xvi, f. 3-10, 1878.
Laramie group: Black Buttes, Wyoming.
Montana formation: Point of Rocks, Wyoming.

Myrica Torreyi minor Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 397, 1873 [1874].

—: Sand Creek, Colorado.

Myrica ? trifoliata Newby. Undistributed plates, xiv, f. 2.

Dakota group: Whetstone Creek, New Mexico.

Myrica undulata (Heer) Schimp. Pal. Vég., ii, p. 556, 1872; Lx., Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 412, 1873 [1874]; Tert. Fl., p. 131, pl. xvii, f. 6-8, 1878.

Dryandroides undulata Heer. Fl. Tert. Helv., vol. iii, p. 188, 1859.

Green River group: Elko Station, Nevada.

Myrica Ungerii Heer. Fl. Tert. Helv., vol. ii, p. 35, pl. lxx, f. 7, 8, 1856; Lx., Proc. U. S. Nat. Mus., vol. xi, p. 27, 1888.

Miocene: Spanish Peak, California.

Myrica vindobonensis (Ett.) Heer. Fl. Foss. Alask., p. 27, pl. iii, f. 4, 5, 1869.

Dryandra vindobonensis Ett. Tert. Fl. v. Wien., p. 18, pl. iii, f. 6, 1851.

Eocene?: Neulitschik, Alaska.

Myrica Zachariensis Sap. Études, i, pt. 2: Ann. d. sci. nat. Bot., 4th ser., vol. xix, p. 201 [47], pl. v, f. 1, 1863; Lx., Cret. and Tert. Fl., p. 146, pl. xxv, f. 1, 2; pl. xlva, f. 6-9, 1883.

Green River group: Florissant, Colorado; Alkali Station, Wyoming.

Myrica sp., Lx. Rept. on Clays in N. J., p. 29, 1878.

Amboy clay: South Amboy, New Jersey.

MYRICÆPHYLLUM Fontaine. Potomac Fl., p. 315, 1889.

Myricæphyllum dentatum Font. Potomac Fl., p. 316, pl. clvi, f. 6, 1889.

Potomac formation: Near Brooke, Virginia.

MYRSINE Linnæus. Syst., ed. i, 1735.

Myrsine borealis Heer. Fl. Foss. Arct., vol. vi, abt. ii, p. 81, pl. xxiv, f. 7b, 8; xxvii, f. 1b; xliv, f. 5a; xlvi, f. 19, 20, 1882; Newby., Fl. Amboy Clays, p. 122, pl. xxiv, f. 4-6, 1895 [1896].

Amboy clay: New Jersey.

Cretaceous: Marthas Vineyard.

Myrsine crassa Lx. Fl. Dak. Gr., p. 114, pl. lii, f. 2, 3, 1892.

Dakota group: Kansas.

Myrsine elongata Newby. MSS. Hollick, Bull. Torr. Bot. Club, vol. xxi, p. 54, pl. clxxvii, f. 2, 1894; Newby., Fl. Amboy Clays, p. 123, pl. xxii, f. 1-3, 1895 [1896].

Cretaceous: Lloyds Neck, Long Island.

Amboy clay: South Amboy, New Jersey.

Myrsine latifolia Lx. Cret. and Tert. Fl., p. 173, pl. xxxviii, f. 16, 1883.

Green River group: Florissant, Colorado.

Myrsine oblongata Hollick in Newby. Fl. Amboy Clays, p. 122, xlii, f. 15, 1895 [1896].

Amboy clay: Locality unknown.

Myrsine sp., Hollick in Ries. School of Mines Quart., vol. xv, no. 4, p. 354, 1894.

Cretaceous: Little Neck, Northfield Bay, Long Island.

Myrsinites ? Gaudini Lx. Fl. Dak. Gr., p. 115, pl. lii, f. 4, 1892.

Dakota group: Kansas.

MYRTOPHYLLUM Heer. Neue Denkschr. Schw. Ges., vol. xxiii, mem. 2, p. 22, 1869.

Myrtophyllum Geinitzi Heer = Eucalyptus Geinitzi.

Myrtophyllum Warderi Lx. Fl. Dak. Gr., p. 136, pl. liii, f. 10, 1892.

Dakota group, Kansas.

MYRTUS (Tournefort) Linnaeus. Syst., ed. i, 1735.

Myrtus oregonensis Lx. Cret. and Tert. Fl., p. 254, pl. lviii, f. 10, 1883.

Miocene: Corral Hollow, California.

NAGEIOPSIS Fontaine. Potomac Fl., p. 194, 1889.

Nageiopsis acuminata Font. Potomac Fl., p. 201, pl. lxxxv, f. 11, 1889.

Potomac formation: Near Telegraph Station, Virginia.

Nageiopsis angustifolia Font. Potomac Fl., p. 202, pl. lxxxvi, f. 8, 9; lxxxvii, f. 2-6; lxxxviii, f. 1, 3, 4, 6-8; lxxxix, f. 2, 1889.

Potomac formation: Near Dutch Gap Canal, near Potomac Run, near Brooke, and Fredericksburg, etc., Virginia.

Nageiopsis crassicaulis Font. Potomac Fl., p. 198, pl. lxxix, f. 2-6; lxxxii, f. 1; lxxxiv, f. 3, 9, 11, 1889.

Potomac formation: Near Potomac Run, Fredericksburg, Kankeys, near Brooke, and Dutch Gap Canal, Virginia.

Nageiopsis decrescens Font. Potomac Fl., p. 199, pl. lxxvii, f. 3, 1889.

Potomac formation: Near Potomac Run, Virginia.

Nageiopsis heterophylla Font. Potomac Fl., p. 201, pl. lxxxiv, f. 4; lxxxvi, f. 6, 7; lxxxviii, f. 2, 5, 1889.

Potomac formation: Fredericksburg, and near Dutch Gap Canal, Virginia.

Nageiopsis inæquilateralis Font. Potomac Fl., p. 200, pl. lxxxv, f. 6, 1889.

Potomac formation: Kankeys.

Nageiopsis latifolia Font. Potomac Fl., p. 198, pl. lxxxii, f. 3, 1889.

Potomac formation: Near Dutch Gap Canal, and near Potomac Run, Virginia.

Nageiopsis longifolia Font. Potomac Fl., p. 195, pl. lxxv, f. 1; lxxvi, f. 2-6; lxxvii, f. 1, 2; lxxviii, f. 1-5; lxxix, f. 7; lxxxv, f. 1, 2, 8, 9, 1889.

Knoxville beds: Tehama County, California.

Potomac formation: Fredericksburg, Kankeys, near Telegraph Station, near Brooke, Deep Bottom, and Dutch Gap Canal, Virginia.

- Nageiopsis microphylla** Font. Potomac Fl., p. 201, pl. lxxxiv, f. 6; lxxxv, f. 14; lxxxvi, f. 1-3, 5, 1889.
Potomac formation: Fredericksburg, near Potomac Run, and near Dutch Gap Canal, Virginia.
- Nageiopsis obtusifolia** Font. Potomac Fl., p. 200, pl. lxxxv, f. 7, 1889.
Potomac formation: Near Potomac Run, Virginia.
- Nageiopsis ovata** Font. Potomac Fl., p. 199, pl. lxxvii, f. 4; lxxx, f. 5, 1889.
Potomac formation: Fredericksburg, Virginia.
- Nageiopsis recurvata** Font. Potomac Fl., p. 197, pl. lxxv, f. 2; lxxix, f. 4; lxxx, f. 3, 1889.
Potomac formation: Fredericksburg, and Dutch Gap Canal, Virginia.
- Nageiopsis subfalcata** Font. Potomac Fl., p. 203, pl. clxviii, f. 4, 1889.
Potomac formation: Near Dutch Gap Canal, Virginia.
- Nageiopsis zamioides** Font. Potomac Fl., p. 196, pl. lxxix, f. 1, 3; lxxx, f. 1, 2, 4, lxxxii, f. 1-6, 1889.
Potomac formation: Fredericksburg, and Dutch Gap Canal, Virginia.
- NAJADOPSIS** Heer. Fl. Tert. Helv., vol. i, p. 104, 1855.
- Najadopsis rugulosa** Lx. Cret. and Tert. Fl., p. 142, pl. xxiii, f. 7, 1883.
Green River group: Florissant, Colorado.
- NEGUNDOIDES** Lesquereux. Am. Journ. Sci., vol. xlvi, p. 101, 1868.
- Negundooides acutifolia** Lx. Am. Journ. Sci., vol. xlvi, p. 101, 1868; Cret. Fl., p. 97, pl. xxi, f. 5, 1878.
Dakota group: Lancaster, Nebraska.
- NEGUNDO** Moench. Mett., p. 334, 1794.
- Negundo triloba** Newby. Later Extinct Floras, p. 57, 1868.
Fort Union group: Fort Union, North Dakota.
- NELUMBIUM** Jussieu. Gen., p. 68, 1789.
- Nelumbium Lakesii** Lx. = **Nelumbium Lakesianum**.
- Nelumbium Lakesianum** Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 403, 1873 [1874].
Nelumbium Lakesii Lx. Tert. Fl., p. 252, pl. xlvi, f. 1, 2, 1878.
Denver group: Golden and Sedalia, Colorado.
- Nelumbium pygmæum** Dn. Trans. Roy. Soc. Canada, vol. viii, sec. iv, p. 87, f. (in text) 22, 1890.
Eocene?: Similkameen River, British Columbia.
- Nelumbium saskatchuense** Dn. Trans. Roy. Soc. Canada, vol. v, sec. iv, p. 35, 1887 [1888].
Belly River series?: Canada [exact location not given].
- Nelumbium tenuifolium** Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 402, 1873 [1874]; Tert. Fl., p. 253, pl. xlvi, f. 3, 1878.
Laramie group: Sand Creek, Colorado.
- Nelumbium** sp., James = **Cycadeoidea mirabilis**.

NELUMBO Adanson. Fam. Pl., vol. ii, p. 76, 1763.

Nelumbo Dawsoni Hollick. Bull. Torr. Bot. Club, vol. xxi, p. 309, 1894.

*Brasenia antiqua** Dn. Trans. Roy. Soc. Canada, vol. iii, sec. iv, p. 15, f. (in text), 1885 [1886].

[* *Brasenia antiqua* Dn., 1886, preoccupied by *B. antiqua* Newby., 1883.]

Belly River series: Medecine-Hat.

Nelumbo laramiensis Hollick. Bull. Torr. Bot. Club, vol. xxi, no. 7, p. 307, fig. in text, 1894.

Laramie group: Florence, Colorado.

Neuropteris angulata Newby. = *Trapa microphylla*?

Neuropteris castor Dn. Trans. Roy. Soc. Canada, vol. i, sec. iv, p. 24, pl. iv, f. 14, 14a, 1882 [1883].

Upper Cretaceous: Vancouver Island.

Neuropteris civica Dn. Trans. Roy. Soc. Canada, 2d ser., vol. i, sec. iv, p. 141, pl. iv, f. 2, 1895-96.

Eocene: Burrards Inlet, Vancouver, British Columbia.

NILSONIA Brongniart. Ann. d. Sci. Nat., vol. iv, p. 218, 1825.

Nilsonia lata Dn. Trans. Roy. Soc. Canada, vol. i, sec. iv, p. 24, pl. iv, f. 15 bis, 1882 [1883].

Upper Cretaceous: Baynes Sound, Vancouver Island.

NÖGGERATHIOPSIS Feistmantel. Foss. Fl. Gondwana Syst.: Mem. Geol. Surv. India, ser. xii, vol. iii, pt. 1, p. 23, 1879.

Nöggerathiopsis Robinsi Dn. Trans. Roy. Soc. Canada, vol. xi, sec. iv, p. 56, pl. vi, f. 7, 1893 [1894].

Upper Cretaceous: Nanaimo, Vancouver Island.

• **NORDENSKIÖLDIA** Heer. Mioc. Fl. and Fauna Spitzb.: Kongl. Svenska Vetensk.-Acad. Handl., vol. viii, no. 7 (Fl. Foss. Arct., vol. ii, abt. iii), p. 65, 1870.

Nordenskiöldia borealis Heer. Fl. Foss. Arct., vol. ii, abt. iii, p. 65, pl. vii, f. 1-13, 1870; Lx., Fl. Dak. Gr., p. 219, pl. xlv, f. 6, 1892; Dn., Trans. Roy. Soc. Canada, vol. vii, sec. iv, p. 71, pl. x, f. 6, 1889 [1890].

Dakota group: Kansas.

Eocene?: Mackenzie River, British Columbia.

Nymphæa? sp. Lx. = *Castalia* sp.

NYSSA Gronovius ex Linnæus. Syst., ed. i, 1735.

Nyssa arctica Heer. Fl. Foss. Arct., vol. ii, abt. iv, p. 477, pl. xliii, f. 12c; pl. 1, f. 5-7, 1869; Lx., Proc. U. S. Nat. Mus., vol. v, p. 447, 1882 [1883].

Eocene?: Unga Island, Alaska.

Nyssa Buddiana Ward. Bull. U. S. Geol. Surv., no. 37, p. 53, pl. xxv, f. 4, 1887.

Laramie group: Hodges Pass, Wyoming.

Nyssa caroliniana Poir. Hollick, Bull. Torr. Bot. Club, vol. xix, p. 331, 1892.

Miocene?: Bridgeton, New Jersey.

- Nyssa complanata** Lx. Am. Journ. Sci., vol. xxxii, p. 361, 1861; Geol. Vt., vol. ii, p. 717, f. 153, 1861.
 ———: Brandon, Vermont.
- Nyssa europæa** Ung. Syn. Pl. Foss., p. 228, 1845; Lx., Bull. Mus. Comp. Zoöl., vol. xvi, p. 53, 1888.
 Denver group: Golden, Colorado.
- Nyssa lanceolata** Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 407, 1872 [1873]; Tert. Fl., p. 245, pl. xxxv, f. 6 [non f. 5], 1876.
 Denver group: Golden, Colorado?
 Laramie group: White Oaks, New Mexico.
- Nyssa lanceolata** Lx. [Tert. Fl., pl. xxxv, f. 5 (non f. 6)]=*Juglans rugosa*.
- Nyssa lævigata** Lx. Am. Journ. Sci., vol. xxxii, p. 361, 1861; Geol. Vt., vol. ii, p. 717, f. 151, 1861.
 ———: Brandon, Vermont.
- Nyssa microcarpa** Lx. Am. Journ. Sci., vol. xxxii, p. 361, 1861; Geol. Vt., vol. ii, p. 717, f. 154, 1861.
 ———: Brandon, Vermont.
- Nyssa? racemosa** nom. nov.
Sabalites? fructifer Lx. Ex. p. Tert. Fl. p. 114, pl. xi, f. 3a [non f. 3], 1878.
 Denver group: Golden, Colorado.
- Nyssa Snowiana** Lx. Fl. Dak. Gr., p. 126, pl. lii, f. 11, 1892.
 Dakota group: Kansas.
- Nyssa uniflora** Walt. Hollick, Bull. Torr. Bot. Club, vol. xix, p. 331, 1892.
 Miocene?: Bridgeton, New Jersey.
- Nyssa vetusta** Newby. Later Extinct Floras, p. 11, 1868.
 Dakota group: Blackbird Hill, Nebraska.
- OLEA** Linnæus. Syst., ed. i, 1735.
- Olea præmissa** Lx. Cret. and Tert. Fl., p. 168, pl. xxxiii, f. 1, 1883.
 Green River group: Florissant, Colorado.
- OLEANDRA** Cavanilles. Prael. n. 623, 1801.
- Oleandra arctica** Heer. Fl. Foss. Arct., vol. iii, p. 38, pl. xii, f. 3-11, 1874; Newby., Am. Journ. Sci., vol. xli, p. 201, pl. xiv, f. 9, 1891.
 Kootanie: Great Falls, Montana.
- ONOCLEA** Linnæus. Amoen. ac., 1751.
- Onoclea fecunda** (Lx.) n. comb.
Caulinites fecunda Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 384, 1872 [1873]; Tert. Fl., p. 101, pl. xiv, f. 1-3, 1878.
 Laramie group: Erie, Colorado.
- Onoclea sensibilis** Newby. Later Extinct Floras, p. 39, 1868; Ills., Cret. and Tert. Fl., pl. viii, f. 1; ix, f. 1-5, 1878.
 Fort Union group: Fort Union, North Dakota; Porcupine Creek; North Saskatchewan.

ONYCHIOPSIS Yokoyama. Journ. Col. Sci. Japan, vol. iii, p. 26, 1890.

Onychiopsis Mantelli (Brongn.) Seward. Wealden Fl., p. 41, 1894.
Sphenopteris Mantelli Brongn. Prod. Hist. Vég. Foss., p. 50, 1828; Hist. Vég. Foss., p. 170, 1828; Font., Potomac Fl., p. 91, pl. 1, f. 1, 2, 1889.
 Potomac formation: Baltimore, Maryland.

OPEGRAPHA Persoon in Usteri n. Ann., I., p. 23, 1794.

Opegrapha antiqua Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 390, 1872 [1873]; Tert. Fl., p. 36, pl. i, f. 1-1c, 1878.
 Laramie group: Black Buttes, Wyoming.

OPHIOGLOSSUM (Tournefort) Linnæus. Gen. Pl., p. 332, 1737.

Ophioglossum Alleni Lx. = *Tmesipteris Alleni*.

Ophioglossum granulatum Heer. Fl. Foss. Arct., vol. vii, p. 8, pl. lvii, f. 8, 9, 1883; Fl. Amboy Clays, p. 43, pl. ix, f. 11-13, 1895 [1896].
 Amboy clay: No locality given.

OREODAPHNE Nees and Martius. Ex Nees in Linnæa, vol. viii, p. 39, 1833.

Oreodaphne cretacea Lx. Cret. Fl., p. 84, pl. xxx, f. 5, 1874.
 Dakota group: Kansas.

Oreodaphne Heerii Gaud. Neue Denkschr. Schw. Gesel., vol. xvi, p. 35, 1858; Lx., Proc. U. S. Nat. Mus., vol. xi, p. 30, 1888.
 Eocene: Lassen County, California.

Oreodaphne lith(s)æformis Lx. Proc. U. S. Nat. Mus., vol. xi, p. 30, pl. xiv, f. 4, 1888.
 Eocene?: Lassen County, California.

OREODOXITES Göppert. Foss. Fl. d. Perm. Form., p. 146, 1864.

Oreodoxites plicalus Lx. Cret. and Tert. Fl., p. 122, pl. xviii, f. 1-4, 1883.
 Denver group: Golden, Colorado.

ORYZOPSIS Michaux. Fl. Bor. Am., vol. i, p. 51, 1803.

Oryzopsis asperifolia Mx. Penhallow, Bull. Geol. Soc. Am., vol. i, p. 331, 1890.
 Pleistocene: Greens Creek, Ottawa River, Canada.

OSMUNDA Linnæus. Gen. Pl., p. 322, 1737.

Osmunda affinis Lx. Tert. Fl., p. 60, pl. iv, f. 1, 1878.

• *Pteris affinis* Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 392, 1873 [1874].

Pteris anceps Lx. Ann. Rept., op. cit., p. 376, 1872 [1873].

Denver group: Golden, Colorado.

Osmunda dicksonioides Font. Potomac Fl., p. 146, pl. xli, f. 5; lviii, f. 9; lix, f. 1, 4, 8, 9, 11; lx, f. 2, 4, 5, 9; lxi, f. 1, 2, 1889.

Potomac formation: Near Potomac Run, Virginia.

Kootanie: Great Falls, Montana.

Knoxville beds: Tehama County, California.

Osmunda dicksonioides latipennis Font. Potomac Fl., p. 147, pl. lx, f. 1, 3; lxi, f. 3, 1889.

Potomac formation: Near Potomac Run, Virginia.

Osmunda Doroschkiana Göpp. Abhandl. d. Schles. Gesel. f. Vaterl. Cult., pt. ii, p. 203, 1861.

Osmunda Torelli Heer. Fl. Foss. Arct., vol. v, abt. iii, p. 19, pl. i, f. 4, 1878.

Lx., Proc. U. S. Nat. Mus., vol. v, p. 444, 1882 [1883].

Hemitelites Torelli Heer. Op. cit., vol. ii, abt. iv, p. 462, 1869.

Pecopteris Torrellii Heer. Op. cit., vol. i, p. 88, pl. i, f. 15, 1868.

Eocene?: Unga Island, Alaska.

Osmunda major Lx. = *Asplenium subsimplex*.

Osmunda Obergiana Heer. Fl. Foss. Arct., vol. iii, abt. ii, p. 98, pl. xxvi, f. 9-9b; xxxii, f. 7a, 1874; Ward, 15th Ann. Rept. U. S. Geol. Surv., p. 390, 1895.

Potomac formation: ———?

Osmunda sphenopteroides Font. Potomac Fl., p. 145, pl. xxv, f. 13, 1889.

Potomac formation: Dutch Gap Canal, Virginia.

Osmunda Torelli. Heer = *Osmunda Doroschkiana*.

OSTRYA Scopoli. Fl. Carn., p. 414, 1760.

Ostrya betuloides Lx. Cret. and Tert. Fl., p. 151, 1883.

Green River group: Florissant, Colorado.

Ostrya Walkeri? Heer. Vierteljahrsschrift d. Naturf. Gesells. Zürich, vol. xi, p. 276, 1866; Lesquereux, Proc. U. S. Nat. Mus., vol. x, p. 38, 1887.

Pleistocene?: Wytheville, Virginia.

Ostrya virginica (Mill.) B. S. P. Hollick, Bull. Torr. Bot. Club, vol. xix, p. 332, 1892.

Miocene?: Bridgeton, New Jersey.

OXYCOCCUS Adanson. Pl. Fam., vol. ii, pl. 164, 1763.

Oxycoccus palustris Pers. Penhallow, Trans. Roy. Soc. Canada, 2d ser., vol. ii, sec. iv, p. 72, 1896.

Pleistocene: Scarboro Heights, Ontario.

OTTELIA Pers. Syn., vol. i, p. 400, 1805.

Ottelia americana Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 300, 1874 [1876]; Tert. Fl., p. 98, pl. lxi, f. 8, 1878.

Montana formation: Point of Rocks, Wyoming.

PAGIOPHYLLUM Heer. Contr. Fl. Foss. du Portugal, p. 11, 1881.

Pagiophyllum dubium Font. Proc. U. S. Nat. Mus., vol. xvi, p. 271, pl. xxxix, f. 2-11, 1893.

Trinity division: Glenrose, Texas.

Pagiophyllum sp., Dn. Trans. Roy. Soc. Canada, vol. x, sec. iv, p. 90, f. (in text) 14, 1892.

Kootanie: Anthracite? British Columbia.

PALÆANTHUS Newberry. Bull. Torr. Bot. Club, vol. xiii, p. 37, 1886.
Palæanthus (Williamsonia) problematicus Newby. Fl. Amboy
 Clays, p. 125, pl. xxxv, f. 1-9, 1895 [1896].

Williamsonia problematica (Newby.) Ward. 15th Ann. Rept. U. S. Geol.
 Surv., p. 382, 1895.

Amboy clay: New Jersey.

Cretaceous: Marthas Vineyard.

PALÆOCASSIA Ettingshausen. Sitzb. Wien. Akad., vol. lv, abt. i,
 p. 261, 1867.

Palæocassia laurinea Lx. Fl. Dak. Gr., p. 147, pl. lxiv, f. 12, 1892.
 Dakota group: Kansas.

PALEOHILLIA Knowlton. Bull. Torr. Bot. Club., vol. xxii, p. 387,
 1895.

Paleohillia arkansana Kn. Bull. Torr. Club, vol. xxii, p. 387, f. (in
 text) 1-3, 1895.

Trinity division: Six miles northwest of Center Point, Howard
 County, Arkansas.

PALIURUS Tournefort. Ex. Miller Gard. Dict., ed. vi. 1752.

Paliurus affinis ? Heer. Fl. Foss. Arct., vol. vii, p. 42, 1883; Hollick,
 Trans. N. Y. Acad. Sci., vol. xii, p. 35, pl. ii, f. 12, 14, 18, 19; pl. iii, f. 7,
 1892.

Cretaceous: Staten Island.

Paliurus anceps Lx. Fl. Dak. Gr., p. 166, pl. xxxv, f. 4, 1892.
 Dakota group: Kansas.

Paliurus Colombi Heer. Fl. Foss. Arct., vol. i, p. 122, pl. xvii, f. 2*d*;
 pl. xix, f. 2-4, 1868; Lx., Ann. Rept. U. S. Geol. and Geogr. Surv.
 Terr., p. 288, 1871 [1872]; Tert. Fl., p. 273, pl. 1, f. 13-17, 1878.

Fort Union group: Yellowstone River, Montana.

Denver group?: Creston, Wyoming.

Laramie group?: Carbon, Wyoming.

Miocene: John Day Valley, Oregon.

Canadian upper Laramie: Great Valley, British Columbia.

Paliurus coloradensis Lx. Bull. Mus. Comp. Zoöl., vol. xvi, p. 55,
 1888.

Denver group: Golden, Colorado.

Paliurus cretaceus Lx. Fl. Dak. Gr., p. 165, pl. xxxv, f. 3, 1892.
 Dakota group: Kansas.

Paliurus florisanti Lx. Ann. Rept. U. S. Geol. and Geogr. Surv.
 Terr., p. 416, 1873 [1874]; Tert. Fl., p. 274, pl. 1, f. 18, 1878.

Green River group: Florissant, Colorado.

Paliurus intigrifolius Hollick. Bull. Torr. Bot. Club, vol. xxi, p. 57,
 pl. clxxvii, f. 5, 8, 12, 1894.

Clay marl [Upper Cretaceous]: Cliffwood, New Jersey?

Cretaceous: Lloyds Neck, Glen Cove, and Oak Neck, Long Island.

Paliurus membranaceus Lx. Am. Journ. Sci., vol. xlyi, p. 101, 1868; Cret. Fl., p. 108, pl. xx, f. 6, 1874; Fl. Dak. Gr., p. 167, pl. xxxv, f. 5, 1892.

Dakota group: Decatur, Nebraska; Kansas.

Cretaceous: Marthas Vineyard, Massachusetts.

Paliurus montanus Dn. Trans. Roy. Soc. Canada, vol. iii, sec. iv, p. 14, 1885 [1886].

Mill Creek series: North Fork Old Man River.

Paliurus neillii Dn. Trans. Roy. Soc. Canada, vol. xi, sec. iv, p. 62, pl. xi, f. 44, 45, 1893 [1894].

Upper Cretaceous: Port McNeill, Vancouver Island.

Paliurus obovatus Lx. Fl. Dak. Gr., p. 165, pl. xxxv, f. 6, 1892.

Dakota group: Kansas.

Paliurus ovalis Dn. Trans. Roy. Soc. Canada, vol. iii, sec. iv, p. 14, pl. iv, f. 4, 8, 1885 [1886]; Newby., Fl. Amboy Clays, p. 107, pl. xxiii, f. 8, 9, 1895 [1896]; Lx., Fl. Dak. Gr., p. 166, p. xxxv, f. 7, 1892.

Mill Creek series: Mill Creek.

Amboy clay: New Jersey.

Dakota Group: Kansas.

Paliurus orbiculatus Sap. Études iii, Ann. Sci. Nat., 5th ser., vol. ix, p. 182, pl. vii, f. 6, 1867; Lx., Cret. and Tert. Fl., p. 188, pl. xxxviii, f. 12, 1883.

Green River group: Florissant, Colorado.

Paliurus Pealei Ward. Bull. U. S. Geol. Surv., no. 37, p. 76, pl. xxxiii, f. 12-14, 1887.

Fort Union group?: Little Missouri River, Montana.

Paliurus pulcherrimus Ward. Bull. U. S. Geol. Surv., no. 37, p. 75, pl. xxxiii, f. 11, 1887.

Laramie group: Carbon, Wyoming.

Paliurus zizyphoides Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 397, 1872 [1873]; Tert. Fl., p. 274, pl. li, f. 1-6, 1878.

Denver group: Golden, Colorado.

Laramie group: Erie, and Sand Creek, Colorado; Black Buttes, Wyoming.

Palmacites goldianus Lx.=*Geonomites goldianus*.

PALMOCARPON Lesquereux. Tert., Fl., p. 119, 1878.

Palmocarpum commune Lx.=*Palmocarpum palmarum*.

Palmocarpum compositum Lx. Tert. Fl., p. 119, pl. xi, f. 4, 1878.

Carpolithes compositus Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr. 1871, suppl., p. 16, 1871 [1872].

Laramie group: Placer Mountain, New Mexico.

Palmocarpum corrugatum Lx. Tert. Fl., p. 121, pl. xi, f. 10, 11, 1878.

Denver group: Golden, Colorado.

Palmocarpum? globosum Lx. Cret. and Tert. Fl., p. 144, pl. xxiv, f. 3, 1883.

Green River group: Florissant, Colorado.

Palmocarpon, lineatum Lx. Bull. Mus. Comp. Zoöl., vol. xvi, p. 44, 1888.

Denver group: Golden, Colorado.

Palmocarpon mexicanum Lx. Tert. Fl., p. 119, pl. xi, f. 5, 1878.

Carpolithes mexicanus Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr. 1871, suppl., p. 17, 1871 [1872].

Laramie group: Placer Mountain, New Mexico.

Palmocarpon palmarum (Lx.) n. comb.

Palmocarpon commune Lx. Tert. Fl. p. 119, pl. xiii, f. 4-7, 1878.

Carpolithes palmarum Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr. 1871, suppl., p. 13, 1871 [1872].

Denver group: Golden, Colorado (very common).

Laramie group: Raton Mountains, New Mexico; Evanston and Black Buttes, Wyoming; Morrison and Golden, Colorado.

Palmocarpon subcylindricum Lx. Tert. Fl., p. 121, pl. xi, f. 12, 1878.

Denver group: Golden, Colorado.

Palmocarpon truncatum Lx. Tert. Fl., p. 120, pl. xi, f. 6-9, 1878.

——: Golden, Colorado.

PALMOXYLON Schenk. Engler's bot. Jahrb., vol. iii, p. 486, 1882.

Palmoxylon cellulosum Kn. Proc. U. S. Nat. Mus., vol. xi, p. 90, pl. xxx, f. 2, 1888.

——: Rapides Parish, Louisiana.

Palmoxylon Quenstedti Felix. Foss. Hölz. Westindiens, p. 25, pl. iv, f. 4, 1883; Kn., Proc. U. S. Nat. Mus., vol. xi, p. 90, pl. iv, f. 4, 1888.

——: Rapides Parish, Louisiana.

PARROTIA C. A. Meyer. Verz. Pfl. Canc., p. 46, 1831.

Parrotia Canfieldi Lx. Fl. Dak. Gr., p. 141, pl. xxx, f. 6, 1892.

Dakota group: Kansas.

Parrotia grandidentata Lx. Fl. Dak. Gr., p. 140, pl. xxxix, f. 2-4, 1892.

Dakota group: Kansas.

Parrotia? Winchelli Lx. Fl. Dak. Gr., p. 140, pl. xxix, f. 5, 6, 1892.

Dakota group: Minnesota; Kansas.

PASSIFLORA Linnæus. Syst., ed. i, 1735.

Passiflora antiqua Newby. Fl. Amboy Clays, p. 109, pl. xxiii, f. 7, 1895 [1896].

Amboy clay: Woodbridge, New Jersey.

PECOPTERIS Brongniart. Hist. Vég. Foss., p. 267, 1828.

Pecopteris angustipennis Font. Potomac Fl., p. 87, pl. xxi, f. 10, 1889.

Potomac formation: Near Dutch Gap Canal, Virginia.

Pecopteris brevipennis Font. Potomac Fl., p. 86, pl. xxi, f. 1-3, 1889.

Potomac formation: Near Potomac Run, and near Dutch Gap Canal, Virginia.

Pecopteris Browniana Dunk. = Cladophlebis Browniana.

- Pecopteris constricta** Font. Potomac Fl., p. 86, pl. xx, f. 1, 2, 4, 1889.
Potomac formation: Fredericksburg, Virginia.
- Pecopteris Dunkeri* Schimp. = *Cladophlebis Dunkeri*.
- Pecopteris microdonta** Font. Potomac Fl., p. 85, pl. xix, f. 8; xx, f. 5, 11, 1889.
Potomac formation: Fredericksburg and near Dutch Gap Canal, Virginia.
- Pecopteris montanensis** Font. Proc. U. S. Nat. Mus., vol. xv, p. 492, pl. lxxxiii, f. 1, 1a, 1892.
Kootanie: Great Falls, Montana.
- Pecopteris nebraskana* ? Heer = *Cyathites nebraskana*.
- Pecopteris ovatodentata** Font. Potomac Fl., p. 85, pl. xv, f. 8; xxii, f. 12; xxii, f. 1, 1889.
—: Fredericksburg and Dutch Gap Canal, Virginia.
- Pecopteris pachyphylla** Font. Potomac Fl., p. 88, pl. xxvi, f. 4, 5, 1889.
Potomac formation: Fredericksburg, Virginia.
- Pecopteris (Phegopteris) sepulta** Newby. Proc. U. S. Nat. Mus., vol. v, p. 503, 1882 [1883].
Eocene: Green River, Wyoming.
- Pecopteris (Pteris?) socialis** Heer. Fl. Foss. Arct., vol. vi, pt. ii, p. 34, pl. vii, f. 4, 1882; Font., Potomac Fl., p. 87, pl. xxi, f. 7, 1889.
Potomac formation: Near Brooke, Virginia.
- Pecopteris strictinervis** Font. Potomac Fl., p. 84, pl. xiii, f. 6-8; xix, f. 9; xx, f. 3; xxii, f. 13; clxx, f. 5, 6, 1889.
Potomac formation: Fredericksburg, Virginia; Baltimore, Maryland.
Knoxville beds: Tehama County, California.
- Pecopteris Torelli* Heer = *Osmunda Doroschkiana*.
- Pecopteris virginicensis** Font. Potomac Fl., p. 82, pl. viii, f. 1-7; ix, f. 1-6; xxiv, f. 2; clxix, f. 3, 1889.
Potomac formation: Near Dutch Gap Canal, Fredericksburg, Potomac Run, near Brocke, and near Telegraph Station, Virginia; Baltimore, Maryland.
- Pecopteris** sp., Dn. Geol. Surv. Canada, Rept. of Progress for 1872-73, Appen. i, p. 70, 1873.
Cretaceous: Hornby Island, British Columbia.
- Pecopteris** sp., Dn. Trans. Roy. Soc. Canada, vol. i, sec. iv, p. 25, 1882 [1883].
Upper Cretaceous: Baynes Sound, Vancouver Island.
- PERSEA** Gartner. Fr. and Sem., vol. iii, p. 222, 1805.
- Persea Borbonia** (L.) Spreng. Hollick, Bull. Torr. Bot. Club, vol. xix, p. 332, 1892.
Laurus carolinensis Michx. Lesquereux, Am. Journ. Sci., vol. xxvii, p. 363, 1859; Geol. Tenn., p. 426, pl. K, f. 10, 1869.
Pleistocene?: Somerville, Fayette County, Tennessee.
Miocene?: Bridgeton, New Jersey.

- Persea brossiana** Lx. Ann. Rept., op. cit., p. 407, 1873 [1874].
Laurus brossiana Lx. Tert. Fl., p. 216, pl. xxxvi, f. 9, 1878.
 Denver beds: Mount Bross, Middle Park, Colorado.
- Persea Dilleri** Lx. Proc. U. S. Nat. Mus., vol. xi, p. 27, pl. xiii, f. 2-4, 1888.
 Miocene: Shasta County, California.
- Persea Hayana** Lx. Fl. Dak. Gr., p. 103, pl. xvi, f. 6, 1892.
 Dakota group: Kansas.
- Persea lancifolia** Lx. Trans. Am. Phil. Soc., vol. xiii, p. 419, pl. xix, f. 3, 4, 1869.
 Eolignitic: Mississippi.
- Persea Leconteana** Lx. Cret. Fl., p. 75, pl. xxviii, f. 1, 1874.
Sassafras Leconteanum Lx. Trans. Am. Phil. Soc., vol. xiii, p. 431, pl. xxiii, f. 1, 1869.
Quercus Benzoin? Lx. Am. Journ. Sci., vol. xxvii, p. 360, 1859.
 Dakota group: Fort Harker, Kansas.
 ———?: Nanaimo, Vancouver Island.
- Persea nebrascensis* Lx. = *Laurus nebrascensis*.
- Persea pseudo-carolinensis** Lx. Mem. Mus. Comp. Zoöl., vol. vi, no. 2, p. 19, pl. vii, f. 1, 2, 1878.
 Miocene: Table Mountain and Corral Hollow, California.
- Persea punctulata** Lx. Proc. U. S. Nat. Mus., vol. xi, p. 26, pl. xiv, f. 1, 1888.
 Miocene?: Corral Hollow, California.
- Persea Schimperii** Lx. Fl. Dak. Gr., p. 103, pl. xvi, f. 5, 1892.
 Dakota group: Kansas.
- Persea speciosa?** Heer. Fl. Tert. Helv., vol. ii, p. 81, pl. xc, f. 11, 12; c, f. 18, 1856; Lx., Proc. U. S. Nat. Mus., vol. xi, p. 36, 1888.
 ———?: Selma, Texas.
- Persea Sternbergii** Lx. Cret. Fl., p. 76, pl. vii, f. 1, 1874.
Ficus Sternbergii Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 423, 1872 [1873].
 Dakota group: Fort Harker, Kansas.
- PERSEOXYLON** Felix. Jahrb. d. Kgl. Ungar. Geol. Anstalt, vol. viii, p. 153 [11], 1887.
- Perseoxyylon aromaticum** Felix. Jahrb. d. Kgl. Ungar. Geol. Anstalt, p. 157, 1887; Zeitschr. d. Deutschen geol. Gesell. Jahr. 1896, p. 254, 1896,
Laurinoxyylon aromaticum Felix. Jahrb. d. Kgl. Ungar. Geol. Anstalt., vol. vii, p. 27, pl. i, f. 7; ii, f. 7, 9, 1884.
 Eocene: Yanceys, Yellowstone National Park; Hungary.
- PERSOONIA** Swartz. In Trans. Linn. Soc., vol. iv, p. 215, 1798.
- Persoonia Lesquereuxii** Kn. in Lx. Fl. Dak. Gr., p. 89, pl. xx, f. 10-12, 1892; Newby., Fl. Amboy Clays, p. 71, pl. xlii, f. 16, 1895 [1896].
 Dakota group: Kansas.
 Amboy clay: No location.

Persoonia oviformis Lx. Am. Journ. Sci., vol. xxvii, p. 361, 1859.

——: Bellingham Bay.

Persoonia spatulata Hollick. in Newby. Fl. Amboy Clays, p. 71, pl. xlii, f. 14, 1895 [1896].

Amboy clay: No location.

PHASEOLITES Unger. Synop. Pl. Foss., p. 244, 1845.

Phaseolites formus Lx. Fl. Dak. Gr., p. 147, pl. lv, f. 5, 6, 12, 1892.

Dakota group: Kansas.

Phaseolites juglandinus? Heer. Lesquereux, Bull. U. S. Geol. and Geogr. Surv. Terr., vol. i, p. 388, 1875 [1876].

——: Green River near mouth of White River.

PHEGOPTERIS Presl. Pterid., p. 179, 1836.

Phegopteris Grothiana Heer. Fl. Foss. Arct., vol. vii, p. 3, pl. xlvi, f. 12, 13, 1883; Fl. Amboy Clays, p. 42, pl. iii, f. 4, 1895 [1896].

Amboy clay: Woodbridge, New Jersey.

PHRAGMITES Trinius. Fund. Agrost., p. 134, 1820.

Phragmites alaskana Heer. Fl. Foss. Alask., p. 24, pl. i, f. 12, 1869; Lx., Ann. Rept., op. cit., p. 296, 1871 [1872]; Tert. Fl., p. 90, pl. viii, f. 10-12, 1878.

Eocene?: Port Graham, Alaska.

Fort Union group: Montana.

Livingston beds?: Bozeman coal field, Montana.

Green River group: Green River, Colorado.

Phragmites cordaiformis Dn. Trans. Roy. Soc. Canada, vol. i, sec. iv., p. 26, pl. v, f. 22, 1882 [1883].

Upper Cretaceous: North Saanich and Nanaimo; Baynes Sound, Vancouver.

Phragmites cretaceus Lx. Cret. Fl., p. 55, pl. i, f. 13, 14; pl. xxix, f. 7, 1874; Fl. Dak. Gr., p. 37, pl. ii, f. 8, 1892.

Arundo cretaceus Lx. Am. Journ. Sci., vol. xlvi, p. 92, 1868.

Equisetum nodosum Lx. Cret. and Tert. Fl., p. 25, 1883.

Dakota group: Kansas.

Phragmites ceningensis Al. Br. In Stizenberger, Verstein., p. 75, 1851; Lx., Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 284, 1871, [1872]; Tert. Fl., p. 88, pl. viii, f. 1, 2, 1878.

Miocene: John Day Valley, Oregon.

True Laramie to Upper Miocene or Pliocene.

Phragmites sp., Dn. Rept. on Geol. and Res., near 49th Parallel, Appen. A, p. 329, 1875.

——: Porcupine Creek.

Phragmites sp., Newby. Later Extinct Floras, p. 38, 1868.

Fort Union group: Fort Union, North Dakota.

PHYLLITES Sternberg. Vers., vol. i, fasc. iii, p. 39, 1823.

Phyllites aceroides Heer. Fl. Foss. Arct., vol. i, p. 139, pl. xxiii, f. 5, 1868.

Miocene?: Mackenzie River, British Columbia.

Bull. 152—11

- Phyllites amorphus** Lx. Am. Journ. Sci., vol. xlvi, p. 102, 1868; Cret. Fl., p. 113, pl. xxii, f. 3, 4, 1874.
Dakota group: Decatur, Nebraska.
- Phyllites arctica** Kn. Proc. U. S. Nat. Mus., vol. xvii, p. 230, pl. ix, f. 10, 11, 1894.
Eocene?: Herendeen Bay, Alaska.
- Phyllites aristolochiæformis** Lx. Fl. Dak. Gr., p. 217, pl. lix, f. 8, 1892.
Dakota group: Kansas.
- Phyllites amissus** Lx. Fl. Dak. Gr., p. 217, pl. lxii, f. 1, 1892.
Dakota group: Kansas.
- Phyllites betulæfolius** Lx. Trans. Am. Phil. Soc., vol. xiii, p. 430, pl. xxiii, f. 2-4, 1869; Cret. Fl., p. 112, pl. xxviii, f. 4-7, 1874.
Dakota group: Kansas and Nebraska.
- Phyllites carneosus** Newby. Later Extinct Floras, p. 75, 1868.
Fort Union group: Fort Union, North Dakota.
- Phyllites celatus** Lx. Fl. Dak. Gr., p. 215, pl. lxi, f. 1, 1892.
Dakota group: Kansas.
- Phyllites cotinus** Lx. = *Liriodendron primævum*.
- Phyllites cupanioides** Newby. = *Pterospermites cupanioides*.
- Phyllites cuspidatus** Rossm. Lx. = *Quercus cf. cuspidata*.
- Phyllites cyclophylla**[us] (Lx.) Hollick. Bull. Torr. Bot. Club, vol. xxi, p. 256, pl. ccv, f. 11, 1894.
Salvinia cyclophylla Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 408, 1873 [1874]; Tert. Fl., p. 64, pl. v, f. 10, 10a, 1878.
Green River group: Middle Park, Colorado.
- Phyllites durescens** Lx. Fl. Dak. Gr., p. 218, pl. lxi, f. 5; pl. lxii, f. 3, 1892.
Dakota group: Kansas.
- Phyllites ellipticus** Newby. Fl. Amboy Clays, p. 130, pl. xxiv, f. 9, 1895 [1896].
Amboy clay: Woodbridge, New Jersey.
- Phyllites erosus** Lx. Fl. Dak. Gr., p. 216, pl. lxi, f. 4, 1892.
Dakota group: Kansas.
- Phyllites flexuosus** Kn. Eighteenth Ann. Rept. U. S. Geol. Surv., pt. iii; p. 735, pl. cii, f. 8, 1898.
Payette formation: Near Marsh post-office, Boise County, Idaho.
- Phyllites fraxineus** Lx. Proc. U. S. Nat. Mus., vol. x, p. 46, 1887.
Nomen nudum.
Pleistocene: Bridgeton, New Jersey.
- Phyllites ilicifolius** Lx. Fl. Dak. Gr., p. 213, pl. x, f. 9, 1892.
Dakota group: Kansas.
- Phyllites improbatus** Lx. Tert. Fl., p. 107, pl. xiv, f. 18, 1878.
Rhizocaulon gracile Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 396, 1873 [1874]. [Non *R. gracile* Sap., 1861.]
Laramie group: Black Buttes, Wyoming.

Phyllites innectens Lx. Fl. Dak. Gr., p. 219, pl. lxxv, f. 6, 1892.

Dakota group: Kansas.

Phyllites juglandiformis Sternb. [1825]=*Hicoria juglandiformis*.

Phyllites Lacoiei Lx. Fl. Dak. Gr., p. 213, pl. xlv, f. 6, 1892.

Dakota group: Kansas.

Phyllites laurencianus Lx. Fl. Dak. Gr., p. 215, pl. xlv, f. 5, 1892.

Dakota group: Kansas.

Phyllites mahoniæformis Heer. Neue Denkschr., vol. xxi, p. 10, pl. ii, f. 9, 1865.

——: Burrard Inlet, British Columbia.

Phyllites mimusopsoides Lx. Proc. U. S. Nat. Mus., vol. x, p. 46, 1887. Nomen nudum.

Pleistocene: Bridgeton, New Jersey.

Phyllites obcordatus Heer=*Liriodendron primævum*.

Phyllites obscura[us] Hollick in Newby. Fl. Amboy Clays, p. 131, pl. xlii, f. 33, 1895 [1896].

Amboy clay: New Jersey.

Phyllites obtusi-lobatus Heer. Proc. Acad. Nat. Sci., Phila., vol. x, p. 266, 1858.

Dakota group: Kansas?

Phyllites orbicularis Newby. Fl. Amboy Clays, p. 130, pl. xxiv, f. 7, 8, 1895 [1896].

Amboy clay: Sayreville, New Jersey.

Phyllites payettensis nom nov.

Phyllites obscurus * Kn., Eighteenth Ann. Rept. U. S. Geol. Surv., pt. iii, p. 735, pl. xcix, f. 10, 11, 1898.

[**Phyllites obscurus* Kn., antedated by *P. obscura*. Hollick, 1895.]

Payette formation: Near Marsh post-office, Boise County, Idaho.

Phyllites pachyphyllus Font. Potomac Fl., p. 325, pl., cxlix, f. 2, 1889.

Potomac formation: Fredericksburg, Virginia.

Phyllites perplexus Lx. Fl. Dak. Gr., p. 215, pl. xxxviii, f. 15, 1892.

Dakota group: Kansas.

Phyllites poinsettoides Hollick. Trans. N. Y. Acad. Sci., vol. xii, p. 37, pl. i, f. 10, 1892.

Cretaceous: Staten Island.

Phyllites rhoifolius Lx. Am. Journ. Sci., vol. xlvi, p. 101, 1868; Cret. Fl., p. 111, pl. xxii, f. 5, 6, 1874.

Dakota group: Lancaster County, Nebraska.

Phyllites rhomboideus Lx. Cret. Fl., p. 112, pl. vi, f. 7, 1874.

Ficus? *rhomboideus* Lx. Am. Journ. Sci., vol. xlvi, p. 96, 1868.

Dakota group: Decatur, Nebraska.

Phyllites sapindiformis Lx. Tert. Fl., p. 301, pl. xxix, f. 6, 7, 1878.

Green River group: Green River? Wyoming.

Phyllites Snowii Lx. Fl. Dak. Gr., p. 214, pl. xxxviii, f. 2, 1892.

Dakota group: Kansas.

Phyllites stipulæformis Lx. Fl. Dak. Gr., p. 216, pl. lxi, f. 2, 1892.

Dakota group: Kansas.

- Phyllites sulcatus** Lx. Am. Journ. Sci., vol. xlv, p. 206, 1868. [Not afterwards employed by Lesquereux.]
Laramie group?: Marshalls, Colorado.
- Phyllites truncatus** Lx. Trans. Am. Phil. Soc., vol. xiii, p. 423; pl. xvii, f. 9, 1869.
Eolignitic: Mississippi.
- Phyllites umbonatus** Lx. Am. Journ. Sci., vol. xlvi, p. 102, 1868.
Dakota group: Beatrice, Nebraska.
- Phyllites undulatus** Newby. Fl. Amboy Clays, p. 131, pl. xxiv, f. 10, 1895 [1896].
Amboy clay: Woodbridge, New Jersey.
- Phyllites vanonæ** Heer. Phyll. Crét. d. Nebr., p. 22, pl. i, f. 8, 1866; Lx., Cret. Fl., p. 113, pl. xx, f. 7; pl. xxviii, f. 8, 1874; Fl. Dak. Gr., p. 214, pl. xx, f. 9; pl. xlii, f. 5, 1892.
Dakota group: Decatur, Nebraska; Kansas.
- Phyllites venosus** Newby. Later Extinct Floras, p. 75, 1868.
Fort Union group: Fort Union, North Dakota.
Canadian upper Laramie: Porcupine Creek, Canada.
- Phyllites wascoensis** Lx. Proc. U. S. Nat. Mus., vol. xi, p. 22, pl. xv, f. 3, 1888.
Eocene?: Cherry Creek, Oregon.
- Phyllites zamiaeformis** Lx. Fl. Dak. Gr., p. 28, pl. ii, f. 7, 1891.
Dakota group: Kansas.
- Phyllites** sp., Dn. Trans. Roy. Soc. Canada, vol. iv, sec. iv, p. 32, pl. ii, f. 20, 1886 [1887].
Canadian upper Laramie: Great Valley.
- Phyllites** sp.? Lx. Fl. Dak. Gr., p. 218, pl. lix, f. 7, 1892.
Dakota group: Kansas.
- Phyllites** sp., Dn. Trans. Roy. Soc. Canada, vol. xi, sec. iv, p. 64, 1893 [1894].
Upper Cretaceous: Vancouver Island.
- PHYLLOCLADOPSIS** Fontaine. Potomac Fl., p. 204, 1889.
- Phyllocladopsis heterophylla** Font. Potomac Fl., p. 204, pl. lxxxiv, f. 5; clxvii, f. 4, 1889.
Potomac formation: Near Dutch Gap Canal, Virginia.
- Phyllocladus subintegrifolius* Lx. = *Thinfeldia subintegrifolia*.
- PHYSAGENIA** Heer. Fl. Tert. Helv., vol. i, p. 109, 1855.
Physagenia Parlatorii Heer. = *Equisetum Parlatorii*.
- Physagenia** sp., Lx. Bull. Mus. Comp. Zoöl., vol. xvi, p. 43, 1888.
Denver group: Golden, Colorado.
- PICEA** Link. Abhandl. Akad. Wiss. Berlin 1827, p. 179, 1827-1830.
Picea alba Link. = *Picea canadensis*.
- Picea canadensis** (Mill.) B. S. P.
Picea alba Link. Handb., vol. ii, p. 478, 1831; Penhallow, Bull. Geol. Soc. Am., vol. i, p. 333, 1890.
Pleistocene: Bloomington, Illinois.

Picea Mariana (Mill.) B. S. P.

Picea nigra Link. Handb., vol. ii, p. 478, 1831; Penhallow in Dawson, Can. Rec. Sci., vol. v, p. 353, 354, 1895.

Pleistocene: Don Valley, Toronto; Hamilton, Ontario; Leda clay, Montreal; Missinaibi River.

Picea nigra Link = *Picea Mariana*.

Picea sitchensis Carr. Knowlton, Journ. Geol., vol. iii, p. 529, f. (in text) 1, 1895; Penhallow in Coleman, Journ. Geol., vol. iii, p. 635, 1895.

Interglacial: Muir Glacier, Alaska.

Pleistocene: Don River, Canada.

PIMELEA Banks and Solander. Ex. Gært. Fruct., vol. i, p. 186, 1788.

Pimelea delicatula Lx. Cret. and Tert. Fl., p. 168, pl. xxxiii, f. 15, 16, 1883.

Green River group: Florissant, Colorado.

PINITES Witham. Int. Struct. Foss. Veg., p. 72, 1833.

Pinites palæostrobos Ett. = *Pinus palæostrobos*.

Pinites pannonicus (Ung.) Göpp. Abhandl. d. Schles. Gesell. 1861, heft ii, p. 203, 1861.

Peuce pannonica Ung. Syn. Pl. Foss., p. 208, 1845.

Eocene?: Unga Island, Alaska.

PINUS (Tournefort) Linnæus. Syst., ed. i, 1735.

Pinus anthraciticus Dn. Trans. Roy. Soc. Canada, vol. x, sec. iv, p. 89, f. (in text) 10, 1892 [1893].

Kootanie: Anthracite, British Columbia.

Pinus Armstrongi Heer. Fl. Foss. Arct., vol. i, p. 134, pl. xx, f. 19, 1868.

Miocene?: Banks Land.

Pinus Bathursti Heer. Fl. Foss. Arct., vol. i, p. 134, pl. xx, f. 14, 1868.

Miocene?: Bathurst Island.

Pinus Florissanti Lx. Cret. and Tert. Fl., p. 138, pl. xxi, f. 13, 1883.
Green River group: Florissant, Colorado.

Pinus MacClurii Heer. Fl. Foss. Arct., vol. i, p. 134, pl. xx, f. 16-18; xxxv, f. 1; xxxvi, f. 1-5, 1868; Cramer in Heer's Fl. Foss. Arct., vol. i, p. 170, pl. xxxv, f. 1; xxxvi, f. 1-5, 1868.

Miocene?: Banks Land.

Pinus (Cyclopitus) Nordenskiöldi Heer. Fl. Foss. Arct., vol. iv, abt. i, p. 45, pl. ix, f. 1-6, 1876; Dn., Trans. Roy. Soc. Canada, vol. x, p. 88, f. (in text) 9, 1892 [1893].

Kootanie: Anthracite, British Columbia.

Pinus palæostrobos? (Ett.) Héer. Fl. Tert. Helv., vol. i, p. 56, pl. xxi, f. 6, 1855; Lx., Tert. Fl., p. 83, pl. vii, f. 25, 31, 1878.

Pinites palæostrobos Ett. Tert. Fl. v. Häring in Tirol, p. 35, pl. vi, f. 22-23, 1853.

Pinus polaris Heer. Fl. Foss. Arct., vol. i, p. 157, pl. xxxi, f. 4b, 1868; Lx., Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 410, 1873 [1874].

Green River group: Florissant, Colorado.

Pinus polaris Heer Lx. [1873] = *Pinus palæostrobos*.

Pinus Quenstedti Heer. Neue Denkschr. Schw. Ges., vol. xxiii, p. 13, pl. ii, f. 5, 9; pl. iii, 1869; Lx., Bull. U. S. Geol. and Geogr. Surv. Terr., vol. i, p. 392, 1875 [1876]; Cret. and Tert. Fl., p. 33, pl. i, f. 3, 4, 1883.

Dakota group: Kansas.

Pinus strobus L. Penhallow, Trans. Roy. Soc. Canada, 2d ser., vol. ii, sec. iv, p. 67, 72, 1896.

Pleistocene: New Brunswick.

Pinus susquaensis Dn. Trans. Roy. Soc. Canada, vol. i, sec. iv, p. 23, pl. iii, f. 36, 1882 [1883].

Cretaceous: Susqua River, Northwest Territory.

Kootanie: Martin Creek, Coal Creek, and Crows Nest Pass, British Columbia.

Pinus trunculus Dn. Trans. Roy. Soc. Canada, vol. viii, sec. iv, p. 78, f. (in text) 5, 1890.

—: Tranquille River, British Columbia.

Pinus sp., Font. Proc. U. S. Nat. Mus., vol. xvi, p. 269, pl. xxxvi, f. 11, 1893.

Trinity division: Glenrose, Texas.

Pinus sp., Hollick. Trans. N. Y. Acad. Sci., vol. xii, p. 31, pl. i, f. 13, 19, 20, 22, 1892.

Cretaceous: Staten Island.

Pinus sp., Heer. Fl. Foss. Alask., p. 23, pl. i, f. 11, 1869.

Eocene?: Port Graham, Alaska.

Pinus sp., Lx. Geol. and Nat. Hist. Survey Minn., vol. iii, p. 10, 1893.

Dakota group: New Ulm, Minnesota.

Pinus? sp., Dn. Trans. Roy. Soc. Canada, vol. v. sec. iv, p. 34, 1887. [Fossil wood.]

Upper Laramie group: Mackenzie River?

Pinus sp.? Newby. Fl. Amboy Clays, p. 47, pl. ix, f. 5-8, 17, 18, 1895 [1896].

Amboy clay: No location.

Pinus sp. Heer. Fl. Foss. Aret., vol. i, p. 136, pl. xxi, f. 9, 1868.

Miocene?: Mackenzie River.

Pinus sp., Kn. Eighteenth Ann. Rept. U. S. Geol. Surv., pt. iii; p. 722, pl. cxix, f. 3, 1898.

Payette formation: Idaho City, Idaho.

PIPER Linnæus. Gen., ed. i, p. 333, 1737.

Piper Heerii Lx. Bull. Mus. Comp. Zool., vol. xvi, p. 44, 1888.

Denver group: Golden, Colorado.

PISONIA Plumier. Ex L., Gen., ed. i, p. 42, 1737.

Pisonia racemosa Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 400, 1873 [1874]; Tert. Fl., p. 209, pl. xxxv, f. 4, 1878.

Laramie group: Black Buttes, Wyoming.

PISTACIA Linnæus. Hort. Cliff, p. 456, 1737.

Pistacia oblancoolata (Lx.) n. comb.

Ficus oblancoolata Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 387, 1872 [1873]; Tert. Fl., p. 194, pl. xxviii, f. 9-12, 1878.

Laramie group: Erie, Colorado; Black Buttes, Wyoming.

PISTIA Linnæus. Gen., ed. i, p. 275, 1737.

Pistia corrugata Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 299, 1874 [1876]; Tert. Fl., p. 103, pl. lxi, f. 1, 3, 4, 6, 7, 9-11, 1878.

Montana formation: Point of Rocks, Wyoming.

Belly River series: Medicine Hat.

PITYOXYTON Kraus. In Schimper Pal. Vég., vol. ii, p. 377, 1870.

Pityoxylon fallax Felix. Zeitschr. d. Deutsch. geol. Gesell. Jahr. 1896, p. 254, 1896.

Eocene: Yanceys, Yellowstone National Park.

Pityoxylon Hollicki Kn. In Hollick, Trans. N. Y. Acad. Sci., vol. xvi, p. 134, figs. [in text] 1, 2, 1897.

Clay marl (Upper Cretaceous): Cliffwood, New Jersey.

Pityoxylon inæquale Felix. Zeitschr. d. Deutsch. geol. Gesell. Jahrg. 1886, p. 483, pl. xii, f. 3, 1886.

Eocene?: Danaaku, Alaska.

Pityoxylon Krausei Felix. Zeitschr. d. Deutsch. geol. Gesell. Jahrg. 1886, p. 486, pl. xii, f. 1, 2, 1886.

Fort Union group: Little Missouri, Dakota.

Pityoxylon Pealei Kn. Bull. Torr. Bot. Club, vol. xxiii, p. 251, pl. cclxxi, 1896.

Miocene: Upper Galletin Basin, Montana.

Pityoxylon sp., Dn. Trans. Roy. Soc. Canada, vol. v, sec. iv, p. 33, 1887. [Wood.]

Belly River series: West of Medicine Hat.

PLANERA Gmelin. Syst., p. 150, 1791.

Planera aquatica (Walt.) Gmel. Syst. Nat., vol. ii, p. 150, 1791; Hollick, Bull. Torr. Bot. Club, vol. xix, p. 332, 1892.

Planera Gmelini Mx. Fl. Bor. Am., vol. ii, p. 248, 1803; Lx., Am. Journ. Sci., vol. xxvii, p. 365, 1859.

Pleistocene: Banks of Mississippi River, near Columbus, Kentucky.

Miocene?: Bridgeton, New Jersey.

Planera crenata Newby. Proc. U. S. Nat. Mus., vol. v, p. 508, 1882 [1883].

Tertiary: Tongue River, Wyoming.

Planera dubia Lx. = *Planera Unger*.

Planera Gmelini Mx. Lx. = *Planera aquatica*.

Planera Knowltoniana Hollick in Newby. Fl. Amboy Clays, p. 69, pl. xlii, f. 1-4, 1895 [1896].

Amboy clay: Woodbridge, New Jersey.

- Planera longifolia** Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr. p. 371, 1872 [1873]; Tert. Fl., p. 189, pl. xxvii, f. 4-6, 1878.
Quercus semi-elliptica Göpp. Lx., Ann. Rept., p. 286, 1871 [1872].
 Green River group: Elko Station, Nevada; Florissant, Colorado.
 Eocene?: North Fork Similkameen River, British Columbia.
- Planera longifolia myricæfolia** Lx. Cret. and Tert. Fl., p. 161, pl. xxix, f. 15-27, 1883.
 Green River group: Florissant, Colorado.
- Planera microphylla** Newby. Later Extinct Floras, p. 55, 1868.
 Fort Union group: Fort Union, North Dakota.
- Planera nervosa** Newby. Proc. U. S. Nat. Mus., vol. v, p. 508, 1882 [1883].
 Eocene: Green River, Wyoming.
- Planera Unger** Ett. Foss. Fl. v. Wien., p. 14, pl. ii, f. 5-18, 1851; Lx., Bull. U. S. Geol. and Geogr. Surv. Terr., vol. i, p. 387, 1875 [1876]; Ann. Rept. loc. cit., p. 313, 1874 [1876]; Tert. Fl., p. 190, pl. xxvii, f. 7, 1878.
Planera dubia Lx. Am. Journ. Sci., vol. xxviii, p. 361, 1859.
Planera longifolia? Lx. Ann. Rept., op. cit., p. 371, 1872 [1873].
 Miocene: John Day Valley, Oregon.
 Green River group: Florissant, Colorado.
 Eocene: Port Graham, Alaska; Bellingham Bay?
- Planera variabilis** Newby. Proc. U. S. Nat. Mus., vol. v, p. 508, 1882, [1883].
 Eocene: Green River, Wyoming.
- PLATÆANTHUS** Newberry. Fl., Amboy Clays, p. 125, 1895 [1896].
- Platæanthus (Williamsonia) problematicus** Newby. Fl., Amboy Clays, p. 125, pl. xxxv, f. 1-9, 1896.
 Amboy clay, New Jersey.
- PLATANINIUM** Unger. In Endlicher Gen. Pl., suppl. ii, p. 101, 18—. [Not seen.]
- Plataninium Haydeni** Felix. Zeitschr. d. Deutsch. geol. Gesell., Jahr 1896, p. 251, 1896.
 Miocene: Amethyst Mountain, Yellowstone National Park.
- PLATANOPHYLLUM** Fontaine. Potomac Fl., p. 316, 1889.
- Platanophyllum crassinerve** Font. Potomac Fl., p. 316, pl. clviii, f. 5, 1889.
 Potomac formation: Deep Bottom, Virginia.
- PLATANUS** (Tournefort) Linnæus. Hort. Cliff, p. 447, 1737.
- Platanus aceroides** Göpp. Zeit. Deutsch. Geol., Gesell., vol. iv., p. 492, 1852; Lx., Am. Journ. Sci., vol. xlv, 2d ser., p. 206, 1869; Tert. Fl., p. 184, pl. xxv, f. 4-6, 1878.
 Fort Union group: Bad Lands, Dakota.
 Livingston beds: Bozeman coal field, Montana.
 Denver group: Golden, Colorado.
 Denver group?: Carbon, Wyoming.
 Laramie group: Black Buttes, Wyoming.
 Miocene: John Day Valley, Oregon; Mackenzie River.

Platanus aceroides latior Lx. = *Platanus latior*.

Platanus affinis Lx. = *Cissites affinis*.

Platanus affinis ampla Dn. = *Cissites affinis ampla*.

Platanus appendiculata Lx. Mem. Mus. Comp. Zoöl., vol. vi, no. 2, p. 12, pl. iii, f. 1-6; pl. vi, f. 7b, 1878.

Miocene: Chalk Bluffs, California.

Platanus aquehogensis Hollick. Trans. N. Y. Acad. Sci., vol. xii, p. 32, pl. iv, 1892.

Cretaceous: Staten Island.

Platanus aspera Newby. Proc. U. S. Nat. Mus., vol. v, p. 509, 1882 [1883].

Miocene?: Bridge Creek, Oregon.

Platanus basilobata Ward. Bull. U. S. Geol. Surv., p. 35, pl. xvii, f. 1; xviii, f. 1-3, 3a; xix, f. 1, 1887.

Fort Union group: Seven-Mile and Clear Creeks, Montana.

Platanus cissoides Lx. Fl. Dak. Gr., p. 75, pl. lxi, f. 3, 1892

Dakota group: Kansas.

Platanus cordata nom. nov.

Quercus platania Heer. Lesquereux, Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 386, 1872 [1873]; Tert. Fl., p. 160, pl. xxi, f. 1, 1878.

Eocene?: Cherry Creek, Oregon.

Laramie group?: Carbon, Wyoming.

Platanus diminutiva Lx. Cret. Fl., p. 73, pl. viii, f. 5, 1874.

Platanus diminutivus Lx. Am. Journ. Sci., vol. xlvi, p. 98, 1868.

Dakota group: Nebraska?

Platanus dissecta Lx. Mem. Mus. Comp. Zoöl., vol. vi, no. 2, p. 13, pl. vii, f. 12; pl. x, f. 4, 5, 1878. Cret. and Tert. Fl., p. 249, pl. lvi, f. 4; pl. lvii, f. 1-2, 1883.

Miocene: Chalk Bluffs, Table Mountain, Corral Hollow, and Spanish Peak, California.

Platanus Guillelmæ Göpp. Zeitschr. Deutsch. Geol. Gesel., vol. iv, p. 492, 1852. Tert. Fl. v. Schossnitz, p. 21, pl. xi, f. 1, 2, 1855; Lx., Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 289, 1871 [1872]; Tert. Fl., p. 183, pl. xxv, f. 1-3, 1878.

Fort Union group: Yellowstone River, Montana; Bad Lands, Dakota.

Denver group: Golden, Colorado.

Denver group?: Carbon, Wyoming.

Eolignitic: McLees, Louisiana.

Platanus Haydenii Newby. Later Extinct Floras, p. 70, 1868; Ill. Cret. and Tert. Pl., pls. xix, xx, xxi, f. 1, 1883 [1884].

Fort Union group: Yellowstone River, Montana; Bow River.

Denver group: Sedalia and Golden, Colorado.

Laramie group?: Sand Creek, Colorado.

Platanus Heerii Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 303, 1871 [1872]; Cret. Pl., p. 70, pl. viii, f. 4; ix, f. 1, 2, 1874; Rept. on Clays in N. J., p. 29, 1878.

Dakota group: Salina River, Kansas.

Amboy clay: Washington, New Jersey.

Mill Creek series: Mill Brook.

Platanus heterophyllus Newby. Dn., Rept. on Geol. and Res. near 49th Parallel, Appen. A, p. 330, 1875.

Lignite Tertiary: Wood End, Canada.

Platanus integrifolia Lx. = **Platanus Reynoldsii integrifolia**.

Platanus latiloba Newby. Later Extinct Floras, p. 23, 1868.

Dakota group: Blackbird Hill, Nebraska.

Platanus latior (Lx.) n. comb.

Platanus primæva Lx. Cret. Fl., p. 69, pl. vii, f. 2; pl. xxvi, f. 2, 1874; Fl. Dak. Gr., p. 72, pl. viii, f. 7, 8b; x, f. 1, 1892.

Platanus aceroides? Göpp., var. **latior** Lx. Am. Journ. Sci., vol. xlvi, p. 97, 1868.

Dakota group: Nebraska, Kansas, and Minnesota.

Platanus latior grandidentata (Lx.) n. comb.

Platanus primæva grandidentata Lx. Fl. Dak. Gr., p. 73, pl. ix, f. 1, 2, 1892.

Dakota group: Kansas.

Platanus latior integrifolia (Lx.) n. comb.

Platanus primæva integrifolia Lx. Fl. Dak. Gr., p. 74, pl. xlix, f. 4, 1892.

Dakota group: Kansas.

Platanus latior subintegrifolia (Lx.) n. comb.

Platanus primæva subintegrifolia Lx. Fl. Dak. Gr., p. 73, pl. ix, f. 3, 4, 1892.

Dakota group: Kansas.

Platanus marginata (Lx.) Heer. Fl. Foss. Arct., vol. vii, p. 97, pl. xcvi, f. 3-5; pl. xcix, f. 2, 3; pl. ci, f. 5, 1883.

Viburnum marginatum Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 395, 1872 [1873]; Tert. Fl., 223, pl. xxxvii, f. 11; pl. xxxviii, f. 1, 4. [Non 2, 3, 5] 1878.

Denver group: Golden, Colorado.

Laramie group: Black Buttes and Point of Rocks, Wyoming.

Platanus Newberrii Lx. = **Platanus Newberryana**.

Platanus? Newberryana Heer. Phyl. Crét. d. Nebr., p. 16, pl. i, f. 4, 1866.

Platanus Newberrii Lx. Am. Journ. Sci., vol. xlvi, p. 97, 1868.

Dakota group: Beatrice, Nebraska, etc.

Platanus nobilis Newby. Later Extinct Floras, p. 67, 1868; Dn., Trans. Roy. Soc. Canada, vol. iv., sec. iv, p. 24, pl. i, f. 7, 1886 [1887].

Fort Union group: Seven-Mile Creek, Montana.

Upper Laramie group: Calgary, Canada; Souris River, British Columbia.

Miocene: John Day Valley, Oregon.

Platanus occidentalis L. Knowlton, Am. Geol., vol. xviii, p. 371, 1896; Penhallow, Trans. Roy. Soc. Canada, 2d ser., vol. ii, sec. iv, p. 68, 72, 1896.

Glacial: Morgantown, West Virginia.

Pleistocene: Don Valley, Toronto.

Platanus obtusiloba Lx. Am. Journ. Sci., vol. xlvi, p. 97, 1868.

Dakota group: Beatrice, Nebraska.

Platanus platanoides (Lx.) n. comb.

Viburnum platanoides Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 314, 1874 [1876]; Tert. Fl., p. 224, pl. xxxviii, f. 8, 9, 1878.

Laramie group: Black Buttes, Wyoming.

Platanus primæva Lx. = *Platanus latior*.

Platanus primæva grandidentata Lx. = *Platanus latior grandidentata*.

Platanus primæva integrifolia Lx. = *Platanus latior integrifolia*.

Platanus primæva subintegrifolia Lx. = *Platanus latior subintegrifolia*.

Platanus Reynoldsii Newby. Later Extinct Floras, p. 69, 1868; Lx., Tert. Fl., p. 185, pl. xxvi, f. 4, 5; pl. xxvii, f. 1-3, 1878.

Fort Union group: Montana.

Upper Laramie group: Canada.

Denver group: Golden, Colorado.

Miocene?: ? John Day Valley, Oregon.

Platanus Reynoldsii integrifolia Lx. Tert. Fl., p. 185, 1878.

Platanus integrifolia Lx. MSS. in Lx., Tert. Fl., p. 185, 1878.

Denver group: Golden, Colorado.

Laramie group: Black Buttes, Wyoming.

Platanus recurvata Lx. = *Sassafras recurvatum*.

Platanus rhomboidea Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 400, 1873 [1874]; Tert. Fl. 186, pl. xxvi, f. 6, 7, 1878.

Viburnum anceps Lx. Tert. Fl., p. 227, pl. xxxviii, f. 11, 1878.

Denver group: Golden, Colorado.

Platanus? sp., Du. Trans. Roy. Soc. Canada, vol. v, sec. iv, p. 33, 1887. [Wood.]

Belly River series: Ribstone Creek.

Platanus sp., Cragin. Bull. Washburn College Laboratory, vol. ii, no. 10, p. 66, 1889.

Cretaceous: Cimarron Valley, south of Mead County, Kansas.

Platanus sp., Kn. Bull. Geol. Soc. Am., vol. viii, p. 142, 1897.

Laramie?: Dutton Creek coal, Wyoming.

PLATYPTERYGIUM Schimper. In Zittel Handb. Pal., vol. ii, p. 225, 1880.

Platypterygium densinerve Font. Potomac Fl., p. 169, pl. xxx, f. 8; xxxi, f. 1, 4; xxxii, f. 1, 2; xxxiii, f. 1; xxxiv, f. 1; xxxv, f. 1, 2, 1889.

Potomac formation: Fredericksburg, Virginia.

Platypterygium Rogersianum Font. Potomac Fl., p. 171, pl. xxxi, f. 2; xxxiii, f. 2; xxxiv, f. 2, 1889.

Potomac formation: Fredericksburg, Virginia.

POACITES Brongniart. Prod. Hist. Vég. Foss., p. 137, 1828.

Poacites lævis Al. Br. In Stizenberger, Uebersicht d. Vers. d. Baden, p. 74, 1851; Lx., Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 285, 1871 [1872].

Green River group: Barrel Springs, Wyoming.

Poacites Mengeanus Heer. Mioc. balt. Fl., p. 59, pl. xv, f. 2-11, 1859; Lesquereux, Proc. U. S. Nat. Mus., vol. x, p. 35, 1887.

Pliocene?: Clear Lake, California

Poacites tenue-striatus Heer. Fl. Foss., Alask., p. 24, pl. i, f. 14, 1869.

Eocene?: Port Graham, Alaska.

PODOCARPITES Andræ. Abh. der k. k. geol. Reichsanst., vol. ii, abt. iii p. 45, 1853.

Podocarpites Tyrrellii Dn. Trans. Roy. Soc. Canada, vol. v, sec. iv, p. 35, 1887.

Belly River series: Vermilion River.

PODOCARPUS (L'Heritier) Persoon. Syn., vol. ii, p. 580, 1807

Podocarpus eocenica? Ung. Foss. Fl. v. Sotzka, p. 28 [158], pl. ii, [xxii], f. 11-16, 1850; Lx., Cret. and Tert. Fl., p. 140, 1883.

Green River group: Florissant, Colorado.

PODOGONIUM Heer. Fl. Tert. Helv., vol. iii, p. 113, 1859.

Podogonium acuminatum Lx. Cret. and Tert. Fl., p. 201, 1883.

Green River group: Florissant, Colorado.

Podogonium americanum Lx. Tert. Fl., p. 288, pl. lix, f. 5; pl. lxiii, f. 5; pl. lxxv, f. 6, 1878.

Podogonium sp.? Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 417, 1873 [1874].

Laramie group: Black Buttes, Wyoming.

Montana formation: Point of Rocks, Wyoming.

Podogonium sp., Lx. = Podogonium Americanum.

PODOZAMITES Fr. Braun in Münster Beiträge z. Petrefacten-Kunde, vol. ii, heft vi, p. 28, 1843.

Podozamites acuminatus Hollick in Newberry. Fl. Amboy Clays, p. 45, pl. xiii, f. 7, 1895 [1896].

Amboy clay: Woodbridge, New Jersey.

Podozamites acutifolius Font. Potomac Fl., p. 181, pl. lxxx, f. 6; lxxxv, f. 10, 15; lxxxvii, f. 1, clxx, f. 2, 1889.

Potomac formation: Near Dutch Gap Canal, Deep Bottom, near Telegraph Station, and near Brooke; Virginia.

Trinity division: Glenrose, Texas.

Podozamites angustifolius (Eichw.) Schimp. Pal. Vég., vol. ii, p. 160, 1870; Lx., Cret. and Tert. Fl., p. 28, 1884; Newby., Fl. Amboy Clays, p. 44, pl. xiii, f. 1-4, 1895 [1896].

Dakota group: Kansas.

Amboy clay: Woodbridge, New Jersey.

Podozamites caudatus Lx. = Dammarites caudatus.

Podozamites distantinervis Font. Potomac Fl., p. 179, pl. lxxix, f. 9; lxxxii, f. 4; lxxxiii, f. 1, 2, 6, 7; lxxxiv, f. 1, 2, 8, 10, 14, 15; lxxxv, f. 12, 16, 1889.

Potomac formation: Near Potomac Run, Fredericksburg, and near Telegraph Station, Virginia.

Podozamites emarginatus Lx. = *Dammarites emarginatus*.

Podozamites grandifolius Font. Potomac Fl., p. 180, pl. lxxxiii, f. 2; lxxxiii, f. 5, 1889.

Potomac formation: Fredericksburg, and near Potomac Run, Virginia.

Podozamites Haydenii Lx. Cret. and Tert. Fl., p. 27, 1883.

Pterophyllum Haydenii Lx. Am. Journ. Sci., vol. xlvi, p. 91, 1868; Cret. Fl., p. 49, pl. i, f. 6, 6b, 1878.

Dakota group: Decatur, Nebraska.

Podozamites lanceolatus (L. and H.) Schimp. Pal. Vég., vol. ii, p. 160, 1870; Lx., Fl. Dak. Gr., p. 28, pl. i, f. 5, 6, 1891; Dn., Trans. Roy. Soc. Canada, vol. iii, sec. iv, p. 6, pl. i, f. 3, 1885 [1886].

Zamia lanceolata L. and H. Foss. Fl., vol. iii, pl. 193, 1836.

Kootanie: Martin Creek; Kootanie Pass., etc, British Columbia.

Dakota group: Kansas.

Podozamites latipennis Heer. Fl. Foss. Arct., vol. vi, abt. ii, p. 42, pl. xiv, f. 1-9; xv, f. 2a, 3b, 1884; Weed, Bull. Geol. Soc. Am., vol. iii, p. 323, 1892. [Doubtful.]

Kootanie: Sun River, Montana.

Podozamites marginatus? Heer. Fl. Foss. Arct., vol. vi., abt. ii, p. 43, pl. xvi, f. 10, 1882; Fl. Amboy Clays, p. 44, pl. xiii, f. 5, 6, 1895 [1896].

Amboy clay: Woodbridge, New Jersey.

Podozamites nervosa Newby. Am. Journ. Sci., vol. xli, p. 200, pl. xiv, f. 6, 1891.

Kootanie: Great Falls, Montana.

Podozamites oblongus Lx. Cret. and Tert. Fl., p. 28, pl. i, f. 10, 11.

Dakota group: Kansas.

Podozamites pedicellatus Font. Potomac Fl., p. 180, pl. lxxvi, f. 1; lxxviii, f. 7; lxxxii, f. 5, 1889.

Potomac formation: Fredericksburg, Virginia.

Podozamites praelongus Lx. = *Dammarites caudatus*.

Podozamites stenopus Lx. Fl. Dak. Gr., p. 27, pl. i, f. 7, 1891.

Dakota group: Kansas.

Podozamites subfalcatus Font. Potomac Fl., p. 179, pl. lxxviii, f. 6; clxx, f. 9, 1889.

Potomac formation: Near Brooke, Virginia.

Podozamites tenuinervis Heer. Fl. Foss. Arct., vol. vi., abt. ii, p. 44, pl. xvi, f. 9, 1882; Newby., Bull. Torr. Bot. Club, vol. xiii. p. 35, 1886.

Amboy clay: New Jersey.

Podozamites sp., Font. Proc. U. S. Nat. Mus., vol. xvi, p. 267, pl. xxxvi, f. 8, 1893.

Trinity division: Glenrose, Texas.

Pollen sacs? Font. Potomac Fl., p. 272, pl. cxxxvi, f. 7, 1889.

Potomac formation: Virginia.

POLYPODIUM (Tournefort) Linnæus. Gen. Pl., p. 322, 1737.

Polypodium dentatum Font. Potomac Fl., p. 105, pl. xxii, f. 4, 5, 1889.

Potomac formation: Fredericksburg, Virginia.

Polypodium fadyenioide Font. Potomac Fl., p. 104, pl. xvi, f. 4, 5, 1889.

Potomac formation: Near Potomac Run, Virginia.

POPULITES Lesquereux. Am. Journ. Sci., vol. xlvi., p. 93, 1868.

Populites affinis Lx. = *Cissites affinis*.

Populites cyclophylla (Heer) Lx. Am. Journ. Sci., vol. xlvi, p. 93, 1868; Cret. Fl., p. 59, 1874; Fl. Dak. Gr., p. 48, 1891.

Populus cyclophylla Heer. Proc. Acad. Nat. Sci., Phila., vol. x, p. 266, 1858.

Cissites cyclophylla Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 353, 1874 [1876].

Dakota group: New Ulm, Minnesota; Lancaster and Decatur, Nebraska; Peace River, Northwest Territory.

Populites elegans Lx. Am. Journ. Sci., vol. xlvi, p. 94, 1868; Geol. and Nat. Hist. Surv. Minn. iii, p. 10, pl. A, f. 2; pl. B, f. 1, 1893.

Dakota group: Decatur, Nebraska; New Ulm, Minnesota.

Populites fagifolia Lx. = *Grewiopsis flabellata*.

Populites flabellata Lx. = *Grewiopsis flabellata*.

Populites lancastriensis Lx. Cret. Fl., p. 58, pl. vii, f. 1, 1874.

Populus lancastriensis Lx. Am. Journ. Sci., vol. xlvi, p. 93, 1868.

Dakota group: Lancaster, Nebraska; New Ulm, Minnesota.

Populites litigiosus (Heer) Lx. Fl. Dak. Gr., p. 46, pl. vii, f. 7. pl. viii, f. 5; pl. xlvi, f. 6; pl. xlvi, f. 1, 1891.

Populus litigiosa Heer. Phyll. Crét. d. Nebr., p. 13, pl. i, f. 2, 1866.

Dakota group: Kansas; New Ulm, Minnesota.

Populites microphyllus Lx. Trans. Am. Phil. Soc., vol. xiii, p. 430, pl. xxiii, f. 2, 3, 1869.

Dakota group: Kansas.

Populites ovata Lx. = *Ampelophyllum ovatum*.

Populites probalsamifera Dn. Trans. Roy. Soc. Canada, vol. xi, sec. iv, p. 57, pl. vii, f. 23, 1893 [1894].

Upper Cretaceous: Port McNeill, Vancouver.

Populites quadrangularis Lx. = *Hamamelites quadrangularis*.

Populites salinæ Lx. = *Menispermites salinæ*.

Populites salisburiaefolius Lx. = *Cissites salisburiaefolius*.

Populites Sternbergii Lx. Fl. Dak. Gr., p. 45, pl. vii, f. 8, 9, 1891.

Dakota group: Kansas.

Populites Winchelli Lx. Geol. and Bot. Hist. Surv. Minn., vol. iii, p. 12, pl. B, f. 2, 1893.

Dakota group: New Ulm, Minnesota.

POPULOPHYLLUM Fontaine. Potomac Fl., p. 311, 1889.

Populophyllum crassinerve Font. Potomac Fl., p. 312, pl. clviii, f. 4, 1889.

Potomac formation: Deep Bottom, Virginia.

Populophyllum hederæforme Font. Potomac Fl., p. 311, pl. clxvi, f. 3, 1889.

Potomac formation: Virginia.

- Populophyllum reniforme** Font. Potomac Fl., p. 311, pl. clv, f. 9; clvi, f. 3, 1889.
Potomac formation: Near Brooke, Virginia.
- POPULUS** Linnaeus. Syst., ed. i, 1735.
- Populus acerifolia** Newby. Later Extinct Floras. v. 65. 1868: Ill. Cret. and Tert. Pl., pl. xiii, f. 5-8, 1878.
Fort Union group: Yellowstone River, Montana.
Canadian upper Laramie: Canada; Souris River, etc.
- Populus aequalis** Schimp. = **Populus laevigata**.
- Populus amblyrhyncha** Ward. Bull. U. S. Geol. Surv., no. 37, p. 20, pl. vi, f. 1-8; vii, f. 1-3, 1887.
Fort Union group: Seven-Mile Creek, Montana.
- Populus anomala** Ward. Bull. U. S. Geol. Surv., no. 37, p. 23, pl. viii, f. 7, 1887.
Fort Union group: Burns's Ranch, Montana.
- Populus? apiculata** Newb. In MSS. Hollick, Trans. N. Y. Acad. Sci., vol. xii, p. 31, pl. iii, f. 2, 1892; Newby., Fl. Amboy Clays, p. 65, pl. xv, f. 3, 4, 1895 [1896].
Cretaceous: Staten Island.
Amboy clay: Woodbridge, New Jersey.
- Populus arctica** Heer. Fl. Foss. Arct., vol. i, p. 100, pl. iv, f. 6a, 7; pl. v; pl. vi, f. 5, 6; pl. viii, f. 5, 6; pl. xvii, f. 5 f. e.; op. cit., p. 137, pl. xxi, f. 14, 15a, 1868; Lx., Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 289, 300, 1871 [1872]; Tert. Fl., p. 178, pl. xxiii, f. 1-6, 1878.
Populus decipiens Lx. Ann. Rept., op. cit., p. 385, 1872 [1873]; Tert. Fl., p. 179, pl. xxiii, f. 7-11, 1878.
From Laramie to Miocene: Abundant.
Miocene?: Mackenzie River; Great Valley; Souris River.
- Populus aristolochioides** Lx. Bull. U. S. Geol. and Geogr. Surv. Terr., vol. i, p. 393, 1875.
Dakota group: Kansas.
- Populus attenuata** Al. Br. Lx. = **Populus subrotunda**.
- Populus auriculata** Ward. Fifteenth Ann. Rept. U. S. Geol. Surv., p. 356, pl. iv, f. 4, 1895.
Potomac formation: Mount Vernon, Virginia.
- Populus balsamifera** L. Sp. Pl., ed. i, vol. ii, p. 1034, 1753; Dn., Can. Nat., vol. ii, p. 422, 1857; op. cit., new ser., vol. iii, p. 72, f. 2-4, 1868; Geol. Hist. Pl., p. 228, f. 78, 1888; Penhallow, Trans. Roy. Soc. Canada, 2d ser., vol. ii, sec. iv, p. 64, 72, 1896.
Pleistocene: Greens Creek and Bessier's Wharf, Ottawa River.
- Populus balsamoides** Göpp. Tert. Fl. v. Schosnitz, p. 23, pl. xv, f. 5, 6, 1855; Heer, Fl. Foss. Alask., p. 26, pl. ii, f. 3, 1869; Lx., Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 299, 1871 [1872].
Eocene?: Port Graham and near Litho, Alaska; Yellowstone Lake.
Miocene: Corral Hollow, California.

- Populus balsamoides eximia** (Göpp.) Lx. Cret. and Tert. Fl., p. 226, pl. xlvIA, f. 10, 1883.
Populus eximia Göpp. Tert. Fl. v. Schossnitz, p. 23, 1855.
 Fort Union group: Bad Lands, Dakota.
- Populus balsamoides?** Göpp., var. **latifolia** Lx. Cret. and Tert. Fl., p. 158, pl. xxxi, f. 4, 1883.
 Green River group: Florissant, Colorado.
- Populus Berggreni** Heer. Öfversigt. K. Vetenskaps-Akad. Förhandl., 1871, p. 1183, 1871; Lx., Fl. Dak. Gr., p. 42, pl. viii, f. 2-4, 1891.
 Dakota group: Kansas; New Ulm, Minnesota.
- Populus cordata** Newby. Later Extinct Floras, p. 60, 1868; Ill. Cret. and Tert. Pl., pl. xiv, f. 6, 1878.
 Fort Union group: Yellowstone River, Montana.
- Populus cordifolia** Newby. Later Extinct Floras, p. 18, 1868; Dn., Trans. Roy. Soc. Canada, vol. iii, sec. iv, p. 17, 1885 [1886].
 Dakota group: Nebraska.
 Upper Laramie group: Canada.
- Populus craspedodroma** Ward. Bull. U. S. Geol. Surv., no. 37, p. 21, pl. viii, f. 3, 1887.
 Fort Union group: Clear Creek, Montana.
- Populus cuneata** Newby. Later Extinct Floras, p. 64, 1868; Ill. Cret. and Tert. Pl., pl. xiv, f. 1-4, 1878.
 Fort Union group: Yellowstone River, Montana; Bad Lands, Dakota.
- Populus cyclophylla* Heer = *Populites cyclophyllus*.
- Populus daphnogenoides** Ward. Bull. U. S. Geol. Surv., no. 37, p. 20, pl. vii, f. 4-6, 1887.
 Fort Union group: Seven-Mile Creek, Montana.
 Eocene?: Similkameen Valley, British Columbia.
- Populus?* *Debeyana* Heer = *Juglans Debeyana*.
- Populus decipiens* Lx. = *Populus arctica*.
- Populus denticulata** Heer. Fl. Foss. Arct., vol. vii, p. 20, pl. lv, f. 5, 1883; Lesquereux, Proc. U. S. Nat. Mus., vol. x, p. 40, 1887.
 ———: Upper Kanab Valley, Utah.
- Populus elliptica** Newby. Later Extinct Floras, p. 16, 1868.
 Dakota group: Blackbird Hill, Nebraska.
- Populus extremuloides** Kn. Eighteenth Ann. Rept. U. S. Geol. Surv., pt. iii, p. 725, pl. c, f. 1, 2; ci, f. 1, 2, 1898.
 Payette formation: Marsh, Idaho.
- Populus flabellum** Newby. Bost. Journ. Nat. Hist., vol. vii, p. 524, 1863.
 ———: Bellingham Bay, Washington.
- Populus genatrix** Newby. Later Extinct Floras, p. 64, 1868; Dn., Trans. Roy. Soc., Canada, vol. iii, sec. iv, p. 17, 1885 [1886].
 Fort Union group: Yellowstone River, Montana.
 Canadian upper Laramie: North Saskatchewan; Souris River, Great Valley; Canada.

Populus glandulifera Heer. Fl. Tert. Helv., vol. ii, p. 17, pl. lviii, f. 5-11; pl. lxxviii, f. 7 1856; Cret. and Tert. Fl., p. 226, pl. xlviA, f. 3, 4, 1883.

Eocene?: Fort Graham, Alaska.

Fort Union group: Montana; Bad Lands, Dakota.

Miocene: John Day Valley, Oregon.

Populus grandidentata Mx. Flor. Bor. Am., vol. ii, p. 243, 1803; Penhallow, Bull. Geol. Soc. Am., vol. i, p. 326, 1890.

Pleistocene: Greens Creek, Ottawa River; Montreal, Canada.

Populus Grewiopsis Ward. Bull. U. S. Geol. Surv., no. 37, p. 23, pl. ix, f. 1, 1887.

Fort Union group: Seven-Mile Creek, Montana.

Populus harkeriana Lx. Fl. Dak. Gr., p. 44, pl. xlvi, f. 4, 1892.

Dakota group: Fort Harker, Kansas.

Populus hederoides Ward. Bull. U. S. Geol. Surv., no. 37, p. 22, pl. viii, f. 5, 1887.

Fort Union group: Seven-Mile Creek, Montana.

Populus Heerii Sap. Ann. d. Sci. Nat., 4th ser., vol. xvii, p. 87, pl. vii, f. 3, 1863; Lx., Cret. and Tert. Fl., p. 157, pl. xxx, f. 1-8; pl. xxxi, f. 11, 1883.

Green River group: Florissant, Colorado.

Populus Heliadum Ung. Lx., 1873=*Populus Ungeri*.

Populus Hookeri Heer. Fl. Foss. Arct., vol. i, p. 137, pl. xx1, f. 16, 1868; Dn., Trans. Roy. Soc. Canada, vol. vii, sec. iv, p. 71. pl. x, f. 5, 1889.

Miocene?: Mackenzie River.

Populus hyperborea Heer. Fl. Foss. Arct., vol. iii, pt. ii, p. 106, 1873; Lx., Fl. Dak. Gr., p. 43, pl. iii, f. 9-11; pl. viii, f. 1; pl. xlvii, f. 5. 1892.

Dakota group: Kansas.

Populus inæqualis Ward. Bull. U. S. Geol. Surv., no. 37, p. 24, pl. ix, f. 2, 1887.

Fort Union group: Burns's Ranch, Montana.

Populus kansaseana Lx. Fl. Dak. Gr., p. 42, pl. xvii, f. 1-7, 1892.

Dakota group: Kansas.

Populus Knightii Kn. Bull. Geol. Soc. Am., vol. viii, p. 142, 1897.

Laramie group?: Dutton Creek coal, Wyoming.

Populus lævigata Lx. Am. Journ. Sci., vol. xlv, 2d ser., p. 205, 1868; Tert. Fl., p. 175, pl. xxii, f. 9, 1878.

Populus æqualis Schimp. Pal. Vég., vol. ii, p. 693, 1872.

Denver group?: Rock Creek, Laramie Plains, Wyoming.

Populus Lancastrensis Lx. = *Populites Lancastrensis*.

Populus latidentata Dn. Trans. Roy. Soc. Canada, vol. iii, sec. iv, p. 16, 1885 [1886].

Belly River series: Medicine Hat.

Populus latior Al. Br. In Buckl. Geol., p. 512, 1835?; Heer., Fl. Foss. Alask., p. 25, pl. ii, f. 4, 1869.

Eocene?: Port Graham.

Bull. 152—12

Populus latior cordifolia Heer. Fl. Tert. Helv., vol. ii, p. 12, pl. lv, 1856; Lx., Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 289, 1871 [1872].

Populus latior transversa Heer. Lesquereux, Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 287, 1871 [1872].

Laramie group?: Medicine Bow, Wyoming.

Populus latior transversa Heer. = *Populus latior cordifolia*.

Populus latior truncata Al. Br. In Stizenberger, Uebers., p. 79, 1851; Lx., Cret. and Tert. Fl., p. 226, pl. xlvi, f. 14, 1883.

Fort Union group: Bad Lands, Dakota.

Populus leucophylla Ung. Gen. et Sp. Pl. Foss., p. 417, 1850; Heer, Fl. Foss. Alask., p. 26. pl. iii, f. 4, 5, 1869.

Eocene: Alaska?

Populus Lindgreni Kn. Eighteenth Ann. Rept. U. S. Geol. Surv., pt. iii, p. 725, pl. c. f. 3, 1898.

Payette formation: Marsh, Idaho.

Populus litigiosa Heer = *Populites litigiosus*.

Populus longior Dn. Trans. Roy. Soc. Canada, vol. i. sec. iv, p. 27, 1882 [1883].

Upper Cretaceous: Nanaimo; Baynes Sound.

Populus Leuce (Rossm.) Ung. Gen. et Sp. Pl. Foss., p. 417, 1850; Heer, Proc. Acad. Nat. Sci. Phila., vol. x, p. 265, 1858.

Dakota group: Kansas?

Populus leucophylla Ung. Gen. et Sp. Pl. Foss., p. 417, 1850; Lx., Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 296, 1871 [1872]. [Not afterward recognized by Lesquereux.]

Laramie group?: Spring Canyon, Montana.

Populus Meedsii Kn. Proc. U. S. Nat. Mus., vol. xvi, p. 34, pl. i, f. 1, 2, 1893.

Fort Union group: Glendive?, Montana.

Populus melanaria Heer. Lx. = *Populus melanarioides*.

Populus melanarioides Lx. Bull. U. S. Geol. and Geogr. Surv. Terr., vol. i, p. 379, 1875 [1876]; Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 302, 1874 [1876]; Tert. Fl., p. 174, pl. lxii, f. 5, 1878.

Populus melanaria Heer Lx. Ann. Rept., op. cit., p. 302, 1874 [1876]; Tert. Fl. p. 173, pl. lxiv, f. 5, 1878.

Montana formation: Point of Rocks, Wyoming.

Populus microphylla Newby. Later Extinct Floras, p. 17, 1868.

Dakota group: Blackbird Hill, Nebraska.

Populus monodon Lx. Trans. Am. Phil. Soc., vol. xiii, p. 413, pl. xv, f. 1, 2, 1869.

Eolignitic: Mississippi.

Populus monodon Lx. [Tert. Fl., pl. xxiv, f. 1, 2] = *Populus mutabilis ovalis* and *Ficus uncata*.

Populus mutabilis crenata Heer. Fl. Tert. Helv., vol. ii, p. 21, pl. lx, f. 5, 8, 11, 12a, 1856; Lx., Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 386, 1872 [1873]. [Not afterwards referred to by Lesquereux.]

——: Carbon, Wyoming.

Populus mutabilis lancifolia Heer. Fl. Tert. Helv., vol. ii, p. 23, pl. lxi, f. 7, 8, 10, 1856; Lx., Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 296, 1871 [1872]. [Not afterwards recognized by Lesquereux.]

Laramie group?: Spring Canyon, Montana.

Populus mutabilis ovalis Heer. Fl. Tert. Helv., vol. ii, p. 22, pl. i, f. 1, 2; ii, f. 2 a b; lxi, f. 1-3, 6, 9; lxiii, f. 4, 1856; Lx., Tert. Fl., p. 177, pl. xxiv, f. 3, 4, 1878.

Populus ovalis? Göpp. Lx., Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 292, 1871 [1872].

Populus mutabilis repando-crenata Heer. In Lx., Trans. Am. Phil. Soc., vol. xiii, p. 413, pl. xviii, f. 4-6, 1869.

Picea ovalis Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 313, 1874 [1876].

Populus monodon Lx. Ex. p. Tert. Fl., p. 180, pl. xxiv, f. 2, 1878.

Livingston beds: Spring Canyon, Montana.

Denver group: Golden and Plum Creek, Colorado.

Laramie group: Black Buttes, Wyoming.

Laramie group?: Evanston, Wyoming.

Montana formation: Point of Rocks, Wyoming.

Populus mutabilis repando-crenata Heer = *Populus mutabilis ovalis*.

Populus nebrascensis Newby. Later Extinct Floras, p. 62, 1868.

Fort Union group: Yellowstone River, Montana.

Denver group: Golden, Colorado.

Populus nebrascensis acute-dentata Lx. Bull. Mus. Comp. Zoöl., vol. xvi, p. 47, 1888.

Denver group: Golden, Colorado.

Populus nebrascensis grandidentata Lx. Bull. Mus. Comp. Zoöl., vol. xvi, p. 47, 1888.

Denver group: Golden, Colorado.

Populus nebrascensis longifolia Lx. Bull. Mus. Comp. Zoöl., vol. xvi, p. 48, 1888.

Denver group: Golden, Colorado.

Populus nebrascensis rotundata Lx. Bull. Mus. Comp. Zoöl., vol. xvi, p. 47, 1888.

Denver group: Golden, Colorado.

Populus nervosa Newby. Later Extinct Floras, p. 61, 1868.

Fort Union group: Yellowstone River, Montana; North Saskatchewan, Canada.

Populus nervosa elongata Newby. Later Extinct Floras, p. 62, 1868.

Fort Union group: Yellowstone River, Montana.

Populus obtrita Dn. Trans. Roy. Soc. Canada, vol. viii, sec. iv, p. 82, f. (in text) 12, 1890.

Miocene?: Similkameen Valley, British Columbia.

Populus occidentalis Kn. Eighteenth Ann. Rept. U. S. Geol. Surv., pt. iii, p. 727, pl. xcix, f. 14, 1898.

Payette formation: Marsh, Idaho.

Populus ovalis? Göpp. Lx. [1871]=*Populus mutabilis ovalis*.

Populus oxyphylla Sap. Ann. Sci. Nat. Bot., 5th ser., vol. viii, p. 73, 1867; Lx., Cret. and Tert. Fl., p. 159, pl. xxxviii, f. 9-11, 1883.

Green River group: Florissant, Colorado.

Populus oxyrhynga Ward. Bull. U. S. Geol. Surv., no. 37, p. 21, pl. viii, f. 1, 2, 1887.

Fort Union group: Seven-Mile Creek, Montana.

Populus polymorpha Newby. Proc. U. S. Nat. Mus., vol. v, p. 506, 1882 [1883].

Miocene?: Bridge Creek, Oregon.

Populus potomacensis Ward. Fifteenth Ann. Rept. U. S. Geol. Surv., p. 356, pl. iv, f. 1-3, 1895.

Potomac formation: Mount Vernon, Virginia.

Populus? problematica Kn. Bull. U. S. Geol. Surv., no. 105, p. 51, pl. vi, f. 5, 6, 1893.

Laramie group: Head of Fir Canyon, near Bozeman, Montana.

Populus protozadachii Dn. Trans. Roy. Soc. Canada, vol. i, sec. iv, p. 26, pl. vii, f. 25, 1882 [1883].

Upper Cretaceous: Newcastle Island.

Populus rectinervata Dn. Trans. Roy. Soc. Canada, vol. i, sec. iv, p. 27, pl. vii, f. 26, 1882 [1883].

Upper Cretaceous: Baynes Sound.

Populus rhomboidea Lx. Am. Journ. Sci., vol. xxvii, 2d ser., p. 360, 1859.

Upper Cretaceous: Newcastle Island; Nanaimo, Vancouver Island.

Miocene?: Mackenzie River.

Lignitic Tertiary: Porcupine Creek.

Populus Richardsoni Heer. Fl. Foss. Arct., vol. i, p. 98, pl. iv, f. 1-5, vi, f. 7, 8; xv, f. 1c; 1868; Lx., Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 411, 1873 [1874]; Tert. Fl., p. 177, pl. xxii, f. 10-12, 1878.

Green River group: Elko Station, Nevada.

Canadian upper Laramie: Calgary, Canada.

Fort Union group: Montana.

Eocene?: Chignik Bay, Alaska.

Miocene: Mackenzie River.

Populus rotundifolia Newby. Proc. U. S. Nat. Mus., vol. v, p. 506, 1882 [1883].

Fort Union group: Yellowstone River.

Populus Russelli Kn. Bull. U. S. Geol. Surv., no. 108, p. 104, 1893.

Miocene?: Ellensburg, Washington.

Populus smilacifolia Newby. Later Extinct Floras, p. 66, 1868.

Fort Union group: Fort Union, North Dakota.

Populus speciosa Ward. Bull. U. S. Geol. Surv., no. 37, p. 20, pl. v, f. 4-7, 1887.

Fort Union group: Clear Creek, Montana.

Populus stygia Heer. Fl. Foss. Arct., vol. iii, apt. ii, p. 107, 1873; Lx.

Fl. Dak. Gr., p. 44, pl. iii, f. 12, 1892.

Dakota group: Kansas.

Populus subrotunda Lx. Am. Journ. Sci., vol. xlv, p. 205, 1868.

Populus attenuata Al. Br. Lx., Am. Journ. Sci., vol. xlv, p. 205, 1868.

Populus subrotundata Lx. Tert. Fl., p. 173, pl. xxiv, f. 6-8, 1878.

—: Carbon and Evanston, Wyoming; Rock Creek and Laramie Plains, Wyoming; Golden, Colorado?

Populus subrotundata Lx. = *Populus subrotunda*.

Populus tenuinervata Lx. Bull. Mus. Comp. Zool., vol. xvi, p. 48, 1888.

Denver group: Golden, Colorado.

Populus trinervis Dn. Trans. Roy. Soc., Canada, vol. i, sec. iv, p. 26, 1882 [1883].

Upper Cretaceous: Nanaimo; Baynes Sound.

Populus Unger Lx. Tert. Fl., p. 175, pl. xxiv, f. 5, 1878.

Populus Heliadum Ung. Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 397, 1873 [1874].

Denver group: Golden, Colorado.

Populus Whitei Ward. Bull. U. S. Geol. Surv., no. 37, p. 22, pl. viii, f. 4, 1887.

Fort Union group: Burns's Ranch, Montana.

Populus Zaddachi Heer. Fl. Tert. Helv., vol. iii, p. 307, 1859; Lx.,

Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 292, 1871 [1872];

Cret. and Tert. Fl., p. 158, pl. xxxi, f. 8, 1883.

Eocene?: Port Graham, Alaska.

Miocene: Chalk Bluffs, California.

Green River group: Florissant, Colorado.

Fort Union group: Montana and Dakota.

Populus sp., Dn. Geol. Surv. Canada, Rept. of Progress for 1872-73.

Appen. I, p. 68, 1873.

Cretaceous: Vancouver Island, British Columbia.

Populus sp. [Wood], Dn. Rept. on Geol. and Res. near 49th Parallel,

Appen. A, p. 331, 1875.

Lignitic tertiary: Forty-ninth parallel.

Populus sp., Dn. Trans. Roy. Soc. Canada, vol. v, sec. iv, p. 33, 1887.

[Wood.]

Fort Pierre series: Head of Swift Current.

Populus sp., Dn. Trans. Roy. Soc. Canada, vol. i, sec. iv, p. 27, 1882

[1883].

Upper Cretaceous; Baynes Sound.

Populus sp., Kn. Bull. U. S. Geol. Surv., no. 105, p. 50, pl. vi, f. 7-9, 1893.

Laramie group: Head of Bear Canyon, near Bozeman, Montana.

PORANA Burm. f. Fl. Ired., p. 51, 1768.

Porana Bendirei (Ward) Lx. Proc. U. S. Nat. Mus., vol. xi, p. 16 pl. viii, f. 4, 1888.

Marsilea Bendirei Ward. Fifth Ann. Rept. U. S. Geol. Surv., p. 446, 1883-84 [1885].

Miocene: John Day Valley, Oregon.

Porana Speirii Lx. Cret. and Tert. Fl., p. 172, pl. xxviii, f. 15, 1883.
Green River group: Florissant, Colorado.

Porana tenuis Lx. Cret. and Tert. Fl., p. 173, 1883.
Green River group: Florissant, Colorado.

Porana sp., Lx. Proc. U. S. Nat. Mus., vol. xi, p. 13, 1888.
Eolignitic: Wickliffe, Kentucky.

POTAMOGETON (Tournefort) Linnæus. Syst. ed., i, 1735.

Potamogeton geniculatus Al. Br. Neues Jahrb. 1845, p. 168, 1845;
Lx., Cret. and Tert. Fl., p. 142, 1883.

Green River group: Florissant, Colorado.

Potamogeton pectinatus L. Sp. Pl., p. 127, 1753; Penhallow, Trans. Roy. Soc., Canada, 2d ser., vol. ii, sec. iv, p. 66, 72, 1896.

Pleistocene: Besserer's Wharf, Ottawa River.

Potamogeton perfoliatus L. Sp. Pl., p. 126, 1753; Dn., Can. Nat., vol. iii, new ser., p. 72, 1868; Geol. Hist. Pl., p. 229, 1888; Penhallow, Trans. Roy. Soc. Canada, 2d ser., vol. ii, sec. iv, p. 65, 72, 1896.

Pleistocene: Besserer's Wharf and Greens Creek, Ottawa River
Canada.

Potamogeton pusillus L. Sp. Pl., p. 127, 1753; Dn., Can. Nat., vol. iii, new ser., p. 73, 1868; Geol. Hist. Pl., p. 229, 1888; Penhallow, Trans. Roy. Soc. Canada, 2d ser., vol. ii, sec. iv, p. 65, 72, 1896.

Pleistocene: Besserer's Wharf and Greens Creek, Ottawa River,
Canada.

Potamogeton rutilans Wolf. Penhallow = **Potamogeton rutilus**.

Potamogeton rutilus Wolf.

Potamogeton rutilus? Wolf. Penhallow, Bull. Geol. Soc. Am., vol. i, p. 327, 1890; Trans. Roy. Soc. Canada, 2d ser., vol. ii, sec. iv, p. 65, 72, 1896.

Pleistocene: Besserer's Wharf and Greens Creek, Ottawa River.

Potamogeton Robbinsii Oakes. Hovey's Mag., vol. vii, p. 180, 1841;
Kn., Am. Geol., vol. xviii, p. 371, 1896.

Glacial: Morgantown, West Virginia.

Potamogeton? verticillatus Lx. Cret. and Tert. Fl., p. 142, pl. xxiii, f. 5, 6, 1883.

Green River group: Florissant, Colorado.

POTENTILLA Linnæus. Syst., ed. i, 1735.

Potentilla anserina L. Penhallow, Bull. Geol. Soc. Am., vol. i, p. 330, 1890; Trans. Roy. Soc. Canada, 2d ser., vol. ii, sec. iv, p. 66, 73, 1896.

Potentilla norvegica L. Dn., Can. Nat., vol. ii, p. 422, 1857.

Potentilla canadensis L. Dn., loc. cit., new ser., vol. iii, p. 71, 1868.

Potentilla simplex? Michx. Dn., Geol. Hist. Pl., p. 228, 1888.

Pleistocene: Greens Creek and Besserer's Wharf, Ottawa River,
Canada.

Potentilla canadensis L.=*Potentilla anserina*.

Potentilla norvegica L.=*Potentilla anserina*.

Potentilla simplex? Mx.=*Potentilla anserina*.

PREISSITES Knowlton. Bull. Torr. Bot. Club, vol. xxi, p. 458, 1894.

Preissites Wardii Kn. Bull. Torr. Bot. Club, vol. xxi, no. 10, p. 458, pl. ccxix, 1894.

Fort Union group: Burns's Ranch, 30 miles below Glendive, Montana.

Prinos integrifolia Ell. Lx.=*Ilex integrifolia*.

PROTEÆPHYLLUM Fontaine. Potomac Fl., p. 281, 1889.

Proteæphyllum dentatum Font. Potomac Fl., p. 286, pl. clvi, f. 7; clxxii, f. 1, 4; clxxiii, f. 12, 14, 1889.

Potomac formation: Baltimore, Maryland.

Proteæphyllum ellipticum Font. Potomac Fl., p. 285, pl. cxlii, f. 1, 2, 1889.

Potomac formation: Fredericksburg, Virginia.

Proteæphyllum oblongifolium Font. Potomac Fl., p. 284, pl. cxxxix, f. 5; cxl, f. 1, 2, 1889.

Potomac formation: Fredericksburg, Virginia.

Proteæphyllum orbiculare Font. Potomac Fl., p. 283, pl. cxxxix, f. 4, 1889.

Potomac formation: Fredericksburg, Virginia.

Proteæphyllum ovatum Font. Potomac Fl., p. 285, pl. cxli, f. 1, 1889.

Potomac formation: Fredericksburg, Virginia.

Proteæphyllum reniforme Font. Potomac Fl., p. 282, pl. cxxxix, f. 3; clvi, f. 4; clx, f. 1, 2, 1889.

Potomac formation: Fredericksburg, near Dutch Gap Canal, Virginia.

Proteæphyllum tenuinerve Font. Potomac Fl., p. 286, pl. cl, f. 13; clvi, f. 2, 1889.

Potomac formation: Near Dutch Gap Canal, near Potomac Run, Virginia.

Proteæphyllum sp., Font. Potomac Fl., p. 284, pl. cxxxix, f. 2, 1889.

Potomac formation: Near Dutch Gap Canal, Virginia.

PROTEOIDES Heer. Phyll. Crét. d. Nebr., p. 17, 1866.

Proteoides acuta Heer. Phyll. Crét. d. Nebr., p. 17, pl. iv, f. 7, 8, 1866; Lx., Trans. Am. Phil. Soc., vol. xiii, p. 431, pl. xxiii, f. 5-7, 1869.

Dakota group: Kansas and Nebraska.

Proteoides daphnogenoides Heer. Phyll. Crét. d. Nebr., p. 17, pl. iv, f. 9, 10, 1866; Newby., Fl. Amboy Clays, p. 72, pl. xvii, f. 8, 9; xxxii, f. 11, 13, 14; xxxiii, f. 3; xli, f. 15, 1895 [1896].

Dakota group: Decatur, Nebraska.

Amboy clay: New Jersey; Staten Island; Sea Cliff, Long Island.

Mill Creek series: Mill Creek.

Proteoides grevilleæformis Heer. Phyll. Crét. d. Nebr., p. 17, pl. iv, f. 11, 1866; Lx., Trans. Am. Phil. Soc., vol. xiii, p. 432, pl. xxiii, f. 8, 1869.

Dakota group: Decatur, Nebraska; Kansas.

Proteoides lancifolius Heer. Neue Denkschr. Schweiz. Gesel., vol. xxiv, p. 12, pl. iii, f. 5, 6, 1871; Lx., Cret. and Tert. Fl., p. 50, 1883; Fl. Dak. Gr., p. 90, pl. xv, f. 5; 1, f. 8, 1892.

Dakota group: Fort Harker, Kansas.

Proteoides longus Heer = *Myrica longa*.

Proteoides major Dn., Trans. Roy. Soc. Canada, vol. xi, sec. iv, p. 61, pl. xii, f. 54, 1893 [1894].

Upper Cretaceous: Wellington mine, Vancouver Island.

Proteoides Neillii Dn. Trans. Roy. Soc. Canada, vol. xi, sec. iv, p. 61, pl. xii, f. 53, 1893 [1894].

Upper Cretaceous: Port McNeill, Vancouver Island.

Proteoides sp., Lx. Rept. on Clays in N. J., p. 29, 1878.

Amboy clay: Sayreville, New Jersey.

Proteoides sp., Dn. Trans. Roy. Soc. Canada, vol. xi, sec. iv, p. 61, pl. xiii, f. 55, 1893 [1894].

Upper Cretaceous: Wellington mine, Vancouver Island.

PROTOFICUS Saporta. Fl. Foss. Travert. d. Sézanne: Mem. Soc. Geol. d. Fr., 2d ser., vol. vii, p. 67, 1868.

Protoficus inequalis Newby. Proc. U. S. Nat. Mus., vol. v, p. 512, 1882 [1883].

Tertiary: Tongue River, Wyoming.

Protoficus Zeilleri Lx. Bull. Mus. Comp. Zoöl., vol. xvi, p. 50, 1888.

Denver group: Golden, Colorado.

PROTOPHYLLUM Lesquereux. Cret. Fl., p. 100, 1874.

Protophyllum boreale Dn. Trans. Roy. Soc. Canada, vol. i, sec. iv, p. 23, pl. iv, f. 13, 1882 [1883].

—: Peace River, Northwest Territory.

Protophyllum crassum Lx. Fl. Dak. Gr., p. 193, pl. lxxv, f. 4, 1892.

Dakota group: Kansas.

Protophyllum credneroides Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 363, pl. iii, f. 1; pl. viii, f. 4, 1874 [1876]; Cret. and Tert. Fl., p. 90, pl. ii, f. 1-3, 1883; Fl. Dak. Gr., p. 194, pl. xxxvi, f. 11; pl. xliii, f. 4, 5, 1892.

Dakota group: Kansas; New Ulm, Minnesota.

Protophyllum crenatum Kn. in Lx. Fl. Dak. Gr., p. 190, pl. lxxv, f. 7, 1892.

Dakota group: Kansas.

Protophyllum denticulatum Lx. Fl. Dak. Gr., p. 193, pl. xxxvi, f. 9, 1892.

Dakota group: Kansas.

Protophyllum dimorphum Lx. Fl. Dak. Gr., p. 190, pl. xli, f. 1, 1892.

Dakota group: Kansas.

- Protophyllum Haydenii** Lx. Cret. Fl., p. 106, pl. xvii, f. 3, 1874; Fl. Dak. Gr., p. 192, pl. xliii, f. 1; pl. xlv, f. 1, 2, 1892.
Pterospermites Haydenii Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 302, 1871 [1872].
Dakota group: Kansas.
- Protophyllum intergerrimum** Lx. Fl. Dak. Gr., p. 192, pl. xliii, f. 3, 1892; Geol. and Nat. Hist. Surv. Minn., p. 21, pl. B, f. 10, 11, 1893.
Dakota group: Mankato, Minnesota.
- Protophyllum Leconteanum** Lx. Cret. Fl., p. 103, pl. xvii, f. 4; pl. xxvi, f. 1, 1874; Fl. Dak. Gr., p. 187, pl. xl, f. 1, 1892.
Credneria Leconteana Lx. Am. Journ. Sci., vol. xvi, p. 98, 1868.
Dakota group: Brookville, Kansas; Peace River, Northwest Territory.
- Protophyllum minus** Lx. Cret. Fl., p. 104, pl. xix, f. 2; pl. xxvii, f. 1, 1874.
Dakota group: Kansas.
- Protophyllum? Mudgii** (Lx.).
Quercus Mudgii Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 302, 1871 [1872].
Protophyllum Mudgii Lx. Cret. Fl., p. 106, pl. xviii, f. 3, 1874.
Dakota group: Kansas.
- Protophyllum multinerve** Lx. Cret. Fl., p. 105, pl. xviii, f. 1, 1874; Fl. Dak. Gr., p. 191, pl. xliii, f. 2; lxx, f. 1, 1892.
Pterospermites multinervis Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 302, 1871 [1872].
Dakota group: Southern Kansas.
- Protophyllum nanaimo** Dn. Trans. Roy. Soc. Canada, vol. i, sec. iv, p. 28, pl. viii, f. 35, 1882 [1883].
Upper Cretaceous: Nanaimo; Baynes Sound.
- Protophyllum nebrascense** Lx. Cret. Fl., p. 103, pl. xxvii, f. 3, 1874.
Dakota group; Decatur, Nebraska.
- Protophyllum obovatum** Newby. Fl. Amboy Clays, p. 128, pl. xxxviii, f. 4, 1895 [1896].
Amboy clay: Woodbridge, New Jersey.
- Protophyllum præstans** Lx. Fl. Dak. Gr., p. 188, pl. xli, f. 2, 3; pl. xlii, f. 3, 4, 1892.
Dakota group: Kansas.
- Protophyllum pseudospermoides** Lx. Fl. Dak. Gr., p. 194, pl. lix, f. 2, 1892.
Dakota group: Kansas.
- Protophyllum pterospermifolium** Lx. Fl. Dak. Gr., p. 195, pl. lix, f. 1, 1892.
Dakota group: Kansas.
- Protophyllum quadratum** Lx. Cret. Fl., p. 104, pl. xix, f. 1, 1874.
Pterospermites quadratus Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 301, 1871 [1872].
Dakota group: South of Fort Harker, Kansas.

Protophyllum querciforme Hollick. Bull. Torr. Bot. Club, vol. xxii, p. 227, pl. cexxxvii, f. 1, 1895.

Dakota group: Fort Harker, Kansas.

Protophyllum rugosum Lx. Cret. Fl., p. 105, pl. xvii, f. 1, 2; pl. xix, f. 3, 1874.

Pterospermites rugosus Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 426, 1872 [1873].

Dakota group: South of Fort Harker, Kansas; Coal Brook, Northwest Territory.

Protophyllum Sternbergii Lx. Cret. Fl., p. 101, pl. xvi; pl. xviii, f. 2, 1874; Fl. Dak. Gr., p. 189, pl. xlii, f. 1, 1892.

Pterospermites Sternbergii Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 425, 1872 [1873].

Dakota group: Fort Harker, Kansas.

Protophyllum? trilobatum Lx. Bull. U. S. Geol. and Geogr. Surv. Terr., vol. i, p. 397, 1875 [1876]. [Apparently not afterward recognized.]

Dakota group: Kansas.

Protophyllum undulatum Lx. Fl. Dak. Gr., p. 189, pl. xlii, f. 2, 1892.

Dakota group: Kansas.

Protophyllum sp., Dn. Trans. Roy. Soc. Canada, vol. xi, sec. iv, p. 63, pl. xi, f. 46, 47, 1893 [1894].

Upper Cretaceous: Port McNeill, Vancouver Island; Nanaimo.

PRUNUS (Tournefort.) Linnæus. Syst., ed. i, 1735.

Prunus? acutifolia Newby. Fl. Amboy Clays, p. 90, pl. xiv, f. 1, 1895 [1896.]

Amboy clay: Woodbridge, New Jersey.

Prunus (Amygdalus) antecedens Lx. Fl. Dak. Gr., p. 144, pl. lv, f. 4, 1892.

Dakota group: Kansas.

Prunus caroliniana (Mill.) Ait. Hort. Kew., ed. i, vol. ii, p. 163, 1789.

Prunus caroliniana Michx. Lesquereux, Am. Journ. Sci., vol. xxvii, p. 363, 1859; Geol. Tenn., p. 427, pl. K, f. 6, 1869.

Pleistocene?: Somerville, Fayette County, Tennessee.

Prunus cretacea Lx. Am. Journ. Sci., vol. xlvi, p. 102, 1868.

Dakota group: Lancaster County, Nebraska.

Prunus dakotensis Lx. Cret. and Tert. Fl., p. 237, pl. xlviA, f. 8, 1883.

Fort Union group: Bad Lands, Dakota.

Prunus Parlatorii (Heer) Lx. = *Andromeda Parlatorii*.

Prunus variabilis Newby. Proc. U. S. Nat. Mus., vol. v, p. 509, 1882 [1883].

Eocene?: Cook Inlet, Alaska.

PSILOTITES Goldenberg. Fl. Sarapontana Foss., heft i, p. 13, 1855.

Psilotites inermis (Newby.) Schimp. Pal. Vég., vol. iii, p. 547, 1874.

Psilotum inerme Newby. Later Extinct Floras, p. 38, 1868.

Fort Union group: Fort Union.

Psilotum inerme Newby. = *Psilotites inermis*.

PTENOSTROBUS Lesquereux. Cret. Fl., p. 114, 1874.

Ptenostrobos nebrascensis Lx. Cret. Fl., p. 114, pl. xxiv, f. 1, 1874.

Dakota group: Winnebago Village, Missouri River.

PTERIS Linnæus. Gen. Pl., p. 322, 1737.

Pteris affinis Lx. = *Osmunda affinis* = *Asplenium subsimplex*.

Pteris anceps Lx. = *Osmunda affinis* = *Asplenium subsimplex*.

Pteris dakotensis Lx. Fl. Dak. Gr., p. 24, pl. i, f. 2, 3, 1892.

Dakota group: Kansas.

Pteris elegans Newby. Proc. U. S. Nat. Mus., vol. v, p. 503, 1882 [1883].

Miocene?: Currant Creek, Oregon.

Pteris erosa Lx. = *Asplenium erosum*.

Pteris (Oleandra) glossopteroides Dn. Trans. Roy. Soc. Canada, vol. i, sec. iv, p. 24, pl. iv, f. 16, 1882 [1883].

Upper Cretaceous: Protection Island.

Pteris Gardneri Lx. = *Gymnogramma Gardneri*.

Pteris pinnæformis Heer, Lx. = *Pteris pseudopinnæformis*.

Pteris pseudopinnæformis Lx. Tert. Fl., p. 52, pl. iv, f. 3, 4, 1878.

Pteris pinnæformis Heer. Lesquereux, Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 384, 1870 [1771]; *ibid.*, p. 283, 1871 [1872].

Denver group: Golden, Colorado.

Pteris Russellii Newby. Proc. U. S. Nat. Mus., vol. v, p. 503, 1882 [1883].

Laramie group: Vermejo Canyon, New Mexico.

Pteris Sitkensis Heer. Fl. Foss. Alask., p. 21, pl. i, f. 7a, 1869.

Eocene?: Near Sitka, Alaska; Mackenzie River.

Pteris subsimplex Lx. = *Asplenium subsimplex*.

Pteris undulata Lx. = *Asplenium subsimplex*.

PTEROCARYA Kunth. Ann. Sci. Nat., 1st ser., vol. ii, p. 345, 1824.

Pterocarya americana Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 417, 1873 [1874]; Tert. Fl., p. 290, pl. lviii, f. 3, 1878.

Green River group: Middle Park, Colorado.

Pterocarya retusa Lx. Bull. Mus. Comp. Zoöl., vol. xvi, p. 56, 1888.

Denver group: Golden, Colorado.

PTEROPHYLLUM Brongniart. Prodr. Hist. Veg. Foss., p. 95, 1828.

Pterophyllum? *Haydenii* Lx. = *Podozamites Haydenii*.

Pterophyllum californicum Font. in Diller and Stanton. Bull. Geol. Soc. Am., vol. v, p. 450, 1894. *Nomen nudum*.

Knoxville beds: Tehama County, California.

PTEROSPERMITES Heer. Fl. Tert. Helv., vol. iii, p. 36, 1859.

Pterospermites cordatus Ward. Bull. U. S. Geol. Surv., no. 37, p. 93, pl. xli, f. 4, 1889.

Fort Union group: Seven-Mile Creek, Montana.

Pterospermites cupanioides (Newby.) Kn. Proc. U. S. Nat. Mus., vol. xvi, p. 35, pl. ii, f. 1, 1893.

Phyllites cupanioides Newby. Later Extinct Floras, p. 74, 1868.

Pterospermites Whitei Ward. Bull. U. S. Geol. Surv., no. 37, p. 94, vol. xvi, f. 5, 6, 1887.

Fort Union group: Glendive? Montana.

Pterospermites dentatus Heer. Fl. Foss. Arct., vol. i, p. 138, pl. xxi, f. 15*b*; xxiii, f. 6, 7, 1868; Lesquereux, Proc. U. S. Nat. Mus., vol. x, p. 45, 1887.

Miocene?: Mackenzie River; Upper Kanab Valley, Utah.

Pterospermites grandidentatus Lx. Bull. Mus. Comp. Zoöl., vol. xvi, p. 53, 1888.

Denver group: Golden, Colorado.

Pterospermites Haydenii Lx. = *Protophyllum Haydenii*.

Pterospermites longaeacuminatus Lx. Fl. Dak. Gr., p. 186, pl. lix, f. 3, 1892.

Dakota group: Kansas.

Pterospermites modestus Lx. Fl. Dak. Gr., p. 186, pl. lviii, f. 5, 1892.

Dakota group: Kansas.

Pterospermites minor Ward. Bull. U. S. Geol. Surv., no. 37, p. 95, pl. xlii, f. 1-3, 1887.

Fort Union group: Burns's Ranch, Montana.

Pterospermites multinervis Lx. = *Protophyllum multinerve*.

Pterospermites quadratus Lx. = *Protophyllum quadratum*.

Pterospermites rugosus Lx. = *Protophyllum rugosum*.

Pterospermites spectabilis Heer. Fl. Foss. Arct., vol. ii, abt. iv, p. 480, pl. xliii, f. 15*b*; liii, f. 1-4, 1869; Lx., Proc. U. S. Nat. Mus., vol. xi, p. 27, 1888.

Miocene: Spanish Peak, California.

Pterospermites Sternbergii Lx. = *Protophyllum Sternbergii*.

Pterospermites Whitei Ward = *Pterospermites cupanioides*.

Pterospermites sp. Lx. Bull. Mus. Comp. Zoöl., vol. xvi, p. 53, 1888.

Denver group: Golden, Colorado.

Pterospermites sp. Kn. Bull. Geol. Soc. Am., vol. viii, p. 154, 1897.

Montana formation: Point of Rocks, Wyoming.

Pterospermites sp. Kn. Bull. Geol. Soc. Am., vol. viii, p. 154, 1897.

Montana formation: Point of Rocks, Wyoming.

PYRUS (Tournefort) Linnæus. Syst., ed. i, 1735.

Pyrus cretacea Newby. Later Extinct Floras, p. 12, 1868.

Dakota group: Kansas.

QUERCINIUM Unger in Endlicher. Gen. Pl., suppl. ii, p. 101.

Quercinium Knowltoni Felix. Zeitschr. d. Deutschen Geolog. Gesell. Jahr. 1896, p. 250, pl. vi, f. 2, 1896.

Miocene: Amethyst Mountain, Yellowstone National Park.

QUERCOPHYLLUM Fontaine. Potomac Fl., p. 307, 1889.

Quercophyllum grossedentatum Font. Potomac Fl., p. 307, pl. clvi, f. 9, 1889.

-Potomac formation: Near Brooke, Virginia.

Quercophyllum tenuinerve Font. Potomac Fl., p. 308, pl. cxlix, f. 6, 7, 1889.

Potomac formation: Fredericksburg, Virginia.

QUERCUS (Tournefort) Linnæus. Syst., ed. i, 1735.

Quercus acrodon Lx. = *Quercus Lesquereuxiana*.

Quercus æmulans Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 288, 1871 [1872].

Eocene?: Washakie Station, Wyoming.

Quercus alnoïdes Lx. Fl. Dak. Gr., p. 54, pl. vii, f. 3, 1892.

Dakota group: Kansas.

Quercus anceps Lx. = *Diospyros ambigua*.

Quercus angustiloba Al. Br. in Ludwig. Palæontogr., vol. viii, p. 103, pl. xxxvi, f. 3, 1861; Lx., Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 378, 1872 [1873]; Tert. Fl., p. 161, pl. xxi, f. 4, 5, 1878.

Laramie group: Golden, Colorado.

Eolignitic?: Cross Lake, Louisiana?

Quercus antiqua Newby. Later Extinct Floras, p. 26, 1868.

Dakota group?: Banks of Rio Dolores, Utah.

Quercus aquamara (Ward) n. comb.

Hedera aquamara Ward. Bull. U. S. Geol. Surv., no. 37, p. 59, pl. xxvi, f. 7, 1887.

Laramie group: Black Buttes, Wyoming.

Quercus attenuata? Göpp. Lx. = *Quercus viburnifolia*.

Quercus banksiæfolia Newby. Bost. Journ. Nat. Hist., vol. vii, p. 522, 1863.

———: Bellingham Bay, Washington.

Quercus benzoin? Lx. = *Persea Leconteana*.

Quercus bicornis Ward. Bull. U. S. Geol. Surv., no. 37, p. 24, pl. ix, f. 3, 1887.

Fort Union group: Seven-Mile Creek, Montana.

Quercus Boweniana Lx. Mem. Mus. Comp. Zoöl., vol. vi, no. 2, p. 6, pl. ii, f. 5, 6, 1878.

Miocene: California.

Quercus Breweri Lx. = *Quercus consimilis* (f. 5-8) and *Q. paucidentata* (f. 9).

Quercus carbonensis Ward. Bull. U. S. Geol. Surv., no. 37, p. 25, pl. ix, f. 6, 1887.

Dryophyllum basidentatum Ward. Op. cit., p. 27, pl. xi, f. 2, 1887.

Laramie?: Carbon, Wyoming.

Quercus castaneopsis Lx. Cret. and Tert. Fl., p. 155, pl. xxviii, f. 10, 1883.

Green River group: Uinta County, formerly but incorrectly called Randolph County, Wyoming.

Quercus castanoides Newby. Proc. U. S. Nat. Mus., vol. v, p. 506, 1882 [1883].

Eocene: Green River, Wyoming.

Quercus castanopsis Newby. Proc. U. S. Nat. Mus., vol. v, p. 505, 1882 [1883].

Fort Union group: Yellowstone River.

Quercus celastrifolia Lx. Bull. Mus. Comp. Zoöl., vol. xvi, p. 46, 1888.
Denver group: Golden, Colorado.

Quercus chamissonis Heer. Öfversigt k. Vetensk.-Akad. Förhandlingar 1868, p. 64, 1868; Fl. Foss. Alask., p. 33, pl. vi, f. 7, 8, 1869.

Eocene?: Port Graham, Alaska.

Quercus chlorophylla Ung. = *Quercus?* *chlorophylloides*.

Quercus? chlorophylloides nom. nov.

Quercus chlorophylla Ung. Chlor. Prot., p. 111, pl. xxxi, f. 1, 18—; Lx., Am. Journ. Sci., vol. xlv, p. 206, 1868; Trans. Am. Phil. Soc., vol. xiii, p. 416, pl. xvii, f. 5-7, 1869; Tert. Fl., p. 151, pl. xxi, f. 3, 1878.

Eolignitic: Mississippi.

Denver group: [Locality not mentioned.]

Laramie group: Marshall and Erie, Colorado; Fishers Peak, New Mexico.

[NOTE.—After looking up the original of the European form, as well as many other figures, I am convinced that our leaf is not the same. Our leaf is ovate; the European are more nearly obovate. There is also some doubt as to our leaf belonging to *Quercus*. In absence of more definite information I have changed the name but retained it under *Quercus*.—F. H. K.]

Quercus chrysolepis Leib. forma **montana** Lx. Proc. U. S. Nat. Mus., vol. x, p. 38, 1887.

Miocene: Placer County, California.

Quercus cineroides Lx. Tert. Fl., p. 152, pl. xxi, f. 6, 1878.

——?: Location and formation unknown.

Quercus Cleburni Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 399, 1873 [1874]; Tert. Fl., p. 154, pl. xx, f. 2, 1878. [Of doubtful validity.]

Laramie group: Black Buttes, Wyoming.

Quercus coloradensis Lx. Bull. Mus. Comp. Zoöl., vol. xvi, p. 46, 1888.

Denver group: Golden, Colorado.

Quercus competens Lx. Bull. U. S. Geol. and Geogr. Surv. Terr., vol. i, p. 370, 1875 [1876]. [Apparently not afterwards referred to by author.]

Montana formation?: Point of Rocks, Wyoming.

Quercus consimilis Newby. Proc. U. S. Nat. Mus., vol. v, p. 505, 1882 [1883].

Quercus Breweri Lx. Cret. and Tert. Fl., p. 246, pl. liv, f. 5-8 [not f. 9], 1883.

Miocene: Bridge Creek and John Day Valley, Oregon.

Quercus convexa Lx. Mem. Mus. Comp. Zoöl., vol. vi, no. 2, p. 4, pl. i, f. 13-17, 1878; Cret. and Tert. Fl., p. 265, pl. xlVB, f. 5, 6, 1883.

Miocene: Table Mountain, California.

Quercus coriacea Newby. Bost. Journ. Nat. Hist., vol. vii, p. 521, 1863.

—: Bellingham Bay, Washington.

Quercus! crassinervi(s)a? Göpp. Zeitschr. Deutsch. Geol. Ges., vol. iv, p. 491, 1852; Lesquereux, Am. Journ. Sci., vol. xxvii, p. 364, 1859; Geol. Tenn., p. 427, pl. K, f. 1, 1869.

Pleistocene?: Somerville, Fayette County, Tennessee.

Quercus Crossii Lx. Proc. U. S. Nat. Mus., vol. x, p. 39, pl. ii, f. 5, 6, 1887.

Denver group: Silver Cliff, Colorado.

Quercus cuneata Newby. Later Extinct Floras, p. 25, 1868.

Dakota group: Blackbird Hill, Nebraska.

Quercus dakotensis Lx. Cret. and Tert. Fl., p. 39, 1883; Fl. Dak. Gr., p. 56, pl. vii, f. 4, 1892.

Dakota group: Kansas.

Quercus Dallii Lx. Proc. U. S. Nat. Mus., vol. v, p. 446, pl. viii, f. 2-5, 1882 [1883].

Eocene?: Cook Inlet, Alaska.

Eocene?: North Fork Similkameen River, British Columbia.

Quercus Dawsoni nom. nov.

Quercus platania Heer. Dawson, Trans. Roy. Soc. Canada, vol. vii, sec. iv, p. 72, pl. xi, 1889. [Not *Q. platania* Heer.]

Fort Union group: Near Calgary, and Bow River, Canada.

Quercus Dentoni Lx. Cret. and Tert. Fl., p. 224, pl. xlviii, f. 1, 11, 1883.

Fort Union group: Bad Lands, Dakota.

Montana formation?: Point of Rocks, Wyoming?

Quercus distincta Lx. Mem. Mus. Comp. Zoöl., vol. vi, no. 2, p. 6, pl. ii, f. 7-9, 1878.

Quercus voyana Lx. Op. cit., p. 8, pl. ii, f. 12, 1878.

Miocene: Chalk Bluffs, California.

Quercus doljensis Pilar. Fl. Foss. Susedana, p. 37, pl. vii, f. 14, 1883, Ward, Bull. U. S. Geol. Surv., no. 37, p. 25, pl. ix, f. 4, 5, 1887.

Rhus pseudo-Meriani Lx. Tert. Fl., p. 293, pl. lviii, f. 11, 1878.

Laramie group: Black Buttes and Hodges Pass, Wyoming.

Quercus drymeja Ung. Chlor. Prot., p. 113, pl. xxxii, f. 1-4, 1847; Lx., Tert. Fl., p. 157, pl. xix, f. 14, 1878; Cret. and Tert. Fl., p. 154, pl. xxviii, f. 12 [not p. 245, pl. liv, f. 4], 1883.

Green River group: Florissant, Colorado.

Miocene: Bridge Creek, Oregon.

Quercus drymeja Ung. var.? Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 292, 1871 [1872].

Laramie group? Evanston, Wyoming.

Quercus dubia Newby. Proc. U. S. Nat. Mus., vol. v, p. 506, 1882, [1883].

Tertiary: Tongue River, Wyoming.

- Quercus elæna** Ung. Chlor. Prot., p. 112, pl. xxxii, f. 4, 1847; Lesquereux, Cret. and Tert. Fl., p. 155, pl. xxviii, f. 11, 13, 1883.
 ———: Florissant, Colorado.
- Quercus elænoïdes** Lx. Mem. Mus. Comp. Zoöl., vol. vi, no. 2, p. 4, pl. i, f. 9-12, 1878.
 Miocene: Table Mountain, California.
 Green River group: Florissant, Colorado.
- Quercus elkoana** Lx. = *Carpinus grandis*.
- Quercus elliptica** Newby. Bost. Journ. Nat. Hist., vol. vii, p. 523, 1863.
 ———: Bellingham Bay, Washington.
- Quercus ellisiana** Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 297, 1871 [1872]; Tert. Fl., p. 155, pl. xx, f. 4, 5, 6, 7, 8, 1878.
Quercus Pealei Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 297, 1871 [1872]; Kn., Bull. U. S. Geol. Surv., no. 105, p. 53, 1893.
 Livingston beds: Hodson coal mine, near Bozeman, Montana.
 Laramie group: Head of Fir Canyon, near Bozeman, Montana.
- Quercus? ellsworthianus** Lx. Cret. Fl., p. 65, pl. vi, f. 7, 1878.
Quercus ellsworthianus Lx. Am. Jour. Sci., vol. xlvi, p. 96, 1868.
Laurophyllum ellsworthianum Lx. Fl. Dak. Gr., p. 95, pl. xiii, f. 7, 1892.
 Dakota group: Kansas and Nebraska.
- Quercus Evansii** Lx. Am. Journ. Sci., vol. xxvii, p. 360, 1859.
 ———: Bellingham Bay, Washington.
- Quercus falcata** Michx. Knowlton, Am. Geol., vol. xviii, p. 371, 1896.
 Glacial: Morgantown, West Virginia.
- Quercus flexuosa** Newby. Bost. Journ. Nat. Hist., vol. vii, p. 521, 1863.
 Cretaceous: Bellingham Bay, Washington.
- Quercus? fraxinifolia** Lx. Tert. Fl., p. 154, pl. xx, f. 3, 1878.
Quercus Laharpi Gaud. Nouv. Mém. Soc. Helv. Sci. Nat., vol. xvii, p. 45, pl. iii, f. 5, 10, 1860; Lx., Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 297, 1871 [1872].
 Livingston beds: Bozeman coal field, Montana.
 Eocene?: ?Cherry Creek, Oregon.
- Quercus furcinervis** Rossm. Lx. = *Quercus furcinervis americana* [pl. liv, f. 1, 2] and *Quercus paucidentata* [pl. liii, f. 8-14].
- Quercus furcinervis americana** var. nov.
Phyllites furcinervis Rossm. Verst. Braunk. von Altsatle in Böhmen, p. 33, pl. vii, f. 26-31, 1840.
Quercus furcinervis (Rossm.) Ung. Syn. v. Fl. Foss., p. 217, 1845; Lesquereux, Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 398, 1873 [1874]; Cret. and Tert. Fl., p. 244, pl. liv, f. 1, 2, 1883.
 Miocene: Bridge Creek, Oregon; Plumas County, California;
 Cherry Creek, Oregon; Selma, Texas.
- Quercus Furuhejmi** Heer. Öfersigt k. Vetensk.-Akad. Förhandlgar., 1868, p. 64, 1868; Fl. Foss. Alask., p. 32, pl. v, f. 10; pl. vi, f. 1, 2, 1869.
 Eocene?: Port Graham, Alaska.

Quercus Gaudini Lx. Am. Journ. Sci., vol. xxvii, p. 360, 1859; Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 296, 1871 [1872]; Proc. U. S. Nat. Mus., vol. x, p. 39, pl. ii, f. 7, 8, 1887.

—?: Warm Spring Canyon; Bellingham Bay; Upper Kanab Valley, Utah.

Quercus glascoena Lx. Fl. Dak. Gr., p. 55, pl. vi, f. 6, 1892.

Dakota group: Kansas.

Quercus Godeti? Heer. Fl. Tert. Helv., vol. ii, p. 50, pl. lxxviii, f. 10, 11, 1856; Lx., Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 297. 1871 [1872]; Tert. Fl., p. 153, pl. xx, f. 1, 1878.

Livingston beds: Bozeman coal field, Montana.

Quercus Gœpperti Lx. Mem. Mus. Comp. Zoöl., vol. vi, no. 2, p. 7, pl. ii, f. 11, 1878.

Miocene: Chalk Bluffs, California.

Quercus goldianus Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 398, 1873 [1874]. [Not recognized by its author after first description.]

Denver group?: Golden, Colorado.

Quercus gracilis Newby. = *Dryophyllum subfalcatum*.

Quercus Haidingeri Ett. Foss. Fl. v. Wien., p. 12, pl. ii, f. 1, 1851; Lx., Bull. U. S. Geol. and Geogr. Surv. Terr., vol. i, p. 387, 1875 [1876]; Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 313, 1874 [1876]; Tert. Fl., p. 156, pl. xx, f. 9, 10, 1878.

Denver group?: Golden, Colorado.

—: ? Locality of American types unknown.

Quercus Haydeni Lx. Am. Journ. Sci., vol. xlv, 2d ser., p. 205, 1869.

Quercus Haydenii Lx. Tert. Fl., p. 157, pl. xix, f. 10, 1878.

Laramie: Rock Creek, Laramie Plains, Wyoming.

Quercus hexagona Lx. Am. Journ. Sci., vol. xlvi, p. 95, 1868; Cret. Fl., p. 64, pl. v, f. 8, 1874; Fl. Dak. Gr., p. 56, pl. vii, f. 5, 1892.

Dakota group: Cass County, Nebraska; Delphos, Kansas.

Quercus (Dryophyllum) hieracifolia (Deb.) Hos. and v. d. Marck, Fl. d. Westf. Cret. Form., p. 166, pl. 31, f. 85–88, 1880; Lx., Fl. Dak. Gr., p. 58, pl. iii, f. 15, 1892.

Dakota group: Kansas.

Quercus Holmesii Lx. Fl. Dak. Gr., p. 58, 1892.

Dryophyllum (Quercus) salicifolium * Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 340, pl. viii, f. 2, 1874 [1876]. [*Name preoccupied by *Q. salicifolia* Newby., q. v.]

Dryophyllum (Quercus) Holmesii Lx. Cret. and Tert. Fl., p. 38, pl. iv, f. 8, 1883.

Upper Cretaceous: Port McNeill, Vancouver.

Dakota group?: San Juan River, Southwestern Colorado.

Quercus horniana Lx. Proc. U. S. Nat. Mus., vol. xi, p. 17, pl. v, f. 6, 1888.

Miocene: John Day Valley, Oregon.

Bull. 152—13

Quercus (Dryophyllum) Hosiana Lx. Fl. Dak. Gr., p. 57, pl. iii, f. 14, 1892.

Dakota group: Kansas.

Quercus idahoensis Kn. Eighteenth Ann. Rept. U. S. Geol. Surv., pt. iii, p. 729, pl. cii, f. 4, 1898.

Payette formation: Marsh, Idaho.

Quercus ilicoides? Heer. Lesquereux. = *Ilix dissimilis*.

Quercus imbricaria Michx., **fossilis** Lx., Proc. U. S. Nat. Mus., vol. x, p. 39, 1887.

Pleistocene?: Bridgeton, New Jersey.

Quercus Johnstrupi Heer? Fl. Foss. Arct., vol. vii, p. 24, pl. lvi, f. 7-12a; 1883; Newby., Fl. Amboy Clays, p. 69, pl. xix, f. 7. 1895 [1896].

Amboy clay: Sayreville, New Jersey.

Quercus kanseana (Lx.) n. comb.

Hamamelites kansaseana Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 355, pl. vii, f. 4, 1874 [1876].

Hamamelites kansaseanus Lx. Cret. and Tert. Fl., p. 70, pl. iv, f. 5, 1883.

Alnus kanseana Lx. Cret. Fl., p. 62, pl. xxx, f. 8, 1878.

Dakota group: Kansas.

Quercus (Dryophyllum) latifolia Lx. Fl. Dak. Gr., p. 58, 1892.

Dryophyllum (Quercus) latifolium Lx. Bull. U. S. Geol. and Geogr. Surv. Terr., vol. i, p. 393, 1875 [1876]; Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 340, pl. vi, f. 1, 1874 [1876]; Cret. and Tert. Fl., p. 37, pl. iv, f. 1, 2, 1883.

Dakota group: Kansas.

Quercus Laharpi Gaud. Lx. = *Quercus?* *fraxinifolia*.

Quercus laurifolia Newby. Proc. U. S. Nat. Mus., vol. v, p. 505, 1882 [1883].

Fort Union group: Fort Berthold, North Dakota.

Quercus Lesquereuxiana nom. nov.

*Quercus acrodon** Lx. Am. Journ. Sci., vol. xlv, 2d ser, p. 205, 1869; Tert. Fl., p. 158, pl. xix, f. 11-13, 1878.

[**Q. acrodon* Lx., 1868 antedated by *Q. acrodon* Massal., 1853.]

Laramie group?: Rock Creek, Laramie Plains, Wyoming.

Quercus lonchitis Ung. Gen. et Sp. Pl. Foss., p. 403, 1850; Lx., Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., 1871, suppl., p. 6, 1871 [1872]; Proc. U. S. Nat. Mus., vol. xi, p. 22, 1888.

Eocene?: Green River, Wyoming.

Miocene: Cherry Creek, Oregon.

Quercus Lyellii Heer. Phil. Trans., vol. clii, pt. 2, p. 1058, pl. lxiii, f. 2-9; lxiv, f. 1-4; lxv, f. 12b; lxvi, f. 1, 2; lxviii, f. 4, 5, 1862; Lx., Am. Journ. Sci., vol. xlv, p. 206, 1868; Trans. Am. Phil. Soc., vol. xiii, p. 415, pl. xvii, f. 1-3, 1869.

Eolignitic: Mississippi.

Quercus mediterranea Ung. Chlor. Prot., p. 114, pl. xxxii f. 5-9, 1847; Lx., Cret. and Tert. Fl., p. 153, pl. xxviii, f. 9, 1883.

Green River group: Florissant, Colorado.

Quercus minor (Marsh.) Sargent.

Quercus obtusiloba Michx. Penhallow in Coleman, Journ. Geol., vol. iii, p. 635, 1895.

Pleistocene: Don River, Canada.

- Quercus Moorii** Lx. Trans. Am. Phil. Soc., vol. xiii, p. 415, pl. xvi, f. 1-3, 1869.
Eolignitic: Mississippi.
Eocene: Lassen County, California.
- Quercus morrisoniana** Lx. Cret. and Tert. Fl., p. 40, pl. xvii, f. 1, 2, 1883; Hollick, Trans. N. Y. Acad. Sci., vol. xvi, p. 131, pl. xiii, f. 11, 12, 1897.
Dakota group: Morrison, Colorado.
Clay marl (Upper Cretaceous): Cliffwood, New Jersey.
- Quercus Mudgii** Lx. = *Protophyllum Mudgii*.
- Quercus multinervis** Lx. Am. Journ. Sci., vol. xxvii, p. 360, 1859.
——: Nanaimo, Vancouver Island.
- Quercus mystifolia** Willd. Lesquereux, Am. Journ. Sci., vol. xxvii, p. 363, 1859; Geol. Tenn., p. 427, pl. K, f. 3, 1869.
Pleistocene?: Somerville, Fayette County, Tennessee.
- Quercus negundooides** Lx. Ann. Rept. U. S. Geol. and Geog. Surv. Terr., p. 292, 1871 [1872]; Tert. Fl., p. 161, pl. xxi, f. 2, 1878.
Laramie group: Evanston, Wyoming.
- Quercus nerifolia** Al. Br. Unger, Gen. et Sp. Pl. Foss., p. 403, 1850; Lx., Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 413, 1873 [1874]; Tert. Fl., p. 150, pl. xix, f. 4, 5, 1878. [Identification very doubtful.]
Laramie group: Raton Mountains, New Mexico.
——?: Pikes Peak, Colorado.
- Quercus nevadensis** Lx. Mem. Mus. Comp. Zoöl., vol. vi, no. 2, p. 5, pl. ii, f. 3, 4, 1878.
Quercus Olafseni Heer. Lesquereux, Cret. and Tert. Fl., p. 245, pl. liv, f. 3, 1883.
Miocene: Chalk Bluffs, California.
- Quercus ? Novæ-Cæsareæ** Hollick. Trans. N. Y. Acad. Sci., vol. xvi, p. 131, pl. xiii, f. 9, 10, 1897.
Clay marl (Upper Cretaceous): Cliffwood, New Jersey.
- Quercus obtusiloba** Mx. = *Quercus minor*.
- Quercus ? (Dryophyllum) occidentalis** (Dn.) n. comb.
Dryophyllum occidentale Dn. Trans. Roy. Soc. Canada, vol. xi, sec. iv, p. 58, pl. vii, f. 17, 18, 1893 [1894].
Dryophyllum neillianum Dn. Op. cit., p. 58, pl. vii, f. 19, 1893 [1894].
Dryophyllum elongatum Dn. Op. cit., p. 58, pl. vii, f. 20, 1893 [1894].
Dryophyllum sp., Dn. Op. cit., p. 58, pl. xii, f. 59, 1893 [1894].
Upper Cretaceous: Port McNeill, Vancouver.
- Quercus Olafseni** Heer. Fl. Foss. Arct., vol. i, p. 109, pl. x, f. 5; pl. xi, f. 7; pl. xlvi, f. 10; p. 138, pl. xxii, f. 17, 1868; Lx., Cret. and Tert. Fl., p. 224, pl. xlvi, f. 4, 1883.
Eocene?: Cherry Creek, Oregon; Lassen County, California.
Miocene?: Table Mountain, California; Mackenzie River.
Fort Union group: Bad Lands, Dakota.
- Quercus Olafseni** Heer. Lx. [Cret. and Tert. Fl., p. 245, pl. liv, f. 3] = *Quercus nevadensis*.

Quercus Osbornii Lx. Cret. and Tert. Fl., p. 154, pl. xxxviii, f. 17, 1883.

Green River group: Florissant, Colorado.

Quercus pandurata Heer. Öfversigt k. Vetensk.-Akad. Förhandlingar. 1868, p. 64, 1868; Fl. Foss. Alask., p. 33, pl. vi, f. 6, 1869.

Eocene?: Port Graham, Alaska.

Quercus paucidentata Newby. Proc. U. S. Nat. Mus., vol. v, p. 505, 1882 [1883].

Quercus furcinervis Rossm. Lesquereux, Cret. and Tert. Fl., p. 244, pl. liii, f. 8-14 [not pl. liv, f. 1-2], 1883.

Quercus Breweri Lx. Cret. and Tert. Fl., p. 246, pl. liv, f. 9 [not f. 5-8], 1883.

——: Bridge Creek and John Day Valley, Oregon.

Quercus payettensis Kn. Eighteenth Ann. Rept. U. S. Geol. Surv., pt. iii, p. 730, pl. cii, f. 9, 1898.

Payette formation: Jackass Creek, Boise County, Idaho.

Quercus Pealei Lx. = *Quercus ellisiana*.

Quercus platania Heer Dawson = *Quercus Dawsoni*.

Quercus platania Heer Lx. = *Platanus cordata*.

Quercus platania var. *rotundifolia* Lx. = *Dombeyopsis platanoides*.

Quercus platinervis Lx. Am. Journ. Sci., vol. xxvii, p. 361, 1859.

——: Nanaimo, Vancouver Island.

Quercus poranoides Lx. Cret. Fl., p. 66, pl. xxx, f. 9, 1874.

Dakota group: Kansas.

Quercus pseudo-alnus Ett. Abhandl. d. k. k. geol. Reichsanstalt, vol. i, abt. iii, p. 5, pl. i, f. 7, 1852; Lx., Cret. and Tert. Fl., p. 244, pl. liii, f. 1-7, 1883.

Miocene: John Day Valley, Oregon.

Quercus pseudo-castanea Göpp. in Dunker et Meyer. Palæontogr., ii, pl. xxxv, f. 1, 1853; Heer, Öfversigt k. Vetensk.-Akad. Förhandlingar. 1868, p. 64, 1868; Fl. Foss. Alask., p. 32, pl. vi, f. 3-5, 1869.

Eocene?: Port Graham, Alaska.

Quercus pseudo-chrysophylla Lx. Mem. Mus. Comp. Zoöl., vol. vi, no. 2, p. 60, Appen., 1878.

Miocene: Oregon Creek, 20 miles north of Chalk Bluffs, California.

Quercus pseudo-lyrata Lx. Mem. Mus. Comp. Zoöl., vol. vi, no. 2, p. 8, pl. ii, f. 1, 2, 1878; Proc. U. S. Nat. Mus., vol. xi, p. 17, pl. x, f. 1, 1888.

Miocene?: California.?

Miocene: John Day Valley, Oregon.

Quercus pseudo-lyrata acutiloba Lx. Proc. U. S. Nat. Mus., vol. xi, p. 17, pl. xi, f. 1, 1888.

Miocene: John Day Valley, Oregon.

Quercus pseudo-lyrata angustiloba Lx. Proc. U. S. Nat. Mus., vol. xi, p. 17, pl. xi, f. 2, 1888.

Miocene: John Day Valley, Oregon.

- Quercus pseudo-lyrata brevifolia** Lx. Proc. U. S. Nat. Mus., vol. xi, p. 18, pl. x, f. 2, 1888.
Miocene: John Day Valley, Oregon.
- Quercus pseudo-lyrata latifolia** Lx. Proc. U. S. Nat. Mus., vol. xi, p. 18, pl. xii, f. 1, 1888.
Miocene: John Day Valley, Oregon.
- Quercus pseudo-lyrata obtusiloba** Lx. Proc. U. S. Nat. Mus., vol. xi, p. 18, pl. x, f. 3, 1888.
Miocene: John Day Valley, Oregon.
- Quercus pyrifolia** Lx. Cret. and Tert. Fl., p. 154, pl. xxviii, f. 14, 1883.
Green River group: Florissant, Colorado.
- Quercus retracta** Lx. Trans. Am. Phil. Soc., vol. xii, p. 416, pl. xvi, f. 4, 5, 1869.
Eolignitic: Mississippi.
- Quercus (Dryophyllum) rhamnoides** Lx. Fl. Dak. Gr., p. 57, p. xlviii, f. 4, 1892.
Dakota group: Kansas.
- Quercus Saffordi** Lx. Am. Journ. Sci., vol. xxvii, p. 364, 1859; 2d Rept. of Geol. Recon. of Ark., p. 319, pl. vi, f. 3, 1860; Geol. Tenn., p. 427, pl. K, f. 2a, 2b, 2c, 1869; Proc. U. S. Nat. Mus., vol. xi, p. 13, pl. v, f. 1-3, 1888.
Pleistocene?: Somerville, Fayette County, Tennessee.
- Quercus salicifolia** Newby. Later Extinct Floras. p. 24, 1868.
Dakota group: Blackbird Hill, Nebraska.
- Quercus semialatus** Lx. = *Anisophyllum semialatum*.
Quercus semi-elliptica Göpp. Lx. = *Planera longifolia*.
- Quercus serra** Ung. Chlor. Prot., p. 109, pl. xxx, f. 5-7, 1847; Lx., Cret. and Tert. Fl., p. 153, 1883.
Green River group: Florissant, Colorado.
- Quercus simplex** Newby. Proc. U. S. Nat. Mus., vol. v, p. 505, 1882 [1883].
Miocene?: Bridge Creek, Oregon.
- Quercus simulata** Kn. Eighteenth Ann. Rept. U. S. Geol. Surv., pt. iii, p. 728, pl. ci, f. 3, 4; cii, f. 1, 2, 1898.
Payette formation: Marsh, Idaho.
- Quercus sinuata** Newby. Later Extinct Floras, p. 27, 1868.
Dakota group: Banks of Rio Dolores, Utah.
- Quercus spurio-ilex** Kn. in Lx. Fl. Dak. Gr., p. 53, pl. xlviii, f. 3, 1892.
Dakota group: Kansas.
- Quercus Steenstrupiana?** Heer. Fl. Foss. Arct., vol. i, p. 109, pl. xi, f. 5; xlvi, f. 8, 9, 1868.
Miocene: Oregon Creek, 20 miles north of Chalk Bluffs, California.
- Quercus stramineus** Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 378, 1872 [1873]; Tert. Fl., p. 151, pl. xix, f. 6, 7, 1878.
Laramie group: Golden, Colorado.

Quercus Sullyi Newby. Proc. U. S. Nat. Mus., vol. v, p. 506, 1882 [1883].

Fort Union group: Fort Berthold, North Dakota.

Quercus suspecta Lx. Fl. Dak. Gr., p. 52, pl. xlvii, f. 7; pl. xlvi, f. 1, 2, 1892.

Dakota group: Kansas.

Quercus transgressus Lx. Mem. Mus. Comp. Zoöl., vol. vi, no. 2, p. 59, Appen., 1878.

Miocene: Oregon Creek, 20 miles north of Chalk Bluffs, California.

Quercus triangularis Göpp. Lx. = **Quercus viburnifolia**.

Quercus valdensis Heer. Fl. Tert. Helv., vol. ii, p. 49, pl. lxxviii, f. 15, 1856; Lx., Tert. Fl., p. 153, pl. xix, f. 8, 1878.

Denver group?: Rock Creek, Laramie Plains, Wyoming.

Quercus viburnifolia Lx. Tert. Fl., p. 159, pl. xx, f. 11, 12, 1878.

Quercus triangularis Göpp. [Ex. p.]. In Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 377, 1872 [1873].

Quercus attenuata? Göpp. In Lx., Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., 398, 1873 [1874].

Denver group: Golden, Colorado.

Laramie group: Sand Creek, Colorado; Black Buttes, Wyoming.

Quercus victoriæ Dn. Trans. Roy. Soc. Canada, vol. i, sec. iv, p. 27, pl. vii, f. 27, 1882 [1883].

Upper Cretaceous: Newcastle Island, Nanaimo, Protection Island, Port McNeill, Vancouver Island.

Quercus virens Mx. = **Quercus virginiana**.

Quercus virginiana Miller. Dict., ed. viii, no. 16, 1768.

Quercus virens Michx. Lesquereux, Am. Journ. Sci., vol. xxvii, p. 364, 1859.

Pleistocene: Banks of Mississippi, near Columbus, Kentucky.

Quercus Voyana Lx. = **Quercus distincta**.

Quercus Wardiana Lx. Fl. Dak. Gr., p. 53, pl. vii, f. 1, 1892.

Dakota group: Kansas.

Quercus Whitei Lx. Bull. Mus. Comp. Zoöl., vol. xvi, p. 46, 1888.

Denver group: Golden, Colorado.

Quercus wyomingiana Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 400, 1872 [1873]. [Not regarded by its author after first mention.]

Laramie: Black Buttes, Wyoming.

Quercus cf. cuspidata (Rossm.) Ung. Syn. Fl. Foss., p. 217, 1845. Lesquereux, Proc. U. S. Nat. Mus., vol. xi, p. 12, 1888.

Phyllites cuspidatus Rossm. Verst. Braunk. von Altsattel in Böhmen., p. 36, pl. ix, f. 38, 39, 1840.

Eolignitic: Boaz, Graves County, Kentucky.

Quercus sp., Lx. Rept. on Clays in N. J., p. 29, 1878.

Amboy clay: South Amboy, New Jersey.

Quercus sp., Dn. Geol. Surv. Canada, Rept. of Prog. for 1872-73. Appen. V, p. 68, 1873:

Upper Cretaceous: Hornby Island, British Columbia.

Cretaceous: Vancouver Island, British Columbia.

Quercus sp., Dn. Trans. Roy. Soc. Canada, vol. iv, sec. iv, p. 27, 1886 [1887].

Upper Laramie group: Great Valley.

Quercus? sp., Dn. Trans. Roy. Soc. Canada, vol. viii, sec. iv, p. 89, f. (in text) 28, 1890.

Eocene?: Similkameen Valley, British Columbia.

Quercus sp., Dn. Geol. Surv. Canada, Rept. Prog. for 1879-80. p. 54A, 1881.

Tertiary?: Roche Percée, Souris River.

Quercus sp., Hollick. Bull. Torr. Bot. Club, vol. xix, p. 332, 1892.

Miocene?: Bridgeton, New Jersey.

Quercus? sp., Hollick. Trans. N. Y. Acad. Sci., vol. xvi, p. 131, pl. xiv, f. 9, 1897.

Clay marl (Upper Cretaceous): Cliffwood, New Jersey.

Quercus sp., Kn. Bull. Geol. Soc. Am., vol. viii, 1897.

Laramie group: Lance Creek, Converse County, Wyoming.

Quercus? sp., Kn. Eighteenth Ann. Rept. U. S. Geol. Surv., pt. iii, p. 730, 1898.

Payette formation: Marsh, Idaho.

RHAMNACINIUM Felix. Zeitschr. d. Deutschen geol. Gesell., vol. xlvi, p. 89, 1894.

Rhamnacinium radiatum Felix. Zeitschr. d. Deutschen geol. Gesell. Jahr. 1896, p. 252, pl. vi, f. 3, 1896.

Miocene: Amethyst Mountain, Yellowstone National Park.

RHAMNITES Forbes. Quat. Journ. Geol. Soc. Lond., vol. vii, p. 103, 1851.

Rhamnites apiculatus Lx. Fl. Dak. Gr., p. 171, pl. xxxvii, f. 8-13, 1892.

Dakota group: Kansas.

Rhamnites concinnus Newby. Later Extinct Floras, p. 50, 1868.

Rhamnus concinnus (Newby) Dn. Rept. on Geol. and Res. near 49th Parallel, Appen. A., p. 330, 1875.

Fort Union group: Fort Union, North Dakota.

Canadian upper Laramie: Porcupine Creek.

Rhamnites minor Hollick in Newby. Fl. Amboy Clays, p. 106, pl. xlii, f. 36, 1895 [1896].

Amboy clay: New Jersey?

Rhamnus acuminatifolius Web. Palæontogr., vol. ii, p. 206, 1853; Lx., Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 407, 1872 [1873]. [Not afterwards mentioned by Lesquereux.]

——?: Six miles above Spring Canyon, Montana; Golden, Colorado.

Rhamnus? *acuta* Heer. Fl. Foss. Arct., vol. vi, abt. ii, p. 98, pl. xli, f. 6; pl. xlv, f. 13c, 1882; Hollick, Bull. Torr. Bot. Club, vol. xxi, p. 58, pl. clxxvii, f. 6, 1894.

Cretaceous: Lloyds Neck, Long Island.

Rhamnus alaternoides Heer. Fl. Tert. Helv., vol. iii, p. 78, pl. cxxiii, f. 21-23, 1859; Lx., Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 405, 1873 [1874]; Tert. Fl., p. 278, pl. lii, f. 11, 11a, 1878.

Denver group: Golden Colorado.

Rhamnus Cleburni Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 381, 1872 [1873]; Tert. Fl., p. 280, pl. liii, f. 1-3, 1878.

Denver group: Golden Colorado.

Laramie group?: Black Buttes, Wyoming?; Upper Kanab Valley, Utah?: Cross Lake, Louisiana?

Rhamnus Cleburni Lx., var. — Lx. Proc. U. S. Nat. Mus., vol. xi, p. 20, 1888.

Eocene?: Cherry Creek, Oregon.

Rhamnus concinnus Newby. Dn. = *Rhamnites concinnus*.

Rhamnus crenatus Lx. Bull. Mus. Comp. Zoöl., vol. xvi, p. 55, 1888.

Denver group: Golden, Colorado.

Rhamnus Dechenii Web. Palæontogr., vol. ii, p. 204, pl. xxiii, f. 2, 1852; Lx., Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 397, 1872 [1873]; Proc. U. S. Nat. Mus., vol. xi, p. 20, 1888.

Laramie group: Black Buttes, Wyoming; Golden, Colorado.

Eocene?: Cherry Creek, Oregon.

Rhamnus deformatus Lx. Cret. and Tert. Fl., p. 126, pl. xx, f. 6, 1883.

Denver group: Golden, Colorado.

Rhamnus deletus? Heer. Fl. Tert. Helv., vol. iii, p. 79, pl. cxxiii, f. 19-23, 1859; Lx., Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., 1871, suppl., p. 15, 1871 [1872]. [Not afterwards recognized by Lesquereux.]

Laramie group?: Raton Mountains, New Mexico.

Rhamnus elegans Newby. Later Extinct Floras, p. 49, 1868.

Fort Union group?: Belmont, Colorado.

Rhamnus? discolor Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 398, 1872 [1873]; Tert. Fl., p. 280, pl. lii, f. 17, 1878. [See *Apeibopsis discolor*.]

Laramie group: Sand Creek, Colorado?; Black Buttes, Wyoming.

Rhamnus Eridani Ung. Gen. et Sp. Pl. Foss., p. 465, 1850; Lx., Proc. U. S. Nat. Mus., vol. xi, p. 25, 1888.

Eolignitic: Cross Lake, Louisiana.

Rhamnus Fischeri Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., 1871, suppl., p. 15, 1871 [1872]. [Not afterwards referred to by its author.]

Laramie group?: Fischers Peak, New Mexico.

Rhamnus Gaudini Heer. Fl. Tert. Helv., vol. iii, p. 79, pl. cxxiv, f. 4-15; cxxv, f. 1, 7, 13, 1859; Newby., Bost. Journ. Nat. Hist., vol. vii, p. 520, 1863.

———: Birch Bay, Washington.

Rhamnus goldianus Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 381, 1872 [1873]; Tert. Fl., p. 281, pl. liii, f. 4-8, 1878.

Berchemia multinervis Ward. Bull. U. S. Geol. Surv., no. 37, p. 73, pl. xxxiii, f. 2, 1887.

Denver group: Golden and Silver Cliff, Colorado, etc.

Rhamnus goldianus latior Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 381, 1872 [1873]. [Apparently not afterwards referred to by its author.]

———?: Golden, Colorado.

Rhamnus inæqualis Lx. = *Diospyros brachycephala*.

Rhamnus inæquilateralis Lx. Fl. Dak. Gr., p. 170, pl. xxxvii, f. 4-7, 1892.

Dakota group: Kansas.

Clay marl (Upper Cretaceous): Cliffwood, New Jersey.

Rhamnus intermedius Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 286, 1871 [1872]; Tert. Fl., p. 282, pl. liv, f. 3, 1878.

Green River group: Washakie Station, Wyoming.

Denver beds?: Golden, Colorado.

Laramie group: Raton Pass, New Mexico?

Rhamnus marginatus Lx. Geol. Rept. Ark., vol. ii, p. 319, pl. vi, f. 1, 1860; Trans. Am. Phil. Soc., vol. xiii, p. 420, pl. xxii, f. 3-5, 1869.

Eolignitic: Mississippi.

Rhamnus Meriani? Heer. Lesquereux, Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 405, 1873 [1874]. [Not afterwards recognized.]

Laramie group?: Black Buttes, Wyoming.

Rhamnus Mudgei Lx. Fl. Dak. Gr., p. 169, pl. xxxvii, f. 2, 3, 1892.

Dakota group: Kansas.

Rhamnus notatus? Sap. Ann. d. Sci. Nat., 5th ser. bot., vol. viii, p. 108, pl. xi, f. 8, 1867; Lx., Cret and Tert. Fl., p. 189, pl. xxxviii, f. 15, 1883.

Green River group: Florissant, Colorado.

Rhamnus obovatus Lx. Am. Journ. Sci., vol. xlv, 2d ser., p. 207, 1868; Tert. Fl., p. 281, pl. liv, f. 1, 2, 1878.

Laramie group?: Purgatory Canyon, New Mexico; Golden, Colorado?; Evanston, Wyoming?

Eocene?: Cherry Creek, Oregon.

Rhamnus oleæfolius Lx. Cret. and Tert. Fl., p. 189, pl. xxxviii, f. 14, 1883.

Green River group: Florissant, Colorado.

Rhamnus parvifolius Newby. Proc. U. S. Nat. Mus., vol. v, p. 511, 1882 [1883].

Fort Union group: Valley of the Yellowstone, Montana.

Rhamnus prunifolius Lx. Cret. and Tert. Fl., p. 85, 1883; Fl. Dak. Gr., p. 169, pl. xxxv, f. 14, 1892.

Dakota group: Kansas.

Rhamnus rectinervis Heer. Fl. Tert. Helv., vol. iii, p. 80, pl. cxxv, f. 2-6, 1859; Lx., Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 295, 1871 [1872]; Tert. Fl., p. 279, pl. lii, f. 12-15, 1878.

Laramie group: Golden, Colorado; Black Buttes, Wyoming.

Laramie group?: Evanston, Wyoming; Bozeman coal field, Montana?

Rhamnus revoluta Lx. Fl. Dak. Gr., p. 171, pl. lxxv, f. 5, 1892.

Dakota group: Kansas.

Rhamnus Rossmassleri Ung. Gen. et Sp. Pl. Foss., p. 464, 1850; Hollick, Trans. N. Y. Acad. Sci., vol. xii, p. 35, pl. iii, f. 5, 1892.

Cretaceous: Tottenville, Staten Island, New York.

Rhamnus Rossmässleri Ung. Lx.=*Juglans rhamnoides*.

Rhamnus similis Lx. Fl. Dak. Gr., p. 168, pl. xxxv, f. 12, 13, 1892.

Dakota group: Kansas.

Rhamnus salicifolius Lx. Am. Journ. Sci., vol. xlv, 2d ser., p. 206, 1868; Tert. Fl., p. 282, pl. liii, f. 9, 10, 1878.

Laramie group: Marshalls and Coal Creek, Colorado; Black Buttes, Wyoming.

Rhamnus tenax Lx. Am. Journ. Sci., vol. xlvi, p. 101, 1868; Cret. Fl., p. 109, pl. xxi, f. 4, 1874; Fl. Dak. Gr., p. 170, pl. xxxviii, f. 6, 1892.

Dakota group: Southern Kansas.

Rhamnus sp., Dn. Rept. Geol. and Res. near 49th Parallel, Appen. A, p. 330, 1875.

Lignite tertiary: Great Valley.

Rhizocaulon gracile Lx.=*Phyllites improbatum*.

RHUS (Tournefort.) Linnæus. Gen., ed. i, p. 84, 1737.

Rhus acuminata Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., 1871, suppl., p. 8, 1871 [1872]; Cret. and Tert. Fl., p. 194, pl. xlii, f. 14-17, 1883.

Green River group: Florissant and Green River, Colorado.

Rhus bella? Heer. Fl. Foss. Arct., vol. ii, abt. iv, p. 482, pl. lvi, f. 3-5 1869; Lx., Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 407, 1872 [1873]. [Not afterwards mentioned by Lesquereux.]

—?: Six miles above Spring Canyon, Montana.

Rhus Bendirei Lx. Proc. U. S. Nat. Mus., vol. xi, p. 15, pl. ix, f. 2, 1888.

Miocene: John Day Valley, Oregon.

Rhus Boweniana Lx. Mem. Mus. Comp. Zoöl., vol. vi, no. 2, p. 29, pl. ix, f. 8, 9, 1878.

Miocene: Chalk Bluffs? California.

Rhus cassioides Lx. Cret. and Tert. Fl., p. 193, pl. xli, f. 11, 1883.

Green River group: Florissant, Colorado.

Rhus coriarioides Lx. Cret. and Tert. Fl., p. 193, pl. xli, f. 3, 1883.

Green River group: Florissant, Colorado.

Rhus deleta Heer. Fl. Tert. Helv., vol. iii, p. 83, pl. cxxvii, f. 8; pl. cliv, f. 26, 1859; Lx., Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., 1871, suppl., p. 12, 1871 [1872]. [Not afterwards referred to by Lesquereux.]

Laramie group?: Evanston, Wyoming.

Rhus dispersa Lx. Mem. Mus. Comp. Zoöl., vol. vi, no. 2, p. 32, pl. i, f. 23, 1878.

Miocene: Table Mountain, California.

Rhus? *drymeja* Lx. = *Myrica drymeja*.

Rhus Evansii Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 293, 1871 [1872]; Tert. Fl., p. 291, pl. 1, f. 4; pl. lviii, f. 5-9, 1878.

Laramie group?: Evanston, Wyoming.

Rhus fraterna Lx. Cret. and Tert. Fl., p. 192, pl. xli, f. 1, 2, 1883.

Green River group: Florissant, Colorado.

Rhus frigida Kn. Proc. U. S. Nat. Mus., vol. xvii, p. 227, pl. ix, f. 6, 1894.

Eocene?: Herendeen Bay, Alaska.

Rhus Haydenii Lx. = *Weinmannia Haydenii*.

Rhus Heüfleri Heer. Fl. Tert. Helv., vol. iii, p. 85, pl. cxxvii, f. 3-6, 1859; Lx., Proc. U. S. Nat. Mus., vol. xi, p. 26, 1888.

Miocene?: Corral Hollow, California.

Rhus Hilliæ Lx. Cret. and Tert. Fl., p. 194, pl. xli, f. 12-15, 1883.

Green River group: Florissant, Colorado.

Rhus membranacea Lx. Bull. U. S. Geol. and Geogr. Surv. Terr., vol. i, p. 369, 1875 [1876]; Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 306, 1874 [1876]; Tert. Fl., p. 292, pl. lxiv, f. 6, 7, 1878.

Montana formation?: Point of Rocks, Wyoming.

Rhus metopioides Lx. Mem. Mus. Comp. Zoöl., vol. vi, no. 2, p. 31, pl. viii, f. 12, 13, 1878.

Miocene: Table Mountain, California.

Rhus mixta Lx. Mem. Mus. Comp. Zoöl., vol. vi, no. 2, p. 30, pl. ix, f. 13, 1878.

Miocene: Chalk Bluffs, California.

Rhus myricæfolia Lx. Mem. Mus. Comp. Zoöl., vol. vi, no. 2, p. 31, pl. i, f. 5-8, 1878.

Miocene: Chalk Bluffs, California.

Rhus nervosa Newby. Later Extinct Floras, p. 53, 1868.

Fort Union group: Fort Union, North Dakota.

Rhus payettensis Kn. Eighteenth Ann. Rept. U. S. Geol. Surv., pt. iii, p. 733, pl. ci, f. 6, 7, 1898.

Payette formation: Marsh, Idaho.

Rhus Powelliana Lx. Fl. Dak. Gr., p. 155, pl. lvi, f. 4, 5, 1892.

Dakota group: Kansas.

Rhus psuedo-Meriani Lx. = *Quercus doljensis*.

Rhus rosæfolia Lx. Tert. Fl., p. 293, pl. xlii, f. 7-9, 1878.

Weinmannia rosæfolia Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 415, 1873 [1874].

Green River group: Near Florissant, Colorado.

Rhus subrhomboidalis Lx. Cret. and Tert. Fl., p. 195, pl. xli, f. 16-19, 1883.

Green River group: Florissant, Colorado.

Rhus trifolioides Lx. Cret. and Tert. Fl., p. 196, 1883.

Green River group: Florissant, Colorado.

Rhus typhinoides Lx. Mem. Mus. Comp. Zool., vol. vi, no. 2, p. 29, pl. ix, f. 1-6, 1878.

Miocene: Table Mountain, California.

Rhus Uddeni Lx. Fl. Dak. Gr., p. 154, pl. lviii, f. 2, 1892.

Dakota group: Kansas.

Cheyenne sandstone: Belvidere, Kansas.

Rhus vexans Lx. Cret. and Tert. Fl., p. 195, pl. xli, f. 20, 1883.

Green River group: Florissant, Colorado.

Rhus? Westii Kn. in Lx. Fl. Dak. Gr., p. 154, pl. xxxviii, f. 9, 10, 1892.

Dakota group: Kansas.

Rhus Winchellii Lx. Cret. and Tert. Fl., p. 236, 1883.

Fort Union group: Yellowstone Valley.

Rhus sp., Kn. Bull. Geol. Soc. Am., vol. viii, p. 145, 1897.

Fort Union group: Black Buttes, Wyoming.

Rhus? sp., Kn. Bull. Geol. Soc. Am., vol. viii, p. 133, 1897.

Laramie group: Lance Creek, Converse County, Wyoming.

ROGERSIA Fontaine. Potomac Fl., p. 287, 1889.

Rogersia angustifolia Font. Potomac Fl., p. 288, pl. cxliii, f. 2; cxlix, f. 4, 8; cl, f. 2-7, 1889.

Potomac formation: Fredericksburg, Virginia.

Rogersia longifolia Font. Potomac Fl., p. 287, pl. cxxxix, f. 6; cxliv, f. 2; cl, f. 1; clix, f. 1, 2, 1889.

Potomac formation: Kankeys, near Dutch Gap Canal, and Fredericksburg, Virginia.

ROSA Tournefort. Ex Linnæus, Syst., ed. i, p. 1735.

Rosa Hilliæ Lx. Cret. and Tert. Fl., p. 199, pl. xl, f. 16, 17, 1883.

Green River group: Florissant, Colorado.

ROSELLINITES (De Not.) Meschinelli, Sylloge Fung. Foss., p. 14, 1892.

Rosellinites lapideus (Lx.) n. comb.

Spherites lapideus (Lx.) Meschinelli. Sylloge Fung. Foss., p. 30, 1892.

Spheria lapidea Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 373, 1872 [1873]; Tert. Fl., p. 34, pl. i, f. 3, 1878.

Laramie group: Raton Mountains, Colorado.

SABAL Adanson. Fam. Pl., vol. ii, p. 495, 1763.

Sabal Campbelli Newby. = Sabalites Campbelli.

Sabal communis Lx. = Flabellaria eocenica.

Sabal goldiana Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 377, 1872 [1873]. [Not afterwards referred to by Lesquereux. Same as *Sabalites Campbelli*?]

——? : Golden, Colorado.

Sabal Grayana Lx. = *Sabalites Grayanus*.

Sabal imperialis Dn. Trans. Roy. Soc. Canada, vol. i, sec. iv, p. 26, pl. vi, f. 23-23*b*, 1882 [1883]; op. cit., vol. xi, sec. iv, p. 57, pl. xiv, f. 61, 1893 [1894].

Sabal sp. Newby. Bost. Journ. Nat. Hist., vol. vii, p. 515, 1863.

Upper Cretaceous: Nanaimo; Port McNeill.

Sabal major? (Ung.) Heer. Fl. Tert. Helv., vol. i, p. 88, pl. xxxv; pl. xxxvi, f. 1, 2, 1855; Lx., Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 295, 1871 [1872]. [Not afterwards recognized. Probably referred to *Sabalites Campbelli*.]

Flabellaria major Ung. Chlor. Prot., p. 42, pl. xiv, f. 2, 1842.

Eocene?: Head of Snake River, Yellowstone National Park.

Sabal Powellii Newby. Proc. U. S. Nat. Mus., vol. v, p. 504, 1882 [1883].

Eocene: Green River, Wyoming.

Sabal sp., Newby. = *Sabal imperialis*.

SABALITES Saporta. Études ii; Ann. d. Sci. Nat., 5th ser., vol. iii, p. 77, 1865.

Sabalites Campbelli (Newby.) Lx. Tert. Fl., p. 113, 1878.

Sabal Campbelli Newby. Bost. Journ. Nat. Hist., vol. vii, p. 515, 1863; Later Extinct Floras, p. 41, 1868.

Denver group: Golden, Colorado.

Fort Union group: Yellowstone River, Montana.

Laramie group: Raton Mountains, and Gehrungs, Colorado; Jackson Buttes, Wyoming.

——? : Vancouver, British Columbia, etc.

Sabalites fructifer Lx. ex. p. Tert. Fl., p. 114, pl. xi, f. 3, 3*a*, 1878.

Flabellaria? *fructifera* Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 396, 1873 [1874].

Denver group: Golden, Colorado.

Sabalites fructifer Lx. [Tert. Fl., pl. xi, fig. 3*a* and fruit on fig. 3] = *Nyssa?* *racemosa*.

Sabalites Grayanus Lx. Tert. Fl., p. 112, pl. xii, f. 1, 2, 1878.

Sabal Grayana Lx. Trans. Am. Phil. Soc., vol. xiii, p. 412, pl. xiv, f. 4-6, 1869.

Eolignitic: Mississippi and Arkansas.

Laramie group: Golden, Colorado; Point of Rocks, Wyoming.

——? : Pleasant Park, California.

SAGENOPTERIS Presl. In Sternberg Vers., vol. ii, p. 164, 1838.

Sagenopteris elliptica Font. Potomac Fl., p. 149, pl. xxvii, f. 9, 11-17, 1839.

Potomac formation: Near Potomac Run and Kankeys, Virginia; Baltimore, Md.

- Sagenopteris latifolia** Font. Potomac Fl., p. 148, pl. xxvii, f. 10, 1889.
Potomac formation: Near Telegraph Station, Virginia.
Horsetown beds: Shasta County, California.
- Sagenopteris Mantelli** (Dunk.) Schenk. Deutsch. Weald. Fl., Palæontogr., vol. xix p. 222, 1871; Font., in Diller and Stanton, Bull. Geol. Soc. Am., vol. v, p. 450, 1894.
Knoxville beds: Tehama County, California.
- Sagenopteris virginicensis** Font. Potomac Fl., p. 150, pl. cxxxviii, f. 13; cxxxix, f. 1, 1889.
Potomac formation: Fredericksburg, Virginia.
- Sagenopteris** sp., Font in Diller and Stanton. Bull. Geol. Soc. Am., vol. v, p. 450, 1894.
Knoxville beds: Tehama County, California.
- SAGITTARIA** Ruppis. Ex Linnæus. Syst., ed. i, 1735.
- Sagittaria Victor-Masoni** Ward. Fifteenth Ann. Rept. U. S. Geol. Surv., p. 354, pl. iii, f. 5, 1895.
Potomac formation: Mount Vernon, Virginia.
- Sagittaria pulchella** Heer. Fl. Foss. Alask., p. 25, pl. i, f. 15, 1869.
Eocene?: Alaska.
- Sagittaria** n. sp.? Lx. Proc. U. S. Nat. Mus., vol. x, p. 37, 1887.
Eocene?: Sitka, Alaska.
- SALICIPHYLLUM** Fontaine. Potomac Fl., p. 302, 1889.
- Saliciphyllum ellipticum** Font. Potomac Fl., p. 303, pl. cxlvi, f. 2, 4; cl, f. 8; clxiii, f. 5; clxvi, f. 2, 1889.
Potomac formation: near Dutch Gap Canal, Fredericksburg, and near Brooke, Virginia.
- Saliciphyllum longifolium** Font. Potomac Fl., p. 302, pl. cl, f. 12, 1889.
Potomac formation: near Potomac Run, Virginia.
- Saliciphyllum parvifolium** Font. Potomac Fl., p. 303, pl. clxxii, f. 5, 1889.
Potomac formation: Baltimore, Maryland.
- Salisburia adiantoides** Ung. = Ginkgo adiantoides.
Salisburia biternata Lx. = Ginkgo biternata.
Salisburia (Ginkgo) lepida Heer. Dn. = Ginkgo lepida.
Salisburia nana Dn. = Ginkgo nana.
Salisburia pusilla Dn. = Ginkgo pusilla.
Salisburia (Ginkgo) sibirica Heer Dn. = Ginkgo sibirica.
Salisburia, nuts of, Dn. = Ginkgo sp.
- Salisburia**, nutlets of, Dn. Trans. Roy. Soc. Canada, vol. iii, sec. iv, p. 17, 1885 [1886].
Lower Laramie group: Canada.
- SALIX** (Tournefort.) Linnæus. Syst., ed. i, 1735.
- Salix amygdalæfolia** Lx. Cret. and Tert. Fl., p. 156, pl. xxxi, f. 1, 2, 1883.
Green River group: Florissant, Colorado.
Miocene: John Day Valley, Oregon.

Salix angusta Al. Br. In Buckl. Geol.; also in Stizenberger Verst., p. 77, 1851; Lx., Ann. Rept. U. S. Geol. and Geogr. Surv. Terr. 1871, suppl., p. 6, 1871 [1872]; Tert. Fl., p. 168, pl. xxii, f. 4, 5, 1878.

Green River group: Green River Station, Wyoming.

Tertiary: Montana, Wyoming, Kentucky, California, etc.

Salix californica Lx. Mem. Mus. Comp. Zool., vol. vi, no. 2, p. 10, pl. i, f. 18-20, 1878.

Miocene: Table Mountain, California.

Salix cuneata Newby. Later Extinct Floras, p. 21, 1868.

Dakota group: Mouth of Big Sioux, Nebraska.

Salix deleta Lx. Fl. Dak. Gr., p. 49, pl. iii, f. 8, 1892.

Dakota group: Kansas.

Salix densinervis Lx. Am. Journ. Sci., vol. xxvii, p. 364, 1859; Geol. Tenn., p. 427, pl. K, f. 9, 1869.

Pleistocene?: Somerville, Fayette County, Tennessee.

Salix elliptica Lx. Mem. Mus. Comp. Zool., vol. vi, no. 2, p. 10, pl. i, f. 22, 1878.

Miocene: Chalk Bluffs, California.

Salix elongata O. Web. Palæontogr., vol. ii, p. 177, pl. xix, f. 10, 1853; Lx., Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 372, 1872 [1873]; Tert. Fl., p. 169, pl. xxii, f. 6, 7, 1878.

Green River group: Elko Station, Nevada.

Salix Engelhardti Lx. Proc. U. S. Nat. Mus., vol. xi, p. 17, pl. viii, f. 2, 1888.

Miocene: John Day Valley, Oregon.

Salix evanstoniana Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr. 1871, suppl., p. 10, 1871 [1872]. [Not afterwards mentioned by author.]

Laramie group?: Evanston, Wyoming.

Salix flexuosa Newby. = *Salix proteaefolia flexuosa*.

Salix groenlandica Heer. Fl. Foss. Arct., vol. i, p. 101, pl. iv, f. 8-10, 1868; Lx., Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 296, 1871 [1872]. [Not afterwards recognized by Lesquereux.]

Laramie group? Six miles above Spring Canyon, Montana.

Salix Hayei Lx. Fl. Dak. Gr., p. 48, pl. iii, f. 7, 1891.

Dakota group: Kansas.

Salix inæqualis Newby. Fl. Amboy Clays, p. 67, pl. xvi, f. 1, 4, 6; xvii, f. 2-7, 1895 [1896].

Amboy clay: Woodbridge, New Jersey.

Salix integra Göpp. Zeitschr. Deutsch. Geol. Gesell., vol. iv, p. 493, 1852; Lx., Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 397, 1873 [1874]; Tert. F., p. 167, pl. xxii, f. 1, 2, 1878.

——: Black Buttes, Wyoming; Golden, Colorado; Corral Hollow, California.

Salix islandicus Lx. Am. Journ. Sci., vol. xxvii, p. 360, 1859.

——: Bellingham Bay.

Salix kamloopsiana Dn. Trans. Roy. Soc., Canada, vol. viii, sec. iv, p. 90, f. (in text) 32, 1890.

Eocene?: Kamloops, British Columbia.

Salix laramiana Dn. Trans. Roy. Soc. Canada, vol. iv, sec. iv, p. 28, pl. i, f. 10, 1886 [1887].

Upper Laramie group: Great Valley.

Salix Lavateri Heer. Fl. Tert. Helv., vol. ii, p. 28, pl. lxvi, f. 1-12, 1856; Fl. Foss. Alask., p. 27, pl. ii, f. 10, 1869.

Eocene?: Port Graham Alaska.

——?: Sams Creek, Oregon.

Salix Libbeyi Lx. Cret. and Tert. Fl., p. 156, pl. xxxi, f. 3, 1883.

Green River group: Florissant, Colorado.

Salix macrophylla Heer. Fl. Tert. Helv., vol. ii, p. 29, pl. lvii, 1856; Fl. Foss. Alask., p. 27, pl. ii, f. 9, 1869.

Eocene?: Port Graham, Alaska.

Salix media Heer. Fl. Tert. Helv., vol. ii, p. 32, pl. i, f. 9 f; lxxviii, f. 14-19, 1856; Lx., Ann. Rept. U. S. Géol. and Geogr. Surv. Terr. 1871, suppl., p. 6, 1871 [1872]; Tert. Fl., p. 168, pl. xxii, f. 3, 1878.

Green River group: Green River, Wyoming; Elko Station, Nevada.

Eolignitic: Wickliffe, Kentucky.

Salix Meekii Newby. Later Extinct Floras, p. 19, 1868.

Dakota group: Blackbird Hill, Nebraska.

Clay marl (Upper Cretaceous): Cliffwood, New Jersey.

Salix membranacea Newby. Later Extinct Floras, p. 19, 1868; Fl. Amboy Clays, p. 66, pl. xxix, f. 12, 1895 [1896].

Amboy clay: Sayreville, New Jersey.

Salix minuta Kn. Proc. U. S. Nat. Mus., vol. xvii, p. 218, pl. ix, f. 1, 1894.

Eocene?: Herendeen Bay, Alaska.

Salix nervillosa Heer. Phyll. Crét. d. Nebr., p. 15, pl. i, f. 3, 1866; Lx., Fl. Dak. Gr., p. 49, 1892.

Dakota group: Tehama, Nebraska.

Salix Newberryana Hollick in Newby. Fl. Amboy Clays, p. 68, pl. xiv, f. 2-7, 1895 [1896].

Amboy clay: New Jersey.

Salix pacifica Dn. Trans. Roy. Soc. Canada, vol. i, sec. iv, p. 26, pl. vii, f. 24, 1882 [1883].

Upper Cretaceous: Baynes Sound.

Salix proteæfolia Lx. Am. Journ. Sci., vol. xlvi, p. 94, 1868; Rept. on Clay in N. J., p. 29, 1878.

Dakota group: Decatur, Nebraska.

Amboy clay: Woodbridge and Sayreville, New Jersey.

Cretaceous: Marthas Vineyard.

Salix proteæfolia flexuosa (Newby.) Lx. Fl. Dak. Gr., p. 50, pl. xliv, f. 4, 5, 1892.

Salix flexuosa Newby. Later Extinct Floras, p. 21, 1868; Ill. Cret. and Tert. Pl., pl. i, f. 4, 1878.

Dakota group: Kansas.

Cretaceous: Seacliff, Long Island.

Salix proteæfolia lanceolata Lx. Fl. Dak. Gr., p. 50, pl. lxiv, f. 6-8, 1892.

Dakota group: Ellsworth County, Kansas.

Salix proteæfolia linearifolia Lx. Lx. Fl. Dak. Gr., p. 49, pl. lxiv, f. 1-3, 1892.

Dakota group: Kansas.

Salix proteæfolia longifolia Lx. Fl. Dak. Gr., p. 50, pl. lxiv, f. 9, 1892.

Dakota group: Ellsworth County, Kansas.

Salix purpuroides Hollick. Bull. Torr. Bot. Club, vol. xxi, p. 50, pl. clxxiv, f. 9, 1894.

Cretaceous: Seacliff, Long Island.

Salix Ræana Heer. Fl. Foss. Arct., vol. i, p. 102, pl. iv, f. 11-13; pl. xlvii, f. 11, p. 139; pl. xxi, f. 13, 1868.

Eocene?: Cook Inlet, Alaska.

Miocene?: Mackenzie River; John Day Valley, Oregon.

Lignitic tertiary: Great Valley.

Salix Schimperi Lx. Proc. U. S. Nat. Mus., vol. xi, p. 21, pl. xiii, f. 5, 1888.

Eocene?: Cherry Creek, Oregon.

Salix tabellaris Lx. Trans. Am. Phil. Soc., vol. xiii, p. 414, pl. xvii, f. 4, 1869.

Eolignitic: Mississippi.

Salix varians Göpp. Zeitschr. d. Deutsch. Geol. Gesell., vol. iv, p. 493, 1852; Tert. Fl. v. Schosnitz, p. 26, pl. xix, f. 17, 18; xx, f. 1, 2, 1855; Heer, Fl. Foss. Alask., p. 27, pl. ii, f. 8; iii, f. 1-3, 1869.

Eocene?: English Bay; Neniltochik, Alaska.

Salix Worthenii Lx. Trans. Am. Phil. Soc., vol. xiii, p. 414, pl. xv, f. 7, 1869.

Eolignitic: Lagrange, Tennessee; Mound City, Illinois.

Salix sp., Hollick. Trans. N. Y. Acad. Sci., vol. xii, p. 32, pl. ii, f. 15, 16, 1892.

Cretaceous: Staten Island.

Salix sp., Dn. Trans. Roy. Soc. Canada, vol. xi, sec. iv, p. 57, pl. vii, f. 22, 1893 [1894].

Upper Cretaceous: Port McNeill, Vancouver.

Salix sp., Newby. Fl. Amboy Clays, p. 68, pl. xlii, f. 6-8, 1895 [1896].
Amboy clay: No location.

Salix sp., Kn. Bull. Geol. Soc. Am., vol. viii, p. 140, 1897.

Montana formation: Near Harpers, Wyoming.

Bull. 152—14

Salix sp., Kn. Bull. Geol. Soc. Am., vol. viii, p. 134, 1897.

Fort Union group: Lightning Creek, Converse County, Wyoming.

Salix sp., Kn. Bull. Geol. Soc. Am., vol. viii, p. 148, 1897.

Laramie group: Rock Springs, Wyoming.

Salix, fruiting catkin of, Lx. Fl. Dak. Gr., p. 51, pl. viii, f. 6; 1892.

Dakota group: Near Delphos, Kansas.

SALVINIA Adanson. Fam. Pl., vol. ii, p. 15, 1763.

Salvinia Alleni Lx. = *Tmesipteris Alleni*.

Salvinia attenuata Lx. = *Marsilea attenuata*.

Salvinia cyclophylla Lx. = *Phyllites cyclophylla*.

Salvinia elliptica Newby. Mss. Hollick, Bull. Torr. Bot. Club, vol. xxi, p. 255, pl. ccv, f. 14, 14a, 15, 1894.

Upper Cretaceous?: Carbonado, Washington.

Salvinia sp., Kn. Bull. Geol. Soc. Am., vol. viii, p. 133, 1897.

Laramie group: Lance Creek, Converse County, Wyoming.

SANTALUM Linnæus. Gen., ed. 2, p. 165, 1742.

Santalum Americanum Lx. Cret. and Tert. Fl., p. 164, pl. xxxii, f. 7, 1883.

Green River group: Florissant, Colorado.

SAPINDOPSIS Fontaine. Potomac Fl., p. 296, 1889.

Sapindopsis brevifolia Font. Potomac Fl., p. 300, pl. cliii, f. 4; clv, f. 1, 7; clxiii, f. 3, 1889.

Potomac formation: Near Brooke, Virginia.

Sapindopsis cordata Font. Potomac Fl., p. 296, pl. cxlvii, f. 1, 1889.

Potomac formation: Fredericksburg, Virginia.

Sapindopsis elliptica Font. Potomac Fl., p. 297, pl. cxlvii, f. 3, 1889.

Potomac formation: Fredericksburg, Virginia.

Sapindopsis magnifolia Font. Potomac Fl., p. 297, pl. cli, f. 2, 3; clii, f. 2, 3; cliii, f. 2; cliv, f. 1, 5; clv, f. 6, 1889.

Potomac formation: Near Brooke and White House Bluff, Virginia.

Sapindopsis obtusifolia Font. Potomac Fl., p. 301, pl. clvi, f. 13; clix, f. 3-6, 1889.

Potomac formation: Deep Bottom and near Brooke, Virginia.

Sapindopsis parvifolia Font. Potomac Fl., p. 300, pl. cliv, f. 6, 1889.

Potomac formation: Near Brooke and White House Bluff, Virginia.

Sapindopsis tenuinervis Font. Potomac Fl., p. 301, pl. cliii, f. 1, 1889.

Potomac formation: Near Brooke, Virginia.

Sapindopsis variabilis Font. Potomac Fl., p. 298, pl. cli, f. 1; clii, f. 1, 4; cliii, f. 3; cliv, f. 2-4; clv, f. 2-5, 1889.

Potomac formation: Near Brooke and White House Bluff, Virginia.

SAPINDUS Tournefort ex. Linnæus. Gen. Pl., ed. i, p. 359, 1737.

Sapindus affinis Newby. Later Extinct Floras, p. 51, 1868.

Fort Union group: Gladstone, Dakota; Great Valley, Montana; Woody Mountains, British Columbia.

Sapindus alatus Ward. Bull. U. S. Geol. Surv., no. 37, p. 68, pl. xxxi, f. 3, 4, 1887.

Fort Union group: Seven-Mile Creek, Montana.

Sapindus americanus Lx. Am. Journ. Sci., vol. xxxii, p. 359, 1861; Geol. Vt., vol. ii, p. 715, f. 142, 143, 144, 145, 1861.

—: Brandon, Vermont.

Sapindus angustifolius Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 415, 1873 [1874]; Tert. Fl., p. 265, pl. xlix, f. 2-7, 1878.

Eocene: Kentucky.

Green River group: Florissant, Colorado.

Eolignitic: Wickliffe, Kentucky.

Miocene: John Day Valley and? Lanes Creek, Oregon.

Sapindus apiculatus Vel. Fl. Boehm. Kriedel., Theil iii, p. 6 [53], pl. vii [xxii], f. 1-8, 1884; Hollick, Trans. N. Y. Acad. Sci., vol. xvi, p. 133, pl. xiii, f. 1, 2, 1897.

Clay marl (Upper Cretaceous): Cliffwood, New Jersey.

Sapindus caudatus Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 380, 1872 [1873]; Tert. Fl., p. 264, pl. xlvi, f. 6, 1878.

Denver group: Golden, Colorado.

Eolignitic?: Cross Lake, Louisiana?

Sapindus coriaceus Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 415, 1873 [1874]; Tert. Fl., p. 265, pl. xlix, f. 12-14, 1878.

Green River group: Elko Station, Nevada.

Eolignitic?: ? Cross Lake, Louisiana.

Sapindus Dentoni Lx. Bull. U. S. Geol. and Geogr. Surv. Terr., vol. i, p. 388, 1875 [1876]; Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 315, 1874 [1876]; Tert. Fl. p. 265, pl. lxiv, f. 2-4, 1878.

Green River group?: Mouth White River.

Sapindus diversifolius Lx. Fl. Dak. Gr., p. 158, pl. lxiv, f. 18, 1892.

Dakota group: Kansas.

Sapindus dubius Ung. Denkschr. Wien. Akad., vol. vii (Foss. Fl. v. Gleicheng.), p. 180 [24], pl. v, f. 11, 1854; Lx., Proc. U. S. Nat. Mus., vol. xi, p. 12, 1888.

Eolignitic: Wickliffe, Kentucky.

Sapindus falsifolius Al. Br. in Stizenberger. Verstein., p. 87, 1851; Lx., Proc. U. S. Nat. Mus., vol. xi, p. 12, pl. iv, f. 4, 1888.

Juglans falsifolia Al. Br. in Buckl. Geol.

Eolignitic: Boaz Station, Graves County, Kentucky.

Sapindus grandifoliolus Ward. Bull. U. S. Geol. Surv., no. 37, p. 67, pl. xxx, f. 3-5; pl. xxxi, f. 1, 2, 1887.

Fort Union group: Seven-Mile Creek, Montana.

Sapindus inflexus Lx. Cret. and Tert. Fl., p. 182, pl. xxxii, f. 2, 1883.

Green River group: Florissant, Colorado.

Sapindus lancifolius Lx. Cret. and Tert. Fl., p. 182, pl. xxxii, f. 3-6; pl. xxxvii, f. 9, 1883.

Green River group: Florissant, Colorado.

Sapindus membranaceus Newby. Later Extinct Floras, p. 52, 1868.
Fort Union group: Fort Union, North Dakota.

Sapindus Morrisoni Lx. Cret. and Tert. Fl., p. 83, pl. xvi, f. 1, 2, 1883; Fl. Dak. Gr., p. 158, pl. xxxv, f. 1, 2, 1892.

Dakota group: Morrison, Colorado; Kansas; New Ulm, Minnesota.

Cretaceous: Glen Cove, Long Island; Marthas Vineyard.

Sapindus obtusifolius Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 419, 1873 [1874]; Tert. Fl., p. 266, pl. xlix, f. 8-11, 1878.

Green River group?: Eight miles southeast of Green River Station, Wyoming.

Fort Union group: Bad Lands, Dakota.

Sapindus stellaræfolius Lx. Tert. Fl., p. 264, pl. xlix, f. 1, 1878.

Green River group: Florissant, Colorado.

Sapindus undulatus Al. Br. in Stizenberger. Verstein, p. 87, 1851; Lx., Trans. Am. Phil. Soc., vol. xiii, p. 420, pl. xxii, f. 6, 1869.

Eolignitic: Mississippi.

Sapindus sp., Dn. Trans. Roy. Soc. Canada, vol. v, sec. iv, p. 35, 1887 [1888].

Upper Laramie group: North Saskatchewan.

Sapindus sp., Kn. Bull. Geol. Soc. Am., vol. viii, p. 142, 1897.

Laramie group?: "Dutton Creek coal," Wyoming.

SAPOTACITES Ettingshausen. Abhandl. d. k. k. Geol. Reichsanstalt. [Tert. Fl. Häring], vol. ii, abt. iii, p. 61, 1853.

Sapotacites americanus Lx. Geol. Tenn., p. 428, pl. K., f. 8, 1869.

Pleistocene?: Somerville, Fayette County, Tennessee.

Sapotacites Haydenii Heer. Proc. Phil. Acad. Sci., vol. x, p. 265, 1858; Newby., Later Extinct Floras, p. 8, 1868.

Dakota group: Kansas.

Sapotacites retusus Heer. Fl. Foss. Arct., vol. vii, p. 32, pl. lxi, f. 10, 1883; Newby., Fl. Amboy Clays, p. 123, pl. liii, f. 5, 6, 1895 [1896].

Amboy clay, Woodbridge, New Jersey.

Sapotacites sp.? Lx. Fl. Dak. Gr., p. 114, pl. lxxv, f. 3, 1892.

Dakota group: Kansas.

SASSAFRAS Linnæus. Syst., ed. i, 1735.

Sassafras acutilobum Lx. Cret. Fl., p. 79, pl. xiv, f. 1-2, 1874; Hollick, Trans. N. Y. Acad. Sci., vol. xii, p. 236, pl. vii, f. 1, 1893.

Dakota group: Salina River, Kansas.

Cretaceous: Glen Cove, Long Island; Marthas Vineyard.

Amboy clay: Woodbridge, New Jersey.

Clay marl (Upper Cretaceous): Cliffwood, New Jersey.

Sassafras bilobatum Font. Potomac Fl., p. 290, pl. clvi, f. 12; clxiv, f. 4; 1889.

Potomac formation: Near Brooke, Virginia.

Sassafras (Araliopsis) Burpeana Dn. Trans. Roy. Soc. Canada, vol. iii, sec. iv, p. 17, 1885 [1886]; op. cit., vol. iv., p. 28, pl. ii, f. 11, 1886 [1887].
Canadian upper Laramie: Calgary, Canada.

Sassafras (Araliopsis) cretaceum Newby. Later Extinct Floras, p. 14, 1868; Lx., Ill. Cret. and Tert. Pl., pl. vi, f. 1-4, 1878; Cret. Fl., p. 80, pl. xi, f. 1, 2; xii, f. 2, 1878.

Dakota group: Nebraska and Kansas.

Sassafras (Araliopsis) cretaceum dentatum Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 344, 1874 [1876]; Cret. Fl., pl. xi, f. 1, 2.

Dakota group: Kansas?

Sassafras (Araliopsis) cretaceum grossedentatum Lx. Fl. Dak. Gr., p. 101, pl. li, f. 5, 1892.

Dakota group: Kansas.

Sassafras cretaceum heterolobum Font. Potomac Fl., p. 289, pl. clii, f. 5; clix, f. 8; clxiv, f. 5, 1889.

Potomac formation: Near Brooke, Virginia.

Sassafras (Araliopsis) cretaceum obtusum Lx. Cret. Fl., p. 80, pl. xii, f. 3; xiii, f. 1, 1874; Fl. Dak. Gr., p. 102, 1892.

Sassafras (Araliopsis) obtusum Lx., Cret. and Tert. Fl., p. 56, 1883.

Cheyenne sandstone: Belvidere, Kansas.

Dakota group: Kansas.

Sassafras (Araliopsis) dissectum Lx. Cret. and Tert. Fl., p. 57, 1883; Fl. Dak. Gr., p. 101, pl. xiv, f. 1, 1892.

Dakota group: Fort Harker, Kansas.

Sassafras (Araliopsis) dissectum symmetricum Hollick. Bull. Torr. Bot. Club, vol. xxii, no. 5, p. 226, pl. ccxxxvi, 1895.

Dakota group: Fort Harker, Kansas.

Sassafras harkeriana Lx. = *Cissites harkerianus*.

Sassafras hastatum Newby. Fl. Amboy Clays, p. 88, pl. xxvii, f. 4-6; xxviii, f. 1, 2; xl, f. 4, 1895 [1896].

Amboy clay: Woodbridge, New Jersey.

Sassafras Leconteanum Lx. = *Persea Lecontiana*.

Sassafras (Araliopsis) mirabile Lx. Cret. Fl., p. 80, pl. xii, f. 1, 1874; Cret. and Tert. Fl., p. 56, 1883.

Sassafras mirabilis Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 424, 1872 [1873].

Platanus latiloba Newby. Later Extinct Floras, p. 23, 1868.

Dakota group: Kansas.

Sassafras Mudgii Lx. Am. Journ. Sci., vol. xlvi, p. 99, 1868; Cret. Fl., p. 78, pl. xiv, f. 3, 4; xxx, f. 7, 1874.

Dakota group: Salina River, Kansas.

Cheyenne sandstone: Belvidere, Kansas.

Sassafras obtusu(s)m Lx. = *Cissites salisburyæfolius*.

Sassafras (Araliopsis) obtusum Lx. Cret. and Tert. Fl., p. 56] = *Sassafras cretaceum obtusum*.

Sassafras (Araliopsis) papillosum Lx. Fl. Dak. Gr., p. 102, pl. vi, f. 7, 1892.

Dakota group: Kansas.

Sassafras parvifolium Font. Potomac Fl., p. 289, pl. cxxxix, f. 7, 1889.

Potomac formation: Baltimore, Maryland.

Sassafras (Araliopis) platanoides Lx. Cret. and Tert. Fl., p. 58, pl. vii, f. 1, 1883.

Dakota group: Kansas.

Sassafras? primordiale Lx. Fl. Dak. Gr., p. 100, pl. xvi, f. 10, 1892.

Dakota group: Kansas.

Sassafras progenitor Newby. MSS. Hollick, Bull. Torr. Bot. Club, vol. xxi, p. 53, pl. clxxiv, f. 1, 1894; Newby., Fl. Amboy Clays, p. 88, pl. xxvii, f. 1-3, 1895 [1896].

Cretaceous: Oak Neck, Long Island; Marthas Vineyard.

Amboy clay: Woodbridge, New Jersey.

Sassafras (Araliopsis) recurvatum Lx. Cret. and Tert. Fl., p. 57, 1883.

Platanus recurvata Lx. Cret. Fl., p. 71, pl. x, f. 3-5, 1874.

Sassafras recurvatus Lx. Ann. Rept., U. S. Geol. and Geogr. Surv. Terr., p. 424, 1872 [1873].

Dakota group: Near Fort Harker, Kansas.

Sassafras Selwynii Dn. Geol. Surv. Canada, Rept. Prog. for 1879-80, p. 53A, 1881; Trans. Roy. Soc. Canada, vol. iv, sec. iv, p. 28, pl. ii, f. 13, 1886 [1887].

Canadian upper Laramie: Souris River.

Sassafras subintegrifolium Lx. Am. Journ. Sci., vol. xlvi, p. 99, 1868; Fl. Dak. Gr., p. 99, pl. xiv, f. 2, 1892.

Dakota group: Kansas.

Sassafras sp., Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 298, 1871 [1872]. [Not afterwards mentioned by Lesquereux.]

Laramie group?: Six miles above Spring Canyon, Montana.

Sassafras (Araliopsis) sp., Lx. Rept. on Clays in N. J., p. 29, 1878.

Amboy clay: Burts Creek, New Jersey.

Sassafras sp., Dn. Trans. Roy. Soc. Canada, vol. i, sec. iv, p. 27, pl. vii, f. 30, 30a, 1882 [1883].

Upper Cretaceous: Baynes Sound; Vancouver Island.

Sassafras sp., Kn. in Hill. Am. Journ. Sci., vol. l, p. 212, 1895.

Cheyenne sandstone: Belvidere, Kansas.

SCIRPUS (Tournefort) Linnæus. Syst., ed. i, 1735.

Scirpus sp., Dn. Rept. on Geol. and Res. near 49th Parallel, Appen. A, p. 329, 1875.

Lignitic Tertiary: Porcupine Creek.

Scirpus sp., Dn. Rept. on Geol. and Res. near 49th Parallel, Appen. A, p. 329, 1875.

Lignitic Tertiary: Porcupine Creek.

SCLEROPTERIS Saporta. Paléontol. Française: Pl. Jurass., vol. i, p. 364, 1873.

Scleropteris dentata Font. Potomac Fl., p. 153, pl. lxiii, f. 3, 4, 1889.

Potomac formation: Fredericksburg, Virginia.

Scleropteris elliptica Font. Potomac Fl., p. 151, pl. xxviii, f. 2, 4, 6; xxix, f. 1, 1889.

Potomac formation: Fredericksburg, near Potomac Run, near Dutch Gap Canal, Kankeys, and near Telegraph Station, Virginia.

Scleropteris elliptica longifolia Font. Potomac Fl., p. 152, pl. xxviii, f. 7, 1889.

Potomac formation: Fredericksburg, Virginia.

Scleropteris vernonensis Ward. Fifteenth Ann. Rept. U. S. Geol. Surv., p. 349, pl. ii, f. 1-3, 1895.

Potomac formation: Mount Vernon, Virginia.

Scleropteris virginica Font. Potomac Fl., p. 152, pl. xxviii, f. 3, 5, 1889.

Potomac formation: Dutch Gap Canal, Virginia.

SELAGINELLA Beauvois. Prodr. *Ætheog.*, p. 101, 1805.

Selaginella Berthoudi Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 395, 1873 [1874]; Tert. Fl., p. 46, pl. v, f. 12, 12a, 1878.

Denver group: Golden, Colorado.

Selaginella falcata (Lx.) Emend. Kn.

Selaginella? *falcata* Lx. Bull. U. S. Geol. and Geogr. Surv. Terr., vol. i, p. 365, 1875 [1876]; Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 297, 1874 [1876; Tert. Fl., p. 46, pl. lxi, f. 12-15 [non pl. lxiv, f. 13, 13a], 1878.

Montana formation: Point of Rocks, Wyoming.

Selaginella falcata Lx. Ex. p. [Tert. Fl., pl. lxiv, f. 13, 13a] = *Lycopodium Lesquereuxii*.

Selaginella laciniata Lx. Bull. U. S. Geol. and Geogr. Surv. Terr., vol. i, p. 378, 1875 [1876]; Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 297, 1874 [1876]; Tert. Fl., p. 47, pl. lxiv, f. 12, 12a, 1878.

Montana formation: Point of Rocks, Wyoming.

SCLEROTITES Meschinelli. Syllog. Fung. Foss., p. 67 [803], 1892.

Sclerotites rubellus (Lx.) Meschinelli. Syllog. Fung. Foss., p. 69 [805], 1892.

Sclerotium rubellum Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 375, 1872 [1873]; Tert. Fl., p. 35, pl. i, f. 2, 2f, 1878.

Denver group: Golden, Colorado.

Sclerotites sp. (Lx.) n. comb.

Sclerotium sp., Lx. Fl. Dak. Gr., p. 23, pl. lix, f. 4, 4a, 1891.

Dakota group.

Sclerotium rubellum Lx. = *Sclerotites rubellus*.

Sclerotium sp. Lx. = *Sclerotites*.

SEQUOIA Endlicher. Synop. Conif., p. 197, 1847.

Sequoia acuminata Lx. Bull. U. S. Geol. and Geogr. Surv. Terr., vol. i, p. 384, 1875 [1876]; Tert. Fl., p. 80, pl. vii, f. 15-16a, 1878.

Laramie group: Black Buttes, Wyoming.

Sequoia acutifolia Newby. Am. Journ. Sci., vol. xli, p. 200, pl. xiv, f. 7, 7a, 1891.

Kootanie: Great Falls, Montana.

Sequoia affinis Lx. Bull. U. S. Geol. and Geogr. Surv. Terr., vol. i, p. 384, 1875 [1876]; Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 310, 1874 [1876]; Tert. Fl., p. 75, pl. vii, f. 3-5; pl. lxxv, f. 1-4, 1878.

Sequoia Langsdorffi Brongn. Lx., Ann. Rept., p. 400, 1874 [1876]; Tert. Fl., p. 76, 1878.

Green River group: Florissant, Colorado; Elko Station, Nevada.

Sequoia ambigua Heer. Fl. Foss. Arct., vol. iv, abt. ii, p. 78, pl. xxi, 1874; Font., Potomac Fl., p. 245, pl. cxviii, f. 2; cxx, f. 1-6; cxxvii, f. 5; cxxxii, f. 3, 1889.

Cretaceous: Marthas Vineyard.

Kootanie: Great Falls, Montana.

Potomac formation: Near Dutch Gap Canal and near Telegraph Station, Virginia.

Sequoia angustifolia Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 372, 1872 [1873]; Tert. Fl., p. 77, pl. vii, f. 6-10, 1878; Cret. and Tert. Fl., p. 240, pl. 1, f. 5, 1883.

Green River group: Elko Station, Nevada.

Miocene: Corral Hollow, California.

Sequoia biformis Lx. Bull. U. S. Geol. and Geogr. Surv. Terr., p. 366, 1875 [1876]; Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 298, 1874 [1876]; Tert. Fl., p. 80, pl. lxii, f. 15-18a, 1878; Ward, Bull. U. S. Geol. Surv., no. 37, p. 16, pl. i, f. 1-6, 1887.

Montana formation: Point of Rocks, Wyoming.

Sequoia brevifolia Heer. Fl. Foss. Arct., vol. i, p. 93, pl. ii, f. 23, 1868; Lx., Bull. U. S. Geol. and Geogr. Surv. Terr., vol. i, p. 365, 1875 [1876]; Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 298, 1874 [1876]; Tert. Fl., p. 78, pl. lxi, f. 25-27, 1878.

Montana formation: Point of Rocks, Wyoming.

Sequoia condita Lx. Bull. U. S. Geol. and Geogr. Surv. Terr., vol. i, p. 391, 1875 [1876]; Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 335, pl. iv, f. 5-7, 1874 [1876]; Cret. and Tert. Fl., p. 32, pl. i, f. 5-7, 9, 1883; Rept. on Clays in N. J., p. 29, 1878.

Dakota group: Kansas.

Amboy clay: Sayreville, New Jersey?

Sequoia Couttsiæ Heer. Phil. Trans., vol. cliv, pt. ii, p. 1051, pls. lix, lx, lxi, 1862; Hollick, Trans. N. Y. Acad. Sci., vol. xii, p. 30, pl. i, f. 5, 1892.

Cretaceous: Staten Island.

Canadian upper Laramie: North Saskatchewan.

Sequoia cycadopsis Font. Potomac Fl., p. 243, pl. cxii, f. 9-11; cxiii, f. 1-3, 1889.

Potomac formation: Near Brooke, Virginia.

Sequoia delicatula Font. Potomac Fl., p. 247, pl. cxxi, f. 3, 1889.

Potomac formation: Near Dutch Gap Canal, Virginia.

Sequoia densifolia Font. Potomac Fl., p. 246, pl. cxxi, f. 4, 1889.

Potomac formation: Near Dutch Gap Canal, Virginia.

Sequoia fastigiata (Sternbg.) Heer. *Neue Denkschr. Schw. Ges.*, vol. xxiii, *Mém.* 2, p. 11, pl. i, f. 10-13, 1869; *Lx.*, *Bull. U. S. Geol. and Geogr. Surv. Terr.*, vol. i, p. 39, 1875 [1876]; *Cret. and Tert. Fl.*, p. 31, 1883; *Ann. Rept. U. S. Geol. and Geogr. Surv. Terr.*, p. 335, pl. iii, f. 2, 8, 1874 [1876].

Caulerpites fastigiatus Sternbg. *Vers.*, vol. ii, p. 23, 1833.

Dakota group: Kansas.

Sequoia formosa Lx. *Am. Journ. Sci.*, vol. xlvi, p. 92, 1868.

Dakota group: Decatur, Nebraska.

Sequoia gracillima (Lx.) Newby. *Fl. Amboy Clays*, p. 50, pl. ix, f. 1-3, 1895 [1896].

Glyptostrobus gracillimus Lx. *Am. Journ. Sci.*, 2d ser., vol. xlvi, p. 92, 1868; *Cret. Fl.*, p. 52, pl. i, f. 8, 11-11f, 1874; *Cret. and Tert. Fl.*, p. 32, pl. i, f. 6-6b, 1883.

—?: Forks of Pine River, Northwest Territory.

Amboy clay: Keyport, New Jersey.

Cheyenne sandstone: Belvidere, Kansas.

Dakota group: Sioux City, Iowa.

Sequoia gracilis Heer. *Fl. Foss. Arct.*, vol. iii, abt. ii, abt. 80, 1873; *Font.*, *Potomac Fl.*, p. 247, pl. cxxvi, f. 3, 4, 1889.

Potomac formation: Near Brooke, Virginia.

Kootanie: Great Falls, Montana.

Sequoia Heerii Lx. *Ann. Rept. U. S. Geol. and Geogr. Surv. Terr.*, p. 290, 1871 [1872]; *Tert. Fl.*, p. 77, pl. vii, f. 11-13, 1878.

Green River group?: Sage Creek, ? Montana.

Sequoia heterophylla Vel. *Gymnosp. d. Böhm. Kreidf.*, p. 22, pl. xii, f. 2-4, 6-9; xiii, f. 12, 1885; Newby., *Fl. Amboy Clays*, p. 49, pl. vi, f. 1-13, 1895 [1896].

Amboy clay: New Jersey; Kreischerville, Staten Island.

Sequoia Langsdorffii (Brgt.) Heer. *Fl. Tert. Helv.*, vol. i, p. 54, pl. xx, f. 2; xxi, f. 4, 1855; *Lx.*, *Tert. Fl.*, p. 76, 1878.

Taxites Langsdorffii Brongn. *Prod. Hist. Vég. Foss.*, p. 108, 1828.

Miocene: John Day Valley, Oregon; Mackenzie River.

Green River group: Florissant, Colorado.

Eocene: Alaska.

Fort Union group: Montana; Porcupine Creek, Canada.

Upper Cretaceous: Nanaimo.

Sequoia Langsdorffii var. Heer. *Fl. Foss. Alask.*, p. 23, pl. i, f. 10b, 1869.

Eocene?: Near Sitka, Alaska.

Sequoia longifolia Lx. *Bull. U. S. Geol. and Geogr. Surv. Terr.*, vol. i, p. 365, 1875 [1876]; *Ann. Rept. U. S. Geol. and Geogr. Surv. Terr.*, p. 298, 1874 [1876]; *Tert. Fl.*, p. 79, pl. vii, f. 14, 14a; pl. lxi, f. 28, 29.

Montana formation: Point of Rocks, Wyoming; Coalville, Utah.

Laramie group: Greely, Coal Creek, and Marshalls, Colorado.

Sequoia Langsdorffii Brongn. *Lx.* [Ann. Rept. 1874, p. 410] = *Sequoia affinis*.

Sequoia Nordenskiöldii Heer. Fl. Foss. Arct., vol. ii, abt. iii, p. 36, pl. ii, f. 13*b*; iv, f. 1*a*, *b*, 4-38, 1870; Lx., Proc. U. S. Nat. Mus., vol. xi, p. 19, 1888.

Miocene: John Day Valley, Oregon; Mackenzie River.

Canadian upper Laramie: Porcupine Creek, Great Valley.

Sequoia pagiophylloides Font. Proc. U. S. Nat. Mus., vol. xvi, p. 276, pl. xlii, f. 1-3*a*, 1893.

Trinity division: Glenrose, Texas.

Sequoia Reichenbachi (Gein.) Heer. Fl. Foss. Arct., vol. i, p. 83; pl. xliii, f. 1*d*, 2*b*, 5*a*, 1868; Lx., Cret. Fl., p. 51, pl. i, f. 10-10*b*, 1874; Fl. Dak. Gr., p. 35, pl. ii, f. 4, 1892; Hollick, Trans. N. Y. Acad. Sci., vol. xii, p. 30, pl. i, f. 18, 1892; Font., Potomac Fl., p. 243, pl. cxviii, f. 1, 4; cxix, f. 1-5; cxx, f. 7, 8; cxxii, f. 2; clxvii, f. 5, 1889; Dn., Trans. Roy. Soc. Canada, 1882, p. 21, 1882; Newby., Fl. Amboy Clays, p. 49, pl. ix, f. 19, 1895 [1896].

Avancarites Reichenbachi Gein. Charakteristik, heft iii, p. 98, pl. xxiv, f. 4, 1842.

Abietites dubius Lx. Tert. Fl., p. 81, pl. vi, f. 20, 21, 21*a*, 1878.

Livingston beds: Bozeman coal field, Montana.

Montana formation: Point of Rocks, Wyoming.

Amboy clay: Woodbridge, New Jersey.

Clay marl: Cliffwood, New Jersey.

Belly River series: Belly River, Canada.

Potomac formation: Dutch Gap Canal and Fredericksburg, Virginia.

Dakota group: Fort Harker, Kansas.

Kootanie: Great Falls, Montana.

Sequoia Reichenbachi longifolia Font. Potomac Fl., p. 244, pl. cxvii, f. 8, 1889.

Potomac formation: Near Dutch Gap Canal and Fredericksburg, Virginia.

Sequoia rigida Heer. Fl. Foss. Arct., vol. iii, p. 80, pl. xxii, f. 5*g*, 11*a*, 1873; Font., Potomac Fl., p. 246, pl. cxviii, f. 3; cxxi, f. 2; cxxvi, f. 2; cxxx, f. 3, 1889.

Potomac formation: Near Telegraph Station and near Potomac Run, Virginia.

Kootanie: Great Falls, Montana.

Sequoia Smittiana Heer. Zeitschr. d. deutsch. geol. Gesell. 1872, p. 161, 1872; Dn., Trans. Roy. Soc. Canada, vol. iii, sec. iv, p. 9, pl. ii, f. 7, 7*a*, 1885 [1886].

Amboy clay?: Sayreville, New Jersey?

Kootanie: Coal Creek, Crows Nest Pass and Middle Fork North Branch Old Man River, British Columbia; Great Falls, Montana.

Sequoia spinosa Newby. Proc. U. S. Nat. Mus., vol. v, p. 504, 1882 [1883].

Eocene? Cook Inlet, Alaska.

Sequoia subulata Heer. Zeitschr. d. deutsch. geol., Gesell. 1872, p. 162, 1872; Font., Potomac Fl., p. 245, pl. cxvii, f. 7, cxviii, f. 5, 6, 1889.

Potomac formation: Near Dutch Gap Canal, near Telegraph Station, and Fredericksburg, Virginia.

Amboy clay?: Sayreville, New Jersey?

Sequoia Winchelli Lx. Geol. and Nat. Hist. Surv. Minn., vol. iii, p. 10, pl. A, f. 1, 1893.

Dakota group: Austin, Minnesota.

Sequoia sp., Dn. Trans. Roy. Soc. Canada, vol. v, sec. iv, p. 34, 1887. [Wood.]

Upper Laramie group: Turtle Mountain.

Lignitic: Souris Valley.

Middle lignitic: Two hundred and forty-five-Mile Valley; Wood End Depot; Mackenzie River; Edmonton, British Columbia.

Sequoia sp., Dn. Trans. Roy. Soc. Canada, vol. v, sec. iv, p. 34, 1887. [Wood.]

Canadian upper Laramie: Wood End Depot; Coteau; Mackenzie River.

Sequoia sp., Dn. Trans. Roy. Soc. Canada, vol. v, sec. iv, p. 32, 1887. [Wood.]

Belly River series: Ribstone Creek; Saskatchewan River, British Columbia.

Sequoia sp., Dn. Trans. Roy. Soc. Canada, vol. v, sec. iv, p. 32, 1887. [Wood.]

Fort Pierre group: Bow River, Canada.

Belly River series: Ribstone Creek; west of Medicine Hat.

Sequoia sp., Dn. Trans. Roy. Soc. Canada, vol. viii, sec. iv, p. 80, f. (in text) 8, 1890 [1891].

—: Stump Lake, British Columbia.

Sequoia sp., Font. Potomac Fl., p. 247, pl. cxx, f. 9, 1889.

Potomac formation: Fredericksburg, Virginia.

Sequoia sp., Font. Potomac Fl., p. 248, pl. cxvi, f. 7; cxxxii, f. 2, 5, 6, 1889.

Potomac formation: Near Brooke and Fredericksburg, Virginia.

Sequoia sp., Font. Potomac Fl., p. 248, pl. cxxxii, f. 10, 1889.

Potomac formation: Fredericksburg, Virginia.

Sequoia sp., Kn. in Hill. Am. Journ. Sci., vol. 1, p. 212, 1895.

Cheyenne sandstone: Belvidere, Kansas.

Sequoia sp.? Kn. Bull. Geol. Soc. Am., vol. viii, p. 134, 1897.

Fort Union group: Lightning Creek, Converse County, Wyoming.

Sequoia sp., Lx. Bull. U. S. Geol. and Geogr. Surv. Terr., vol. i, p. 384, 1875 [1876].

Laramie group: Black Buttes, Wyoming.

Sequoia? sp., Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 310, 1874 [1876].

—?: Middle Park, Colorado.

Sequoia sp., Lx. Rept. on Clays in N. J., p. 29, 1878.

Amboy clay: Burts Creek, New Jersey.

Sequoia sp., Kn. Eighteenth Ann. Rept. U. S. Geol. Surv., pt. iii, p. 723, 1898.

Payette formation: Marsh, Idaho.

SERENOPSIS Hollick. Bull. Torr. Bot. Club, vol. xx, p. 169, 1893.

Serenopsis Kempii Hollick. Bull. Torr. Bot. Club, vol. xx, p. 169, pl. cxlix, 1893; *ibid.*, vol. xx, p. 334, 335, pl. clxvi, 1893.

Cretaceous: Glen Cove, Long Island.

Smilacites grandifolia Ung. = *Smilax grandifolia*.

SMILAX (Tournefort) Linnæus. Syst., ed. i, 1735.

Smilax cyclophylla Newby. Bost. Journ. Nat. Hist., vol. vii, p. 520, 1863.

Miocene?: Birch Bay, Washington.

Smilax Franklinoi Heer. Fl. Foss. Arct., vol. i, p. 136, pl. xxi, f. 18, 1868.

Miocene?: Mackenzie River.

Smilax grandifolia (Ung.) Heer. Fl. Tert. Helv., vol. i, p. 82, pl. xxx, f. 8, 1855; Lx., Ann. Rept., *op. cit.*, p. 385, 1872 [1873]; Tert. Fl., p. 94, pl. ix, f. 5, 1878.

Smilacites grandifolia Ung. Chlor. Prot., p. 129, pl. xl, f. 3, 1847.

Laramie group?: Carbon, Wyoming.

Laramie group: Canon City, Colorado, etc.

Smilax grandifolia-cretacea Lx. Fl. Dak. Gr., p. 40, pl. xlvi, f. 3, 1892.

Dakota group: Kansas.

Smilax obtusangula? Heer. Fl. Tert. Helv., vol. iii, p. 166, pl. cxlvii, f. 25, 1859; Lx., Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 391, 1872 [1873]. [Not afterwards mentioned by Lesquereux.]

Laramie group?: Black Buttes, Wyoming.

Smilax undulata Lx. Fl. Dak. Gr., p. 39, pl. xlvi, f. 2, 1892.

Dakota group, Kansas.

Smilax Wardii Lx. Proc. U. S. Nat. Mus., vol. xi, p. 19, pl. xiii, f. 1, 1888.

Miocene; John Day Valley, Oregon.

SPARGANIUM (Tournefort) Linnæus. Syst., ed. i, 1735.

Sparganium stygium Heer. Fl. Tert. Helv., vol. i, p. 101, pl. xlv, f. 1-4, 1855; Ward, Bull. U. S. Geol. Surv., no. 37, p. 18, pl. iii, f. 6, 7, 1887.

Fort Union group: Seven-Mile Creek, Montana.

Sparganium! sp., Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 285, 1871 [1872]. [Not afterwards mentioned by Lesquereux.]

Laramie group?: Three miles above Spring Canyon, Montana.

Spathites sp., Kn. Bull. Geol. Soc. Am., vol. viii, p. 140, 1897.

Montana formation: Near Harpers, Wyoming.

SPEGAZZINITES Felix. Zeitschr. d. deutschen geol. Gesell. 1894, p. 279, 1894.

Spegazzinites cruciformis Felix. Zeitschr. d. deutschen geol. Gesell., Jahr. 1894, p. 279, pl. xix, f. 8, 1894; op. cit., Jahr. 1896, p. 255, 1896.

Eocene: Yanceys, Yellowstone National Park.

Sphæria problematica Kn. = *Sphærites problematicus*.

SPHÆRITES Unger. Gen. et Sp. Pl. Foss., p. 37, 1850.

Sphærites lapideus (Lx.) Mesch. = *Rostelliniles lapideus*.

Sphærites myricæ (Lx.) Meschinelli. Syllog. Fung. Foss., p. 23, 1892.

Sphæria myricæ Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 390, 1872 [1873]; Tert. Fl., p. 34, pl. i, f. 4, 1878.

Green River group: Green River Station, Wyoming.

Laramie group: Black Buttes, Wyoming.

Sphærites Lesquereuxi Meschinelli. Syllog. Fung. Foss., p. 31, 1892.

Sphæria rhytmoides Lx. [non Ett., 1869]. Bull. U. S. Geol. and Geogr.

Surv. Terr., vol. i, p. 382, 1875 [1876]; Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 308, 1874 [1876]; Tert. Fl., p. 35, pl. i, f. 5, 5a, 1878.

Laramie group: Black Buttes, Wyoming.

Sphærites problematicus Kn.

Sphæria problematica Kn. in Lx. Fl. Dak. Gr., p. 23, pl. xxxi, f. 2, 2a, 1891.

Dakota group: Kansas.

SPHENOLEPIDIDIUM Heer. Fl. Foss. du Portugal, p. 19, 1881.

Sphenolepidium dentifolium Font. Potomac Fl., p. 258, pl. cxxvii, f. 3, 4; cxxviii, f. 2-6; cxxix, f. 5; cxxx, f. 4-6, 10, 1889.

Potomac formation: Fredericksburg, Virginia.

Sphenolepidium Kurrianum (Dunk.) Heer. Fl. Foss. du Portugal, p. 19, pl. xii, f. 1b; xiii, f. 1b, 8b; xviii, f. 1-8, 1881; Font., Potomac Fl., p. 260, pl. cxxvi, f. 1, 5, 6; cxxviii, f. 1, 7; cxxix, f. 1, 4, 6, 8; cxxx, f. 11; cxxxi, f. 4; clxvii, f. 2, 1889.

Thuites (Cupressites?) Kurrianus Dunk. Monogr. Norddeutsch. Wealdenbildung., p. 20, pl. vii, f. 8, 1846.

Potomac formation: Dutch Gap Canal, Fredericksburg, near Brooke, and near Telegraph Station, Virginia.

Sphenolepidium pachyphyllum Font. Potomac Fl., p. 259, pl. cxxxi, f. 6, 7, 1889.

Potomac formation: Near Telegraph Station, Virginia.

Kootanie: Anthracite, British Columbia.

Sphenolepidium parceramosum Font. Potomac Fl., p. 257, pl. cxxix, f. 7; cxxx, f. 8; cxxxi, f. 2, 1889.

Potomac formation: Fredericksburg and near Brooke, Virginia.

Sphenolepidium recurvifolium Font. Potomac Fl., p. 258, pl. cxxvii, f. 2; cxxx, f. 2, 7, 1889.

Potomac formation: Near Dutch Gap Canal, near Potomac Run, and near Telegraph Station, Virginia.

Sphenolepidium Sternbergianum (Dunk.) Heer. Fl. Foss. du Portugal, p. 19, pl. xiii, f. 1a, 2-8; xiv, 1881; Font., Potomac Fl., p. 261, pl. cxxi, f. 8, 10, 11; cxxx, f. 9, 1889.

Muscites Sternbergianus Dunk. Monogr. Norddeutsch. Wealdenbildung, p. 20, pl. vii, f. 10, 1846.

Potomac formation: Near Potomac Run and Fredericksburg, Virginia.

Sphenolepidium Sternbergianum densifolium Font. Potomac Fl., p. 261, pl. cxviii, f. 7; cxxi, f. 5, 7, 9; cxxv, f. 2; cxxix, f. 3; cxxx, f. 1; cxxxi, f. 1, 3; cxxxii, f. 4, 1889; Proc. U. S. Nat. Mus., vol. xvi, p. 268, pl. xxxvi, f. 10, 1893.

Trinity division: Glenrose, Texas.

Potomac formation: Near Telegraph Station, near Potomac Run, and Fredericksburg, Virginia.

Sphenolepidium virginicum Font. Potomac Fl., p. 259, pl. cxxv, f. 4; clxvi, f. 6, 1889.

Potomac formation: Near Brooke, Virginia.

Kootanie: Great Falls, Montana.

Sphenolepidium sp., Dn. Trans. Roy. Soc. Canada, vol. x, sec. iv, p. 90, f. (in text) 13, 1892.

Kootanie: Anthracite?, British Columbia.

SPHENOPTERIS Brongniart. Class. et Dist. Vég. Foss.: Mem. Mus. Hist. Nat., vol. viii, p. 233, 1822.

Sphenopteris acrodentata Font. Potomac Fl., p. 90, pl. xxxiv, f. 4, 1889.

Potomac formation: Dutch Gap Canal, Virginia; Baltimore, Maryland.

Sphenopteris corrugata Newby. Later Extinct Floras, p. 10, 1868.

Dakota group: Blackbird Hill, Nebraska.

Sphenopteris elongata Newby. Bost. Journ. Nat. Hist., vol. vii, p. 511, 1863.

—: Point Doughty, Orcas Island; Protection Island.

Sphenopteris eocenica Ett. = *Dryopteris arguta*.

Sphenopteris grevilicoides Heer. Fl. Foss. Arct., vol. iii, abt. ii, p. 34, pl. xi, f. 10, 11, 1874; Hollick, Bull. Geol. Soc. Am., vol. vii, p. 13, 1895.

Cretaceous: Marthas Vineyard.

Sphenopteris Lakesii Lx. = *Dryopteris arguta*.

Sphenopteris Guyottii Lx. Cret. and Tert. Fl., p. 137, pl. xxi, f. 1-7, 1883.

Green River group: Florissant, Colorado.

Sphenopteris latiloba Font. Potomac Fl., p. 90, pl. xxxv, f. 3-5; xxxvi, f. 4-9; xxxvii, f. 1, 1889.

Kootanie: Anthracite, British Columbia.

Potomac formation: Fredericksburg, near Dutch Gap Canal, Deep Bottom, and near Telegraph Station, Virginia.

Sphenopteris Mantelli Brongn. = *Onychiopsis Mantelli*.

Sphenopteris membranacea Lx. = *Dryopteris arguta*.

Sphenopteris nigricans Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 394, 1873 [1874]; Tert. Fl., p. 51, pl. ii, f. 4-5a, 1878.

Denver group: Golden, Colorado.

Laramie group: Black Buttes, Wyoming.

Sphenopteris pachyphylla Font. Potomac Fl., p. 93, pl. l, f. 5, 1889.
Potomac formation: Trents Reach, Virginia.

Sphenopteris spatulata Font. Potomac Fl., p. 93, pl. l, f. 4, 1889.
Potomac formation: Trents Reach, Virginia.

Sphenopteris thyrsopteroides Font. Potomac Fl., p. 89, pl. xxv, f. 3; lviii, f. 5, 1889.

Potomac formation: Fredericksburg and near Dutch Gap Canal, Virginia.

Sphenopteris valdensis? Heer. Fl. Foss. d. Portugal, p. 14, 1881; Font., Proc. U. S. Nat. Mus., vol. xvi, p. 263, pl. xxxvi, f. 2, 1893.

Trinity division: Glenrose, Texas.

SPHENOZAMITES Brongniart. Tableau Vég. Foss., p. 61 [110], 1849.

Sphenozamites sp., Dn. Trans. Roy. Soc. Canada, vol. iii, sec. iv, p. 7, 1885 [1886].

Kootanie: Martin Creek, British Columbia.

Spheria lapidea Lx. = *Rossellinites lapideus*.

Spheria myricæ Lx. = *Sphærites myricæ*.

Spheria rhytismoides Lx. = *Sphærites Lesquereuxi*.

SPIRÆA Linnæus. Syst. Nat., ed. i, 1735.

Spiræa Andersoni Heer. Fl. Foss. Alask., p. 39, pl. viii, f. 3, 1869.

Eocene?: Port Graham, Alaska.

SPIRAXIS Newberry. Ann. N. Y. Acad. Sci., vol. iii, p. 219, 1885.

Spiraxis bivalvis Ward. Bull. U. S. Geol. Surv., no. 37, p. 14, pl. i, f. 3, 1887.

Fort Union group: Clear Creek, Montana.

STAPHYLEA Linnæus. Sp. Pl., ed. i, p. 270, 1753.

Staphylea acuminata Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 415, 1873 [1874]; Tert. Fl., p. 267, pl. xlvi, f. 4, 5, 1878.

Green River group: Middle Park, Costellos Ranch, and Florissant, Colorado.

STENOPTERIS Saporta. Paléont. Française: Pl. Jur., vol. i, p. 290, 1870.

Stenopteris virginica Font. Potomac Fl., p. 112, pl. xxi, f. 8, 1889.

Potomac formation: Near Brooke, Virginia.

STERCULIA Linnæus. Diss. Dass., p. 29, 1747.

Sterculia aperta Lx. Cret. and Tert. Fl., p. 82, pl. x, f. 2, 3, 1883; Fl. Dak. Gr., p. 185, pl. xxii, f. 4, 1892.

Dakota group: Kansas.

Sterculia Drakei Cummins=*Sterculia Snowii*.

Sterculia elegans Font. Potomac Fl., p. 314, pl. clvii, f. 2; clviii, f. 2, 3, 1889.

Potomac formation: Deep Bottom, Virginia.

Sterculia labrusca Ung. Foss. Fl. v. Sotzka, p. 45, pl. xxviii, f. 1-11, 1850; Hollick, Bull. Geol. Soc. Am., vol. vii, p. 13, 1895.

Laurus labrusca Ung. Gen. et Sp. Pl. Foss., p. 423, 1850.

Cretaceous: Marthas Vineyard.

Sterculia Krejci Vel. Fl. Böhm. Kried., Theil ii, p. 22, pl. v, f. 1, 1883; Hollick, Bull. Geol. Soc. Am., vol. vii, p. 13, 1895.

Cretaceous: Marthas Vineyard.

Sterculia lineariloba Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 358, 1874 [1876]. [Not afterwards referred to by Lesquereux.]

Dakota group: Clay Center, Kansas.

Sterculia lugubris Lx. Cret. and Tert. Fl., p. 81, pl. vi, f. 1-3, 1883.

Dakota group?: Near Golden, Colorado.

Sterculia modesta Sap. Lx.=*Sterculia Saportanea*.

Sterculia mucronata Lx. Fl. Dak. Gr., p. 182, pl. xxx, f. 1-4, 1892.

Dakota group: Kansas.

Sterculia obtusiloba Lx.=*Sterculia tripartita*.

Sterculia reticulata Lx. Fl. Dak. Gr., p. 185, pl. xxxiv, f. 10, 1892.

Dakota group: Kansas:

Sterculia rigida Lx. Cret. and Tert. Fl., p. 179, pl. xxxiv, f. 12, 1883.

Green River group: Florissant, Colorado.

Sterculia Snowii Lx. Fl. Dak. Gr., p. 183, pl. xxx, f. 5; pl. xxxi, f. 2, 3; pl. xxxii; pl. xxxiii, f. 1-4, 1892.

Sterculia Drakei Cum. Third Ann. Rept. Geol. Surv. Texas, 1891, p. 210, f. 8, 1892; Kn. in Hill, Am. Journ. Sci., vol. 1, p. 213, 1895.

Dakota group: Kansas; Big Tucumcari Mountain, New Mexico.

Cheyenne sandstone: Belvidere, Kansas.

Sterculia Snowii disjuncta Lx. Fl. Dak. Gr., p. 184, p. lviii, f. 6, 1892.

Dakota group: Kansas.

Sterculia Saportanea nom. nov.

Sterculia modesta Sap. Lesquereux, Cret. and Tert. Fl., p. 125, pl. xx, f. 5, 1883. [*S. modesta* Sap., 1868, preoccupied by *S. modesta* Heer, 1853-1855.]

Denver beds: Golden, Colorado.

Sterculia tripartita [Lx.] n. comb.

Sterculia obtusiloba Lx. Cret. and Tert. Fl., p. 82, pl. viii, f. 3, 1883.

Aralia tripartita Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 248, pl. i, f. 1, 1874 [1876].

Dakota group: Kansas.

Sterculia vetustula Dn. Trans. Roy. Soc. Canada, vol. iii. sec. iv, p. 10, pl. iii, f. 2, 1885 [1886].

Intermediate series (Cretaceous): North Fork Old Man River, British Columbia.

Sterculia sp., Lx. Rept. on Clays in N. J., p. 28, 1878.

Amboy clay: Washington, New Jersey.

Sterculia sp., Hollick. Trans. N. Y. Acad. Sci., vol. xvi, p. 133, pl. xiv, f. 4-7, 1897.

Clay marl (Upper Cretaceous): Cliffwood, New Jersey.

STROBILITES Lindley and Hutton. Foss. Fl. Gr. Brit., vol. ii, p. 23, pl. lxxxix, 1833-1835.

Strobilites inquirendus Hollick. Trans. N. Y. Acad. Sci., vol. xvi, p. 130, pl. xi, f. 1, 1897.

Clay marl (Upper Cretaceous): Cliffwood, New Jersey.

STYRAX (Tournefort) Linnæus. Syst., ed. i, 1735.

Styrax Ambra Ung. Syll. Pl. Foss., pt. iii, p. 34, pl. xxiv, f. 19, 20, 1865; Lx., Bull. Mus. Comp. Zoöl., vol. xvi, p. 51, 1888.

Denver group: Golden, Colorado.

Styrax laramiense Lx. Bull. Mus. Comp. Zoöl., vol. xvi, p. 51, 1888.

Denver group: Golden, Colorado.

SYMPHOROCARPOPHYLLUM Dawson. Trans. Roy. Soc. Canada, vol. iv, sec. iv, p. 29, 1886 [1887].

Symphorocarpophyllum albertum Dn. Trans. Roy. Soc. Canada, vol. iv, sec. iv, p. 30, pl. ii, f. 17, 1886 [1887].

Canadian upper Laramie: Great Valley, British Columbia.

Symphorocarpophyllum linnæiforme Dn. Trans. Roy. Soc. Canada, vol. iv, sec. iv, p. 30, pl. ii, f. 18, 1886 [1887].

Canadian upper Laramie: Porcupine Creek.

TÆNIOPTERIS Brongniart. Prodr. Hist. Vég. Foss., p. 61, 1828.

Tæniopteris Gibbsii Newby. Bot. Journ. Nat. Hist., vol. vii, p. 512, 1863.

—: Point Doughty, Orcas Island.

Tæniopteris plumosa Dn. Trans. Roy. Soc. Canada, vol. i, sec. iv, p. 24, pl. iv, f. 15, 1882 [1883].

Upper Cretaceous: Baynes Sound, Vancouver Island.

TAONURUS Fisher-Ooster. Die fossilen Fucoiden d. Schweizer-Alpen, p. 41, 1858.

Taonurus incertus Dn. Trans. Roy. Soc. Canada, vol. iii, sec. iv, p. 10, 1885 [1886].

Kootanie: British Columbia (no locality).

TAXITES Brongniart. Prodr. Hist. Vég. Foss., p. 108, 1828.

Taxites Langsdorfii Brgt. = *Sequoia Langsdorfii*.

Taxites Olriki Heer. Fl. Foss. Arct., vol. i, p. 95, pl. 1, f. 21-24; xlv, f. a, b, c, 1868; Lx, Cret. and Tert. Fl., p. 240, pl. 1, f. 6, 6a, 1883.

Miocene: Corral Hollow, California.

Eocene?: Port Graham, Alaska; Mackenzie River.

Canadian upper Laramie: Roche Percée, Souris River.

Taxites microphyllus Heer. Fl. Foss. Alask., p. 24, pl. i, f. 9, 9b, 1869.

Eocene?: Port Graham, Alaska.

Bull. 152—15

- Taxites** sp., Dn. Trans. Roy. Soc. Canada, vol. v, sec. iv, p. 33, 1887.
[Wood.]
Belly River series: South Saskatchewan.
- Taxites** sp., Dn. Trans. Roy. Soc. Canada, vol. v, sec. iv, p. 34, 1887.
[Fossil wood.]
Upper Laramie group: Red Deer River; Wood End Depot, Canada.
Taxodites europæus (Brongn.) Endl. = *Glyptostrobus europæus*.
- TAXODIUM** L. C. Richard. Ann. Mus. Paris, vol. xvi, p. 298, 1810.
Taxodium (*Glyptostrobus*) *brookense* Font. = *Glyptostrobus brookense*.
Taxodium brookense angustifolium Font. = *Glyptostrobus brookense angustifolius*.
- Taxodium cuneatum** Newby. Bost. Journ. Nat. Hist., vol. vii, p. 517, 1863; Dn., Trans. Roy. Soc. Canada, 1882, p. 25.
Upper Cretaceous: Nanaimo and Protection Island.
Kootanie series: British Columbia (no locality).
- Taxodium** (***Glyptostrobus***) ***denticulatum*** Font. Potomac Fl., p. 253, pl. cxxiv, f. 1, 1889.
Potomac formation: Kankeys, Virginia.
- Taxodium distichum miocenum** Heer. Mioc. Balt. Fl., p. 18, pl. ii; pl. iii, f. 6, 7, 1869.
Taxodium dubium (Sternb.) Heer. Fl. Tert. Helv., vol. i, p. 49, pl. xvii, f. 5-15, 1855; Lx., Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 409, 1873 [1874].
Abies Nevadensis Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 372, 1872 [1873].
Eocene: Elko Station, Nevada; Alaska?; Carbon?; Evanston.
Fort Union group: Montana.
Miocene: John Day Valley, Oregon.
- Taxodium dubium* (Sternb.) Heer. = *Taxodium distichum miocenum*.
Taxodium europæum Brongn. = *Glyptostrobus europæus*.
- Taxodium** (***Glyptostrobus***) ***expansum*** Font. Potomac Fl., p. 252, pl. cxxiii, f. 1, 1889.
Potomac formation: Near Telegraph Station, Virginia.
- Taxodium* (*Glyptostrobus*) *fastigiatum* Font. = *Glyptostrobus fastigiatum*.
- Taxodium occidentale** Newby. Bost. Journ. Nat. Hist., vol. vii, p. 516, 1863; Ill. Cret. and Tert. Pl., pl. xi, f. 1-3, 1878.
Fort Union group: Yellowstone River, Montana.
Upper Laramie group: Canada.
- Taxodium** (***Glyptostrobus***) ***ramosum*** Font. Potomac Fl., p. 251, pl. cxxiii, f. 2, 3; cxxiv, f. 2; cxxvii, f. 1; cxxxii, f. 1; clxvi, f. 1, 1889.
Potomac formation: Near Brooke, Virginia.
Kootanie: Great Falls, Montana.
- Taxodium Tinajorum** Heer. Fl. Foss. Alask., p. 22, pl. i, f. 1-5, 1869.
Eocene?: Port Graham, Alaska.
- Taxodium Tinajorum?* Heer, Lx. [Ann. Rept., 1871, p. 285] = Unknown.
[Not afterwards recognized by Lesquereux.]

Taxodium (Glyptostrobus) virginicum Font. Potomac Fl., p. 252, pl. cxxi, f. 6, 1889.

Potomac formation: Near Potomac Run, Virginia.

Taxodium sp., Dn. Trans. Roy. Soc. Canada, vol. xi, sec. iv, p. 56, pl. vi, f. 10, 1893 [1894].

Upper Cretaceous: Nanaimo, Vancouver.

TAXOXYLUM Unger. Chlor. Prot., p. 33, 1842.

Taxoxylon sp., Dn. Rept. on Geol. and Res. near 49th Parallel, Appen. A, p. 331, 1875.

Lignitic tertiary: "Forty-ninth parallel."

Taxoxylon sp., Dn. Geol. Surv. Canada, Rept. of Progress for 1872-73, Appen. I, p. 67, 1873.

Lower Cretaceous: British Columbia.

TAXUS (Tournefort) Linnæus. Syst., ed. i, 1735.

Taxus baccata L., Penhallow, 1890 = **Taxus minor**.

Taxus canadensis Willd., Penhallow (1896) = **Taxus minor**.

Taxus minor (Mx.) Britton.

Taxus baccata L. Penhallow, Bull. Geol. Soc. Am., vol. i, p. 321, 333, 1890.

Taxus canadensis Willd. Penhallow, Trans. Roy. Soc. Canada, 2d ser., vol. ii, sec. iv, p. 67, 73, 1896.

Pleistocene: Don River and Don Valley, Toronto; Cape Breton; Fort Madison, Iowa; Solsgirth and Rolling River, Manitoba; Bloomington, Illinois.

Terminalia Radobojensis Heer, Lesquereux [1871] = **Magnolia Lesleyana**, **Tetranthera** Jacq. = **Malapenna**.

Tetranthera præcursoria Lx. Cret. and Tert. Fl., p. 228, pl. xlvi, f. 2, 1883.

Fort Union group: Bad Lands, Dakota.

Tetranthera sessiliflora Lx. = **Litsea sessiliflora** and **L. Weediana**.

THINNFELDIA Ettingshausen. Abhandl. d. k. k. geol. Reichsanstalt, vol. i, abt. iii, no. 3, p. 2, 1852.

Thinnfeldia granulata Font. Potomac Fl., p. 111, pl. xxvi, f. 10-12; xxvii, f. 1-5, 8; pl. clxix, f. 1, 1889.

Potomac formation: Near Dutch Gap Canal and near Potomac Run, Virginia.

Thinnfeldia lanceolata Kn. Bull. U. S. Geol. Surv., no. 105, p. 49, pl. v, f. 5, 1893.

Laramie group: Bozeman coal field, Montana.

Thinnfeldia Lesquereuxiana Heer. = **Thinnfeldia subintegrifolia**.

Thinnfeldia montana nom. nov.

Thinnfeldia polymorpha* (Lx.) Kn. Proc. Biol. Soc. Wash., vol. vii, p. 153, 1892; Bull. U. S. Geol. Surv., no. 105, p. 47, pl. v [1], f. 1-4, 1893.

Salisburia polymorpha Lx. Am. Journ. Sci., 2d ser., vol. xxvii, p. 362, 1859 [nomen nudum]; Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 404, 1872 [1873].

[* **Thinnfeldia polymorpha** (Lx.) Kn., 1892, preoccupied by **T. polymorpha** Ett., 1860.]

Laramie and Livingston group: Bozeman coal field, Montana.

Thinnfeldia polymorpha (Lx.) Kn. = *Thinnfeldia montana*.

Thinnfeldia rotundiloba Font. Potomac Fl., p. 111, pl. xxvii, f. 6, 7, 1889.

Potomac formation: Fredericksburg and near Potomac Run, Virginia.

Thinnfeldia subintegrifolia (Lx.) n. comb.

Phyllocladus subintegrifolius Lx. Am. Journ. Sci., vol. xvi, p. 92, 1868; Cret. Fl., p. 54, pl. i, f. 12, 1874; Fl. Dak. Gr., p. 34, pl. ii, f. 1-3, 1892.

Thinnfeldia Lesquereuxiana Heer. Fl. Foss. Arct., vol. vi, abt. ii, p. 37, pl. xlv, f. 9, 10; xlv, f. 11, 12a, b; Hollick, Trans. N. Y. Acad. Sci., vol. xi, p. 99, pl. iii, f. 6, 1892; Newby, Fl. Amboy Clays, p. 59, pl. xi, f. 1-17, 1895 [1896].

Dakota group: Kansas; Decatur, Nebraska.

Amboy clay: Cretaceous; Atane, Greenland.

Thinnfeldia variabilis Font. Potomac Fl., p. 110, pl. xvii, f. 3-7; xviii, f. 1-6, 1889.

Potomac formation: Near Brooke and near Potomac Run, Virginia.

Knoxville beds: Tehama County, California.

THUITES Sternberg. Vers., vol. i, Fasc. iii, p. 39, 1823.

Thuites crassus Lx. = *Brachyphyllum macrospermum*.

Thuites (Chamæcyparis) alaskensis Lx. Proc. U. S. Nat. Mus., vol. v, p. 445, pl. vi, f. 7-9, 1882 [1883].

Eocene?: Unga Island, Alaska.

Thuites callitrina Ung. Chlor. Prot., p. 22, pl. vi, f. 2, 18; Lx., Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 371, 1872 [1873]. [Not afterwards mentioned by Lesquereux.]

Green River group: Castello's Ranch, Colorado.

Thuites kurrianus Dunk. = *Sphenolepidium kurrianum*.

Thuites Meriani Heer. Fl. Foss. Arct., vol. iii, abt. ii, p. 73, pl. xvi, f. 17, 18, 1873; Newby., Fl. Amboy Clays, p. 54, pl. x, f. 5, 1896.

Amboy clay: No location.

THUJA Linnæus. Hort. Cliff., p. 449, 1737.

Thuja Garmani Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 372, 1872 [1873]; Cret. and Tert. Fl., p. 139, 1883 [1884].

Green River group: Elko Station, Nevada.

Thuja cretacea (Heer.) Newby. Fl. Amboy Clays, p. 53, pl. x, f. 1, 1a, 1895 [1896].

Libocedrus cretacea Heer. Fl. Foss. Arct., vol. vi, abt. ii, p. 49, pl. xxix, f. 1, 2; xliii, f. 1d, 1882.

Amboy clay: South Amboy, New Jersey.

Thuja interrupta Newby. Later Extinct Floras, p. 42, 1868; Dn., Trans. Roy. Soc. Canada, vol. iv, sec. iv, p. 22, pl. i, f. 3, 4, 1886 [1887].

Fort Union group: Porcupine Creek; Fort Union, North Dakota.

Thuja occidentalis L. Spec. Pl., p. 1002, 1753; Dn., Can. Nat., vol. ii, p. 422, 1857; Geol. Hist. Pl., p. 229, 1888; Britton, Trans. N. Y. Acad. Sci., vol. v, p. 218, 1886.

Post-Pliocene: Montreal, Canada.

Pleistocene: Cedar Creek and Natural Bridge, Virginia; Marietta, Ohio.

Thuja sp., Dn. Trans. Roy. Soc. Canada, vol. v, sec. iv, p. 34, 1887.
[Fossil wood.]

Canadian upper Laramie: Four hundred mile Point, forty-ninth parallel; Middle Fork Old Man River.

Thuja sp., Dn. Trans. Roy. Soc. Canada, vol. v, sec. iv, p. 33, 1887.
[Wood.]

Belly River series: Old Man River; Ribstone Creek; Twenty-Mile Creek.

Thuja sp., Kn. Bull. Geol. Soc. Am., vol. viii, p. 134, 1897.

Fort Union group: Lightning Creek, Converse County, Wyoming.

THYRSOPTERIS Kunze. Linnæa, vol. ix, p. 507, 1834.

Thyrsopteris alata Font. Potomac Fl., p. 124, pl. xxxvi, f. 3, 1889.

Potomac formation: Near Potomac Run, Virginia.

Thyrsopteris angustifolia Font. Potomac Fl., p. 131, pl. xlv, f. 4; xlv, f. 3; xlvi, f. 2; xlvii, f. 3, 4; lv, f. 2; lviii, f. 8, 1889.

Potomac formation: Trents Reach, near Dutch Gap Canal, near Brooke, and near Potomac Run, Virginia.

Thyrsopteris angustiloba Font. Potomac Fl., p. 134, pl. xlviii, f. 3-5; lv, f. 3, 1889.

Potomac formation: Fredericksburg, near Dutch Gap Canal, Trents Reach, and White House Bluff, Virginia.

Thyrsopteris bella Font. Potomac Fl., p. 139, pl. liii, f. 5; lv, f. 6, 7; lvi, f. 2, 5; lvii, f. 1, 5; lviii, f. 4, 1889.

Potomac formation: Fredericksburg, Trents Reach, White House Bluff, and near Dutch Gap Canal, Virginia.

Thyrsopteris brevifolia Font. Potomac Fl., p. 121, pl. xxiv, f. 5, 10.
Potomac formation: Dutch Gap Canal, Virginia.

Kootanie: Great Falls, Montana.

Thyrsopteris brevipennis Font. Potomac Fl., p. 124, pl. xxxiv, f. 3; xxxvi, f. 2; xxxvii, f. 3, 9; xxxviii, f. 1; xli, f. 4, 1889.

Potomac formation: Dutch Gap Canal and Deep Bottom, Virginia; Baltimore, Maryland.

Kootanie: Great Falls, Montana.

Thyrsopteris crassinervis Font. Potomac Fl., p. 130, pl. xli, f. 1-3, 1889.

Potomac formation: Fredericksburg, Virginia.

Thyrsopteris crenata Font. Potomac Fl., p. 127, pl. xxxix, f. 1, 2, 1889.

Potomac formation: Fredericksburg, Virginia.

Thyrsopteris decurrens Font. Potomac Fl., p. 130, pl. xliii, f. 7; xlvi, f. 2, 4; xlvii, f. 5-7, 1889.

Potomac formation: Dutch Gap Canal, Fredericksburg, near Brooke, near Potomac Run, Virginia.

Thyrsopteris densifolia Font. Potomac Fl., p. 129, pl. xxxix, f. 3; xl, f. 2-5; li, f. 5, 1889.

Potomac formation: Fredericksburg, and near Brooke, Virginia.

Thyrsopteris dentata Font. Potomac Fl., p. 121, pl. xxiv, f. 4, 6, 7, 9; xxv, f. 1, 2, 1889.

Potomac formation: Fredericksburg, Dutch Gap Canal, and near Potomac Run, Virginia.

Thyrsopteris distans Font. Potomac Fl., p. 134, pl. xlvii, f. 3; liv, f. 8, 1889.

Potomac formation: Near Brooke, Virginia.

Thyrsopteris divaricata Font. Potomac Fl., p. 125, pl. xxxvii, f. 5-8; clxx, f. 1, 1889.

Potomac formation: Fredericksburg and Dutch Gap Canal, Virginia.

Thyrsopteris elliptica Font. Potomac Fl., p. 133, pl. xxiv, f. 3; xlvi, f. 1; l, f. 6, 9; li, f. 4, 6, 7; liv, f. 6; lv, f. 4; lvi, f. 6, 7; lvii, f. 6; lviii, f. 2, 1889.

Potomac formation: Fredericksburg and Dutch Gap Canal, Virginia.

Thyrsopteris heteroloba Font. Potomac Fl., p. 139, pl. liii, f. 4, 1889.

Potomac formation: Fredericksburg, Virginia.

Thyrsopteris heteromorpha Font. Potomac Fl., p. 136, pl. lii, f. 1, 1889.

Potomac formation: Fredericksburg, Virginia.

Thyrsopteris heterophylla Font. Potomac Fl., p. 142, pl. lviii, f. 3, 1889.

Potomac formation: Fredericksburg, Virginia.

Thyrsopteris inaequipinnata Font. Potomac Fl., p. 142, pl. lvii, f. 3, 8, 1889.

Potomac formation: Near Dutch Gap Canal, Virginia.

Thyrsopteris insignis Font. Potomac Fl., p. 127, pl. xxxix, f. 4; xl, f. 1; xli, f. 6; xlii, f. 1, 2, 4; xliii, f. 1, 3, 1889.

Potomac formation: Fredericksburg and near Potomac Run, Virginia.

Kootanie: Great Falls, Montana.

Thyrsopteris insignis angustipennis Font. Potomac Fl., p. 128, pl. xlii, f. 3; xliii, f. 2, 1889.

Potomac formation: Fredericksburg, Virginia.

Thyrsopteris Meekiana Font. Potomac Fl., p. 125, pl. xxxviii, f. 2-4, 8; l, f. 7, 8; li, f. 3, 1889.

Potomac formation: Fredericksburg and near Dutch Gap Canal, Virginia; Baltimore, Maryland.

Thyrsopteris Meekiana angustiloba Font. Potomac Fl., p. 126, pl. xxxviii, f. 5-7, 9; xliii, f. 8; xliv, f. 3; xlvii, f. 4; xlviii, f. 1; liv, f. 2, 11; lv, f. 1; lvi, f. 1, 3, 1889.

Potomac formation: Baltimore, Maryland; near Dutch Gap Canal, near Brooke, and Fredericksburg, Virginia.

Thyrsopteris microloba Font. Potomac Fl., p. 140, pl. lvii, f. 4, 1889.

Potomac formation: Near Dutch Gap Canal, Virginia.

- Thyrsopteris microloba alata** Font. Potomac Fl., p. 140, pl. lv, f. 5; lviii, f. 1, 1889.
Potomac formation: Fredericksburg and near Dutch Gap Canal, Virginia.
Kootanie: Great Falls, Montana.
- Thyrsopteris microphylla** Font. Potomac Fl., p. 131, pl. xlv, f. 1, 2, 4, 5, 1889.
Potomac formation: Fredericksburg and near Potomac Run, Virginia.
- Thyrsopteris nana** Font. Potomac Fl., p. 141, pl. lvi, f. 4, 8, 1889.
Potomac formation: Fredericksburg and near Dutch Gap Canal, Virginia.
- Thyrsopteris nervosa** Font. Potomac Fl., p. 122, pl. xxv, f. 4, 5, 16; xxxvii, f. 2, 4; xxxix, f. 5; xl, f. 6, 1889.
Potomac formation: Fredericksburg and near Potomac Run, Virginia.
- Thyrsopteris obtusiloba** Font. Potomac Fl., p. 143, pl. lviii, f. 7, 10, 1889.
Potomac formation: Dutch Gap Canal and near Potomac Run, Virginia.
- Thyrsopteris pachyphylla** Font. Potomac Fl., p. 135, pl. l, f. 3, 1889.
Potomac formation: Near Potomac Run, Virginia.
- Thyrsopteris pachyrachis** Font. Potomac Fl., p. 132, pl. xlvi, f. 3, 5; xlvii, f. 1, 2; xlix, f. 1, 1889.
Potomac formation: Fredericksburg, near Potomac Run, and near Dutch Gap Canal, Virginia.
- Thyrsopteris pectoeroides** Font. Potomac Fl., p. 135, pl. li, f. 1, 1889.
Potomac formation: Fredericksburg, Virginia.
- Thyrsopteris pinnatifida** Font. Potomac Fl., p. 136, pl. li, f. 2; liv, f. 4, 5, 7; lvii, f. 7, 1889.
Potomac formation: Fredericksburg, Virginia.
- Thyrsopteris rarinervis** Font. Potomac Fl., p. 123, pl. xxvi, f. 6, 7; xlili, f. 4-6; xliv, f. 1, 2, 5; xlix, f. 2; clxi, f. 6, 7, 1889.
Potomac formation: Fredericksburg, near Brooke, White House Bluff, and Trents Reach, Virginia.
Knoxville beds: Tehama County, California.
Kootanie: Great Falls, Montana.
- Thyrsopteris retusa** Font. Potomac Fl., p. 144, pl. lix, f. 10, 1889.
Potomac formation: Near Potomac Run, Virginia.
- Thyrsopteris rhombifolia** Font. Potomac Fl., p. 138, pl. lii, f. 5; liv, f. 1, 1889.
Potomac formation: Fredericksburg and near Dutch Gap Canal, Virginia.
- Thyrsopteris rhombiloba** Font. Potomac Fl., p. 144, pl. lix, f. 7; lx, f. 8, 1889.
Potomac formation: Near Potomac Run, Virginia.

Thyrsopteris sphenopteroides Font. Potomac Fl., p. 143, pl. lviii, f. 6, 1889.

Potomac formation: Near Potomac Run, Virginia.

Thyrsopteris squarrosa Font. Potomac Fl., p. 143, pl. lix, f. 3, 1889.

Potomac formation: Near Potomac Run and Telegraph Station, Virginia.

Thyrsopteris varians Font. Potomac Fl., p. 137, pl. lii, f. 2-4; liii, f. 1-3; liv, f. 10; lvii, f. 2, 1889.

Potomac formation: Fredericksburg, Virginia.

Thyrsopteris virginica Font. Potomac Fl., p. 120, pl. xxiv, f. 1, 1889.

Potomac formation: Near Potomac Run, Virginia.

TILIA (Tournefort) Linnæus. Syst., ed. i, 1735.

Tilia alaskana Heer. Fl. Foss. Alask., p. 36, pl. x, f. 2, 3, 1869.

Eocene?: Port Graham, Alaska.

Tilia antiqua Newby. = *Viburnum antiquum*.

Tilia populifolia Lx. Cret. and Tert. Fl., p. 179, pl. xxxiv, f. 8, 9, 1883.

Green River group: Florissant, Colorado.

TILIÆPHYLLUM Newberry. Fl. Amboy Clays, p. 109, 1896.

Teliæphyllum dubium Newby. Fl. Amboy Clays, p. 109, pl. xv, f. 5, 1895 [1896].

Amboy clay: Fish House.

TMESIPTERIS Bernhardt. In Schrad. Journ., vol. ii, p. 131, 1800.

Tmesipteris Alleni (Lx.) Hollick, Bull. Torr. Bot. Club, vol. xxi, p. 256, pl. ccv, f. 12, 1894.

Salvinia Alleni Lx. Tert. Fl., p. 65, pl. v, f. 11, 1878.

Ophioglossum Alleni Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 371, 1872 [1873].

Green River group: South Park, Colorado.

Todia? *Saportanea* Lx. = *Lomatia?* *Saportanea*.

Torreya Arnott, 1838 = *Tumion* Rafinesque, 1840.

Torreya densifolia Dn. = *Tumion densifolium*.

Torreya dicksonioides Dnl = *Tumion dicksonioides*.

Torreya falcata Font. = *Tumion falcatum*.

Torreya oblanceolata Lx. = *Tumion oblanceolatum*.

Torreya virginica Font. = *Tumion virginicum*.

TOXYLON Rafinesque. In Am. Montli. Mag., vol. ii, p. 18, 1817.

Toxylon pomiferum Raf.

Maclura auriantiaica Nutt. Penhallow in Coleman, Journ. Geol., vol. iii, p. 635, 1895; Trans. Roy. Soc. Canada, 2d ser., vol. ii, sec. iv, p. 69, 72, 1896.

Pleistocene: Don River, Canada.

TRAPA Linnæus. Gen. Pl., ed. i, p. 359, 1737.

Trapa americana Kn. Eighteenth Ann. Rept. U. S. Geol. Surv., pt. iii, p. 733, pl. cii, f. 7a, 1898.

Payette formation: Idaho City, Idaho.

Trapa borealis Heer. Fl. Foss. Alask., p. 38, pl. viii, f. 9-14, 1869; Dn., Rept. on Geol. and Res. near 49th Parallel, Appen. A, p. 330, pl. xvi, f. 10, 1875.

Belly River series: Vermilion River.

Eocene?: Port Graham, Alaska.

Lower Laramie group: Red Deer and Rosebud rivers, Canada.

Trapa ? microphylla Lx. Bull. U. S. Geol. and Geogr. Surv. Terr., vol. i, p. 369, 1875 [1876]; Ann. Rept. U. S. Geol. and Geogr. Surv. Terr. p. 304, 1874 [1876]; Lx., Tert. Fl., p. 295, pl. lxi, f. 16-17a, 1878; Ward, Bull. U. S. Geol. Surv., no. 37, p. 64, pl. xxviii, f. 2-5, 1887.

? Neuropteris angulata Newby. Rept. Colo. River of the West, by Ives, p. 131, pl. iii, f. 5, 1861.

Upper Laramie group: Great Valley.

Fort Union group: Burns's Ranch, Montana.

Laramie group: Converse County, Wyoming.

Montana group: Point of Rocks, Wyoming.

Lower Laramie group: Bad Lands, Red Deer and Rosebud rivers, and Pincher Creek, Canada.

Trapa ? occidentalis Kn. Eighteenth Ann. Rept. U. S. Geol. Surv. pt. iii, p. 734, pl. cii, f. 7b, 1898.

Payette formation: Idaho City, Idaho.

Trapa sp., Kn. Bull. Geol. Soc. Am., vol. viii, p. 142, 1897.

Laramie group?: "Dutton Creek coal," Wyoming.

TRICALYCITES Newberry. Fl. Amboy Clays, p. 132, 1895 [1896.]

Tricalycites papyraceus Newby. Fl. Amboy Clays, p. 132, pl. xlvi, f. 30²-38, 1895 [1896]; Hollick, Bull. Torr. Bot. Club, vol. xxi, p. 63, pl. clxxx, f. 8, 1894.

Cretaceous: Long Island.

Amboy clay: Woodbridge, New Jersey.

TRICARPELLITES Bowerbank. Hist. Foss. Fruits and Seeds, London Clay, p. 76, 1840.

Tricarpellites striatus Newby. Fl. Amboy Clays, p. 132, pl. xlvi, f. 9-13, 1895 [1896].

Amboy clay: Woodbridge, New Jersey.

Trunk No. 1 Font. Potomac Fl., p. 189, pl. clxxiv-clxxviii, 1889.

Potomac formation.

Trunk No. 2 Font. Potomac Fl., p. 191, pl. clxxix, clxxx, 1889.

Potomac formation: Maryland.

TSUGA Carrier. Trait. Conif., p. 185, 1855.

Tsuga Mertensiana (Bougn.) Carr. Kn., Jour. Geol., vol. iii, p. 531, 1895.

Interglacial: Muir Glacier, Alaska.

TUMION Rafinesque. *Amen. Nat.*, p. 63, 1840.

Tumion densifolium (Dn.) n. comb.

Torreia densifolia Dn. *Trans. Roy. Soc. Canada*, vol. i, sec. iv, p. 25; pl. v, f. 20, 20a, 1882 [1883].

Upper Cretaceous: Protection Island.

Tumion dicksonioides (Dn.) n. comb.

Torreia dicksonioides Dn. *Trans. Roy. Soc. Canada*, vol. i, sec. iv, p. 21, pl. ii, f. 4, 1882 [1883].

——: Pine River, Northwest Territory.

Tumion falcatum (Font.) n. comb.

Torreya falcata Font. *Potomac Fl.*, p. 235, pl. cxiii, f. 4, 1889.

Potomac formation: Near Potomac Run, Virginia.

Tumion oblanceolatum (Lx.) n. comb.

Torreya oblanceolata Lx. *Cret. and Tert. Fl.*, p. 30, pl. i, f. 2, 1883.

Dakota group?: Near Golden, Colorado.

Tumion virginicum (Font.) n. comb.

Torreya virginica Font. *Potomac Fl.*, p. 234, pl. cix, f. 8, 1889.

Potomac formation: Near Brooke, Virginia.

TYPHA Linnæus. *Syst.*, ed. i, 1735.

Typha latifolia? L. Penhallow, *Trans. Roy. Soc. Canada*, 2d ser., vol. ii, sec. iv, p. 64, 73, 1896.

Pleistocene: Besserers Wharf, Ottawa River.

Typha latissima Al. Br. in Stizenberger. *Versteinerungen*, p. 75; *Lx.*, *Cret. and Tert. Fl.*, p. 141, pl. xxiii, f. 4, 4a, 1883.

Green River group: Uinta County, formerly but incorrectly called, Randolph County, Wyoming.

TYSONIA Fontaine. *Potomac Fl.*, p. 186, 1889.

Tysonia marylandica Font. = *Cycadeoidea marylandica*.

Ulmmania Newby. = *Ullmannia*.

ULLMANNIA Göppert. *Monogr. Foss. Conif.*, p. 185, 1850.

Ullmannia sp. (Newby).

Ulmmania sp., Newby. *Proc. Lyc. Nat. Hist. N. Y.*, 2d ser., Jan. 3 to Mar. 3, 1873, p. 10, 1873.

Cretaceous: Keyport, New Jersey.

Ulmiphyllum Font. (1889) = *Ulmophyllum* Ett. (1883).

Ulmiphyllum brookense Font. = *Ulmophyllum brookense*.

Ulmiphyllum crassinerve Font. = *Ulmophyllum crassinerve*.

Ulmiphyllum tenuinerve Font. = *Ulmophyllum tenuinerve*.

ULMITES Dawson. *Trans. Roy. Soc. Canada*, vol. viii, sec. iv, p. 88, 1890.

Ulmites pusillus Dn. *Trans. Roy. Soc. Canada*, vol. viii, sec. iv, p. 88, f. (in text) 24, 1890.

Eocene?: North Similkameen River, British Columbia.

ULMOPHYLLUM Ettingshausen. *Tert. Fl. Austr.*: *Denkschr. Wien. Akad.*, vol. xlvii, abt. i, p. 26, 1883.

Ulmophyllum brookense (Font.).

Ulmophyllum brookense Font. Potomac Fl., p. 312, pl. clv, f. 8; cixiii, f. 7, 1889.

Potomac formation: Near Brooke, Virginia.

Ulmophyllum crassinerve (Font.)

Ulmophyllum crassinerve Font., Potomac Fl., p. 313, pl. clviii, f. 6, 7, 1889.

Potomac formation: Deep Bottom, Virginia.

Ulmophyllum priscum Dn. Trans. Roy. Soc. Canada, vol. xi, sec. iv, p. 59, pl. viii, f. 28, 1893 [1894].

Upper Cretaceous: Port McNeill, Vancouver Island.

Ulmophyllum tenuinerve (Font.)

Ulmophyllum tenuinerve Font. Potomac Fl., p. 313, pl. clviii, f. 1, 1889.

Potomac formation: Near Brooke, Virginia.

ULMUS (Tournefort) Linnæus. Syst., ed. i, 1735.**Ulmus affinis** Lx. Mem. Mus. Comp. Zoöl., vol. vi, no. 2, p. 16, pl. iv, f. 4, 5, 1878.

Miocene: Table Mountain, California.

Ulmus alata? Michx. Lx., Am. Journ. Sci., vol. xxvii, p. 365, 1859.

Pleistocene: Banks of Mississippi, near Columbus, Kentucky.

Ulmus americana L. Hollick, Bull. Torr. Bot. Club, vol. xix, p. 332, 1892; Penhallow in Coleman, Journ. Geol., vol. iii, p. 635, 1895; Trans. Roy. Soc. Canada, 2d ser., vol. ii, sec. iv, p. 68, 73, 1896.

Miocene?: Bridgeton, New Jersey.

Pleistocene: Don River, Canada.

Ulmus antecedens Lx. Bull. Mus. Comp. Zoöl., vol. xvi, p. 49, 1888.

Denver group: Golden, Colorado.

Ulmus Braunii Heer. Fl. Tert. Helv., vol. ii, p. 59, pl. lxxix, f. 14-21, 1856; Lx., Cret. and Tert. Fl., p. 161, pl. xxvii, f. 1-4, 8, 1883.

Green River group: Florissant, Colorado.

Eocene?: Kamloops, British Columbia.

Ulmus Brownellii Lx. Cret. and Tert. Fl., p. 160, pl. xxviii, f. 2, 4, 1883.

Green River group: Florissant, Colorado, White River.

Ulmus californica Lx. Mem. Mus. Comp. Zoöl., vol. vi, no. 2, p. 15, pl. iv, f. 1, 2; pl. vi, f. 7a, 1878; Cret. and Tert. Fl., p. 265, pl. xlVB, f. 3, 4, 7, 1883.

Miocene: Chalk Bluffs and Table Mountain, California.

Miocene: John Day Valley, Oregon.

Ulmus dubia Dn. Trans. Roy. Soc. Canada, vol. i, sec. iv, p. 27, pl. vii, f. 29, 1882 [1883].

Upper Cretaceous: Baynes Sound.

Ulmus grandifolia Newby. Proc. U. S. Nat. Mus., vol. v, p. 508, 1882 [1883].

Tertiary: Tongue River, Wyoming.

- Ulmus Hilliae** Lx. Cret. and Tert. Fl., p. 160, pl. xxviii, f. 1, 3, 1883.
Green River group: Florissant, Colorado.
- Ulmus?** *irregularis* Lx. = *Ficus irregularis*.
- Ulmus minima** Ward. Bull. U. S. Geol. Surv., no. 37, p. 45, pl. xxiii, f. 3, 4, 1887.
Fort Union group: Clear Creek, Montana.
- Ulmus orbicularis** Ward. Bull. U. S. Geol. Surv., no. 37, p. 46, pl. xxiii, f. 6, 1887.
Fort Union group: Clear Creek, Montana.
- Ulmus planeroides** Ward. Bull. U. S. Geol. Surv., no. 37, p. 44, pl. xxiii, f. 1, 2, 1887.
Fort Union group: Clear Creek, Montana.
- Ulmus præcursor** Dn. Trans. Roy. Soc. Canada, vol. iv. sec. iv, p. 28, pl. ii, f. 11, 1886 [1887].
Upper Laramie group: Canada (exact locality not given).
- Ulmus plurinervia** Ung. Chlor. Prot., p. 95, pl. xxv, f. 1-4, 1847; Heer, Fl. Foss. Alask., p. 34, pl. v, f. 1, 1869.
Eocene?: Port Graham, Alaska.
Miocene: John Day Valley, Oregon.
- Ulmus pseudo-americana** Lx. Cret. and Tert. Fl., p. 249, pl. liv, f. 10, 1883.
Miocene: Bridge Creek and John Day Valley, Oregon.
- Ulmus pseudo-fulva** Lx. Mem. Mus. Comp. Zoöl., vol. vi, no. 2, p. 16, pl. iv, f. 3, 1878.
Miocene: Chalk Bluffs, California.
- Ulmus quercifolia** Ung. Chlor. Prot., p. 96, pl. xxv, f. 5, 1847; Lx., Bull. Mus. Comp. Zoöl., vol. xvi, p. 49, 1888.
Denver group: Golden, Colorado.
- Ulmus racemosa** Thomas. Penhallow, Bull. Geol. Soc. Am., vol. i, p. 323, 1890; Kn., Am. Geol., vol. xviii, p. 371, 1896.
Pleistocene: Don River, Toronto.
Glacial: Morgantown, West Virginia.
- Ulmus rhamnifolia** Ward. Bull. U. S. Geol. Surv., no. 37, p. 45, pl. xxiii, f. 5, 1887.
Fort Union group: Clear Creek, Montana.
- Ulmus sorbifolia** Göpp. Zeitschr. Deutsch. geol. Gesell., vol. iv, p. 492, 1852; Lx., Proc. U. S. Nat. Mus., vol. v, p. 447, 1882.
Eocene?: Cook Inlet, Alaska.
- Ulmus speciosa** Newby. Proc. U. S. Nat. Mus., vol. v, p. 507, 1882 [1883].
Miocene?: Bridge Creek, Oregon.
- Ulmus tenuinervis** Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 412, 1873 [1874]; Tert. Fl., p. 188, pl. xxvi, f. 1-3, 1878.
Green River group: Florissant, Colorado.
- Ulmus** sp., Dn. Trans. Roy. Soc. Canada, vol. v, sec. iv, p. 33, 1887. [Wood.]
Fort Pierre series: Head of Swift Current.

Undetermined fern Font. Potomac Fl., p. 119, pl. xxi, f. 12, 1889.

Potomac formation: Near Dutch Gap Canal, Virginia.

Undetermined fern in circinate vernation sp., Font. Potomac Fl., p. 145, pl. lix, f. 5, 1889.

Potomac formation: Near Potomac Run, Virginia.

Undetermined plant (a) Font. Potomac Fl., p. 274, pl. cxxxvi, f. 13, 1889.

Potomac formation: Fredericksburg, Virginia.

Undetermined plant (b) Font. Potomac Fl., p. 274, pl. cxxxvi, f. 14, 1889.

Potomac formation: Fredericksburg, Virginia.

Undetermined plant (c) Font. Potomac Fl., p. 275, pl. cxxxvii, f. 1, 1889.

Potomac formation: Fredericksburg, Virginia.

Undetermined plant (d) Font. Potomac Fl., p. 275, pl. cxxxvii, f. 2, 3, 1889.

Potomac formation: Fredericksburg, Virginia.

Undetermined plant (e) Font. Potomac Fl., p. 275, pl. cxxxvii, f. 4, 1889.

Potomac formation: Fredericksburg, Virginia.

Undetermined plant (f) Font. Potomac Fl., p. 275, pl. cxxxvii, f. 5, 1889.

Potomac formation: Fredericksburg, Virginia.

Undetermined plant (g) Font. Potomac Fl., p. 275, pl. clxix, f. 4, 5, 1889.

Potomac formation: Baltimore, Maryland.

Undetermined plant (h) Font. Potomac Fl., p. 276, pl. clxix, f. 9, 1889.

Potomac formation: Baltimore, Maryland.

Undetermined plant (i) Font. Potomac Fl., p. 276, pl. clxxiii, f. 11, 1889.

Potomac formation: Baltimore, Maryland.

VACCINOPHYLLUM Dawson. Trans. Roy. Soc. Canada, vol. viii, sec. iv, p. 88, 1890.

Vaccinophyllum quæstum Dn. Trans. Roy. Soc. Canada, vol. viii, sec. iv, p. 88, f. (in text) 23, 1890.

Eocene?: Similkameen River, British Columbia.

VACCINIUM Linnæus. Syst., ed. i, 1735.

Vaccinium coloradense Lx. Proc. U. S. Nat. Mus., vol. x, p. 42, pl. iii, f. 4, 5, 1887.

Denver group: Silver Cliff, Colorado.

Vaccinium Friesii Heer. Fl. Foss. Alask., p. 35, pl. viii, f. 4, 1869.

Eocene?: Port Graham, Alaska.

Vaccinium reticulatum Al. Br. in Stizenberger. Verzeichniss, p. 82, 1851; Lx., Tert. Fl., p. 235, pl. lix, f. 6, 1878.

Eocene?: Cook Inlet, Alaska.

Green River group: Florissant, Colorado.

Vaccinium uliginosum L. Macoun in Coleman Journ. Geol., vol. iii, p. 626, 1895.

Pleistocene: Scarboro Heights, Ontario.

VALLISNERIA Michaux. Ex Linnæus, Gen. Pl., ed. i, p. 300, 1737.

Vallisneria sp., Penhallow. Bull. Geol. Soc. Am., vol. i, p. 325, 1890; Trans. Roy. Soc. Canada, 2d ser., vol. ii, sec. iv, p. 64, 73, 1896.

Pleistocene: Rolling River, Manitoba; Besserers Wharf, Ottawa River.

VIBURNITES Lesquereux. Fl. Dak. Gr., p. 124, 1892.

Viburnites crassus Lx. Fl. Dak. Gr., p. 124, pl. xlv, f. 1-4, 1892.

Dakota group: Kansas.

Viburnites Evansanus Ward. Journ. Geol., vol. ii, p. 261, 262, 1894.

Dakota group: Black Hills, South Dakota.

Viburnites Masoni Lx. Fl. Dak. Gr., p. 125, pl. xlv, f. 5, 1892.

Dakota group: Kansas.

VIBURNUM Linnæus. Syst., ed. i, 1735.

Viburnum anceps Lx. = *Platanus rhomboidea*.

Viburnum antiquum (Newby.) Hollick. MSS.

Viburnum tilioides Ward. Bull. U. S. Geol. Surv., no. 37, p. 107, pl. 1, f. 1-3; pl. li, f. 1-8; pl. lii, f. 1, 2, 1887.

Tilia antiqua Newby. Later Extinct Floras, p. 52, 1868.

Fort Union group: Clear Creek, Montana.

Denver group: Golden, Colorado.

Viburnum asperum Newby. Later Extinct Floras, p. 54, 1868.

Fort Union group: Cracker Box and Seven-Mile creeks, Montana; Bad Lands, Dakota.

Canadian Upper Laramie: North Saskatchewan; Souris River.

Viburnum betulæfolia Ward. Bull. U. S. Geol. Surv., no. 37, p. 114, pl. lvii, f. 4, 1887.

Fort Union group: Burns's Ranch, Montana.

Viburnum bridgetonense Britton in Hollick. Bull. Torr. Bot. Club, vol. xix, p. 331, 1892.

Miocene?: Bridgeton, New Jersey.

Viburnum calgarianum Dn. Trans. Roy. Soc. Canada, vol. iii, sec. iv, p. 18, 1885 [1886]; op. cit., vol. iv, p. 29, pl. ii, f. 14, 1886 [1887].

Canadian upper Laramie: Calgary, Canada; Shaganappi Point.

Viburnum contortum Lx. Ann. Rept. U. S. Geol. and Geogr. Surv., p. 396, 1872 [1873]. [Not afterwards recognized by its author.]

Laramie group?: Black Buttes, Wyoming.

Viburnum cuneatum Newby. Proc. U. S. Nat. Mus., vol. v, p. 511, 1882 [1883].

Tertiary: Tongue River, Wyoming.

Viburnum dakotense Lx. Cret. and Tert. Fl., p. 231, pl. xlviA, f. 9, 1883.

Fort Union group: Bad Lands, North Dakota.

Viburnum Dentoni Lx. Cret. and Tert. Fl., p. 231, pl. xlix, f. 2, 3, 1883.

Fort Union group: Bad Lands, North Dakota?

Viburnum dichotomum Lx. Ann. Rept., op. cit., p. 399, 1872 [1873]; Tert. Fl., p. 225, pl. xxxviii, f. 6, 1878.

Viburnum rotundifolium Lx. Ann. Rept., op. cit., p. 305, 1874 [1876]; Tert. Fl., p. 225, pl. xxxvii, f. 12; pl. xxxviii, f. 10; pl. lxi, f. 22, 1878.

Viburnum Whymperi Heer. Lx., Ann. Rept., op. cit., p. 395, 1872 [1873]; Tert. Fl., p. 225, pl. xxxviii, f. 7; pl. lxi, f. 23, 1878.

Laramie group: Black Buttes and Point of Rocks, Wyoming.

Viburnum ellsworthianum Lx. Fl. Dak. Gr., p. 121, pl. xxi, f. 6, 1892.

Dakota group: Kansas.

Viburnum elongatum Ward. Bull. U. S. Geol. Surv., no. 37, p. 112, pl. liv, f. 4, 5, 1887.

Fort Union group: Clear Creek, Montana.

Viburnum erectum Ward. Bull. U. S. Geol. Surv., no. 37, p. 112, pl. lv, f. 3, 1887.

Fort Union group: Clear Creek, Montana.

Viburnum finale Ward. Bull. U. S. Geol. Surv., no. 37, p. 115, pl. lvii, f. 5, 1887.

Fort Union group: Iron Bluff, Montana.

Viburnum goldianum Lx. Tert. Fl., p. 227, pl. lx, f. 2-2c, 1878.

Denver group: Golden, Colorado.

Viburnum grandedentatum Newby. Proc. U. S. Nat. Mus., vol. v, p. 511, 1882 [1883].

Tertiary: Tongue River, Wyoming.

Viburnum grewiopsidium Lx. Fl. Dak. Gr., p. 120, pl. xxi, f. 4, 1892.

Dakota group: Kansas.

Viburnum inæquilaterale Lx. Fl. Dak. Gr., p. 119, pl. xxi, f. 2, 3, 1892.

Dakota group, Kansas.

Viburnum integrifolium Newby. MSS. Hollick, Bull. Torr. Bot. Club, vol. xxi, p. 54, pl. clxxvii, f. 7, 1894; Newby., Fl. Amboy Clays, p. 125, pl. xli, f. 1, 1895 [1896].

Cretaceous: Glen Cove, Long Island.

Amboy clay: Woodbridge, New Jersey.

Viburnum Lakesii Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 401, 1873 [1874]; Tert. Fl., p. 226, pl. xxxvii, f. 13, 1878.

Denver group: Golden, Colorado.

—?: Northwest Territory.

Viburnum lanceolatum Newby. Later Extinct Floras, p. 54, 1868.

Fort Union group: Fort Union, North Dakota.

Upper Laramie group: Porcupine Creek.

Viburnum Lesquereuxii Ward in Lx. Fl. Dak. Gr., p. 121, 1892.

Dakota group: Kansas.

Viburnum Lesquereuxii commune Lx. Fl. Dak. Gr., p. 122, pl. liii, f. 2, 1892.

Dakota group: Kansas.

Viburnum Lesquereuxii cordifolium Lx. Fl. Dak. Gr., p. 122, pl. lii, f. 9, 1892.

Dakota group: Kansas.

Viburnum Lesquereuxii lanceolatum Lx. Fl. Dak. Gr., p. 123, pl. liii, f. 3, 1892.

Dakota group: Kansas.

Viburnum Lesquereuxii latus Lx. Fl. Dak. Gr., p. 123, pl. lii, f. 10, 1892.

Dakota group: Kansas.

Viburnum Lesquereuxii longifolium Lx. Fl. Dak. Gr., p. 122, pl. liii, f. 1, 1892.

Dakota group: Kansas.

Viburnum Lesquereuxii rotundifolium Lx. Fl. Dak. Gr., p. 122, pl. lii, f. 8, 1892.

Dakota group: Kansas.

Viburnum? Lesquereuxii tenuifolium Lx. Fl. Dak. Gr., p. 123, pl. lxiv, f. 13, 1892.

Dakota group: Kansas.

Viburnum limpidum Ward. Bull. U. S. Geol. Surv., no. 37, p. 110, pl. liii, f. 3-6, 1887.

Fort Union group: Clear Creek, Montana.

Viburnum macrodontum Ward. Bull. U. S. Geol. Surv., no. 37, p. 110, pl. liii, f. 2, 1887.

Fort Union group: Clear Creek, Montana.

Viburnum marginatum Lx. = *Platanus marginata*.

Viburnum Newberrianum Ward. Bull. U. S. Geol. Surv., no. 37, p. 113, pl. lv, f. 4-9, 1887.

Fort Union group: Cracker Box Creek, Montana.

Viburnum Nordenskiöldi Heer. Fl. Foss. Alask., p. 36, pl. iii, f. 13, 1869.

Eocene?: Neniltschik, Alaska.

Fort Union group: Clear Creek, Montana; Little Missouri, Gladstone, and Bad Lands, North Dakota.

Viburnum oppositinerve Ward. Bull. U. S. Geol. Surv., no. 37, p. 112, pl. lv, f. 1, 2, 1887.

Fort Union group: Clear Creek, Montana.

Viburnum oxycoccoides Du. Trans. Roy. Soc. Canada, vol. iii, sec. iv, p. 17, 1885 [1886]; op. cit., vol. iv, p. 29, pl. ii, f. 15, 1886 [1887].

Upper Laramie group: Calgary, Shaganappi Point, Canada.

Viburnum paucidentatum Newby. Proc. U. S. Nat. Mus., vol. v, p. 511, 1882 [1883].

Tertiary: Tongue River, Wyoming.

- Viburnum perfectum** Ward. Bull. U. S. Geol. Surv., no. 37, p. 109, pl. lii, f. 3, 4; pl. liii, f. 1, 1887.
Fort Union group: Clear Creek, Montana.
- Viburnum perplexum** Ward. Bull. U. S. Geol. Surv., no. 37, p. 111, pl. liv, f. 1, 1887.
Fort Union group: Clear Creek, Montana.
- Viburnum platanoides** Lx. = *Platanus platanoides*.
- Viburnum pubescens** Pursh. Dn., Rept. on Geol. and Res. near 49th Parallel, Appen. A, p. 330, 1875.
——: Porcupine Creek.
- Viburnum robustum** Lx. Fl. Dak. Gr., p. 120, pl. xx, f. 4-6, 1892.
Dakota group: Kansas.
- Viburnum rotundifolium** Lx. = *Viburnum dichotomum*.
- Viburnum saskatchuense** Dn. Trans. Roy. Soc. Canada, vol. v, sec. iv, p. 35, 1887 [1888].
Canadian upper Laramie: North Saskatchewan.
- Viburnum solitarium** Lx. Tert. Fl., p. 227, pl. lx, f. 3, 1878.
Denver group: Golden, Colorado.
- Viburnum sphenophyllum** Kn. in Lx. Fl. Dak. Gr., p. 123, pl. liii, f. 4, 1892.
Dakota group: Kansas.
- Viburnum tilioides** Ward = *Viburnum antiquum*.
- Viburnum Whymperi** Heer. Fl. Foss. Arct., vol. ii, abt. iv, p. 475, pl. xlvi, f. 1b, 1869; Lx., Tert. Fl., p. 225, pl. xxxviii, f. 7; lxi, f. 23, 1878.
Fort Union group: Clear Creek, Montana.
Miocene: Shasta County, California.
- Viburnum** sp., Kn. Bull. Geol. Soc. Am., vol. viii, p. 134.
Fort Union group: Lightning Creek, Converse County, Wyoming.
- VITIPHYLLUM** Fontaine. Potomac Fl., p. 308, 1889.
- Vitiphyllum crassifolium** Font. Potomac Fl., p. 308, pl. cl, f. 9, 10, 1889.
Potomac formation: Potomac Run, Virginia.
- Vitiphyllum multifidum** Font. Potomac Fl., p. 309, pl. clxxiii, f. 1-9, 1889.
Potomac formation: Baltimore, Maryland.
- Vitiphyllum parvifolium** Font. Potomac Fl., p. 309, pl. clxxii, f. 11, 12, 1889.
Potomac formation: Baltimore, Maryland.
- VITIS** (Tournefort) Linnæus. Syst., ed. i, 1735.
- Vitis Bruneri** Ward. Bull. U. S. Geol. Surv., no. 37, p. 69, pl. xxxii, f. 1, 2, 1887.
Vitis carbonensis Ward. Loc. cit., p. 70, pl. xxxii, f. 3.
Laramie group: Carbon, Wyoming.
- Vitis crenata** Heer. Fl. Foss. Alask., p. 36, pl. viii, f. 6, 1869.
Eocene?: Port Graham, Alaska.
Bull. 152—16

Vitis cuspidata Ward. Bull. U. S. Geol. Surv., no. 37, p. 71 pl. xxxii, f. 6-8, 1887.

Fort Union group: Burns's Ranch and Seven-Mile Creek, Montana.

Vitis islandica (?) Heer. Fl. Foss. Arct., vol. i p. 150, pl. xxvi, f. 1e, f, 7a; Lx., Ann. Rept. U. S. Geol. and Geogr. Surv. Terr. 1871, suppl., p. 10, 1871 [1872]. [Not afterwards referred to by Lesquereux.]

Montana group?: Point of Rocks, Wyoming.

Vitis Olriki Heer. Fl. Foss. Arct., vol. i, p. 120, p. xlviii, f. 1, 1868; Lx., Ann. Rept. U. S. Geol. and Geogr. Surv. Terr. 1871, suppl., p. 12, 1871 [1872]; Tert. Fl., p. 241, pl. xli, f. 8, 1878.

Denver group: Mount Bross, Middle Park, Colorado.

Laramie group?: Evanston, Wyoming; Raton Mountains, New Mexico?

Vitis rotundifolia Newby. Proc. U. S. Nat. Mus., vol. v, p. 513, 1882 [1883].

Eocene?: Admiralty Inlet, Alaska.

Vitis sparsa Lx. Tert. Fl., p. 241, pl. lx, f. 24, 1878.

Laramie group: Black Buttes, Wyoming.

Vitis tricuspadata Heer, Lx. = *Cissus tricuspadata*.

Vitis Xantholithensis Ward. Bull. U. S. Geol. Surv., no. 37, p. 71, pl. xxxii, f. 4, 5, 1887.

Fort Union group: Burns's Ranch, Montana.

Vitis sp.? Lx. Proc. U. S. Nat. Mus., vol. xi, p. 35, 1888.

Miocene: Contra Costa, California.

WEINMANNIA Linnæus. Syst., ed. x, p. 1005, 1759.

Weinmannia Haydenii Lx. Cret. and Tert. Fl., p. 178, pl. xlii f. 1-7 1883.

Rhus Haydenii Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 417, 1873 [1874]; Tert. Fl., p. 294, pl. lviii, f. 12, 1878.

Green River group: Middle Park and Florissant, Colorado.

Weinmannia integrifolia Lx. Cret. and Tert. Fl., p. 178, pl. xlii, f. 8-13, 1883.

Green River group: Florissant, Colorado.

Weinmannia obtusifolia Lx. Cret. and Tert. Fl., p. 178, pl. xli, f. 4-10, 1883.

Green River group: Florissant, Colorado.

Weinmannia rosæfolia Lx. = *Rhus rosæfolia*.

WIDDRINGTONIA Endlicher. Cat. Hort. Vindob., vol. i, p. 209, 1842.

Widdringtonia complanata Lx. Bull. U. S. Geol. and Geogr. Surv. Terr., vol. i, p. 366, 1875; Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 299, 1874 [1876]; Tert. Fl., p. 72, pl. lxii, f. 13, 14, 1878.

Laramie group: Point of Rocks, Wyoming.

Widdringtonia linguæfolia Lx. Cret. and Tert. Fl., p. 139, pl. xxi, f. 14, 14a, 1883.

Glyptostrobus europæus (Brongn.) Heer. Fl. Tert. Helv., vol. i, p. 51, pl. xix; xx, 1855; Tert. Fl., p. 74, pl. vii, f. 1, 2, 1878.

Green River group: Florissant, Colorado.

WIDDRINGTONITES Endlicher. Synop. Conif., p. 271, 1847.

Widdringtonites Reichii (Ett.) Heer. Fl. Foss. Arct., vol. vi, abt. ii, p. 51, pl. xxviii, f. 5, 1882; Newby., Fl. Amboy Clays, p. 57, pl. viii, f. 1-5, 1895 [1896].

Frenelites Reichii Ett. Kreidefl. v. Niedersch., p. 246, pl. i, f. 10a-10c, 18—.

Amboy clay: New Jersey.

Widdringtonites subtilis Heer. Fl. Foss. Arct., vol. iii, abt. ii, p. 101, pl. xxviii, f. 1, 1b, 1874; Newby., Fl. Amboy Clays, p. 57, pl. x, f. 2-4, 1895 [1896].

Amboy clay: Woodbridge and South Amboy, New Jersey.

Cretaceous: Marthas Vineyard.

WILLIAMSONIA Carruthers. Trans. Linn. Soc. London, vol. xxvi, p. 680, 1868.

Williamsonia elocata Lx. Fl. Dak. Gr., p. 87, pl. ii, f. 9, 9a, 1892.

Dakota group: Kansas.

Williamsonia problematica (Newby.) Ward = *Palæanthus problematicus*.

Williamsonia recentior Dn. Trans. Roy. Soc. Canada, vol. iii, sec. iv, p. 12, pl. iv, f. 1, 1885 [1886].

Mill Creek series: Mill Creek.

Williamsonia? Riesii Hollick. Trans. N. Y. Acad. Sci., vol. xii, p. 37, pl. i, f. 2, 3, 1892.

Cretaceous: Staten Island.

Williamsonia Smockii Newby. Fl. Amboy Clays, p. 127, pl. xxxvi, f. 1-8, 1895 [1896].

Amboy clay, New Jersey.

Williamsonia texana Font. Proc. U. S. Nat. Mus., vol. xvi, p. 278, pl. xliii, f. 1, 2, 1893.

Trinity division: Glenrose, Texas.

Williamsonia virginienensis Font. Potomac Fl., p. 273, pl. cxxxiii, f. 5-7; clxv, f. 5, 1889.

Potomac formation: Trents Reach and near Dutch Gap Canal, Virginia.

Williamsonia? sp., Dn. Trans. Roy. Soc. Canada, vol. x, sec. iv, p. 87, 1892 [1893].

Kootanie: Anthracite, British Columbia.

WINCHELLIA Lesquereux. Am. Geol., vol. xii, p. 209, 1893.

Winchellia triphylla Lx. Am. Geol., vol. xii, no. 4, p. 209, pl. viii, 1893.

Cretaceous: Yellowstone, near mouth of Powder River, Montana.

- WOODWARDIA** J. E. Smith. Mem. Acad. Tor., vol. v, p. 411, 1793.
- Woodwardia latiloba** Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 391, 1873 [1874]; Tert. Fl., p. 54, pl. iii, f. 1, 1a, 1878.
Woodwardialatiloba minor Lx. Ann. Rept., op. cit., p. 391, 1873 [1874]; Tert. Fl., p. 54, pl. iv, f. 9, 9a, 1878.
Denver Group: Golden, Colorado.
- Woodwardia latiloba minor** Lx. = **Woodwardia latiloba**.
- Woodwardia** sp., Kn. Bull. Geol. Soc. Am., vol. viii, p. 140, 1897.
Laramie group?: North Fork Dutton Creek, Wyoming.
- Woodwardia** sp., Kn. Bull. Geol. Soc. Am., vol. viii, p. 154, 1897.
Montana formation: Point of Rocks, Wyoming.
- ZAMIA** Linnæus. Sp. Pl., ed. ii, p. 1659, 1763.
- Zamia Washingtoniana** Ward. Fifteenth Ann. Rept. U. S. Geol. Surv., p. 350, pl. ii, f. 6, 1895.
Potomac formation: Mount Vernon, Virginia.
- ZAMIOPSIS** Fontaine. Potomac Fl., p. 160, 1889.
- Zamiopsis insignis** Font. Potomac Fl., p. 162, pl. lxii, f. 3; lxiv, f. 1, 3; lxv, f. 4-6; lxvi, f. 2; lxvii, f. 7, 1889.
Potomac formation: Fredericksburg, Virginia.
- Zamiopsis laciniata** Font. Potomac Fl., p. 164, pl. lxvi, f. 1, 5-8, 1889.
Potomac formation: Fredericksburg, Virginia.
- Zamiopsis longipennis** Font. Potomac Fl., p. 164, pl. lxi, f. 8, 1889.
Potomac formation: Fredericksburg, Virginia.
- Zamiopsis petiolata** Font. Potomac Fl., p. 166, pl. lxvi, f. 3, 1889.
Potomac formation: Fredericksburg, Virginia.
- Zamiopsis pinnatifida** Font. Potomac Fl., p. 161, pl. lxi, f. 7; lxii, f. 5; lxiv, f. 2; lxvii, f. 2, 1889.
Potomac formation: Fredericksburg, Virginia.
- Zamiostrobus mirabilis** Lx. = **Cycadeoidea mirabilis**.
- ZAMITES** Brongniart. Prod. Hist. Vég. Foss., p. 94, Paris, 1828.
- Zamites acutipennis** Heer. Zeitschr. Deutsch. geol. Gesell., vol. xxiv, p. 161, 1872; Dn., Trans. Roy. Soc., Canada, vol. iii, sec. iv, p. 7, pl. i, f. 5, 1885 [1886].
Kootanie: Martin Creek, British Columbia; Great Falls, Montana.
- Zamites apertus** Newby. Am. Journ. Sci., vol. xli, p. 199, pl. xiv, f. 4, 5, 1891.
Kootanie: Great Falls, Montana.
- Zamites borealis** Heer. Fl. Foss. Arct., vol. iii, abt. ii, p. 66, pl. xiv, f. 13, 14; xv, f. 1, 2, 1873; Newby., Am. Journ. Sci., vol. xli, p. 197, 1891.
Kootanie: Great Falls, Montana.
- Zamites crassinervis** Font. Potomac Fl., p. 172, pl. lxix, f. 4; lxxxiii, f. 3, 1889.
Potomac formation: Fredericksburg, Virginia.

Zamites distantinervis Font. Potomac Fl., p. 172, pl. lxxxiii, f. 4, 1889.

Potomac formation: Fredericksburg, Virginia.

Zamites montana Dn. Trans. Roy. Soc. Canada, vol. iii, sec. iv, p. 7, pl. i, f. 6, 6a, 1885 [1886].

Kootanie: Martin Creek, Kootanie Pass, and Anthracite, British Columbia.

Zamites montanensis Font. Proc. U. S. Nat. Mus., vol. xv, p. 494, pl. lxxxiv, f. 4, 1892.

Kootanie: Great Falls, Montana.

Zamites ovalis Font. Potomac Fl., p. 173, pl. lxxxv, f. 4; clxx, f. 3, 1889.

Potomac formation: Dutch Gap Canal, near Potomac Run, and near Telegraph Station, Virginia.

Zamites subfalcatus Font. Potomac Fl., p. 173, pl. lxxxiv, f. 13; lxxxv, f. 3, 1889.

Potomac formation: Kankeys, Virginia.

Zamites tenuinervis Font. Potomac Fl., p. 171, pl. lxvii, f. 1; pl. lxxix, f. 2; lxx, f. 1; lxxv, f. 3; lxxvi, f. 7; lxxviii, f. 6; lxxxiv, f. 7, 1889.

Potomac formation: Fredericksburg, Kankeys, Dutch Gap Canal, and near Telegraph Station, Virginia.

Trinity division: Glenrose, Texas.

Zamites sp., Dn. Trans. Roy. Soc. Canada, vol. iii, sec. iv, p. 7, pl. i, f. 4, 1885 [1886].

Kootanie: Kootanie Pass.

Zamites sp., Font. Potomac Fl., p. 173, pl. lxxxiv, f. 12, 1889.

Potomac formation: Kankeys, Virginia.

Zamites sp., Lx. Fl. Dak. Gr., p. 26, pl. i, f. 8, 1892.

Dakota group: Kansas.

Zanthoxylon Walt., Fl. Carol., p. 52, 243, 1878 = *Zanthoxylum* L.

ZANTHOXYLUM Linnæus. Hort. Cliff., p. 487, 1737.

Zanthoxylum diversifolium Lx. Mem. Mus. Comp. Zoöl., vol. vi, no. 2, p. 33, pl. viii, f. 14, 15, 1878.

Miocene: California.

Zanthoxylum dubium Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr. 1871, suppl., p. 15, 1871 [1872]. [Not afterwards mentioned by author.]

Laramie group?: Fischers Peak, New Mexico.

Zanthoxylum spireæfolium Lx. Crét. and Tert. Fl., p. 196, pl. xl, f. 1-3, 1883.

Green River group: Florissant, Colorado.

ZINGIBERITES Heer. Fl. Tert. Helv., vol. iii, p. 172, 1859.

Zingiberites dubius Lx. Tert. Fl., p. 95, pl. xvi, f. 1, 1878.

Zingiberites? undulatus* Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 396, 1873 [1874]. [*Preoccupied by *Z. undulatus* Heer, Balt. Fl., p. 64.]

Denver group: Golden, Colorado.

Zingiberites undulatus Lx. = *Zingiberites dubius*.

ZIZYPHUS Tournefort. Ex. Linnæus, Syst., ed. i, 1735.

Zizyphus Beckwithii Lx. Cret. and Tert. Fl., p. 125, pl. xix, f. 5, 1883.

Denver group: Golden, Colorado.

Zizyphus cinnamomoides Lx. Tert. Fl., p. 277, pl. lii, f. 7, 8, 1878.

Ceanothus cinnamomoides Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 289, 1871 [1872].

Green River group: Green River Station, Wyoming.

Fort Union group: Seven-Mile Creek, Montana.

Zizyphus dakotensis Lx. Fl. Dak. Gr., p. 167, pl. xxxvi, f. 4-7, 1892.

Dakota group: Kansas.

Zizyphus distortus Lx. Ann. Rept. U. S. Geol. and Geogr. Surv.

Terr., p. 404, 1873 [1874]; Tert. Fl., p. 275, pl. li, f. 7-9, 1878.

Denver group: Golden, Colorado.

Zizyphus elegans Hollick. Bull. Torr. Bot. Club, vol. xxi, p. 58, pl. clxxvii, f. 9, 10, 1894.

Cretaceous: Glen Cove, Long Island.

Zizyphus fibrillosus Lx. Tert. Fl., p. 276, pl. lii, f. 1-6, 1878.

Ceanothus fibrillosus Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 381, 1872 [1873].

Denver group: Golden, Colorado.

Zizyphus hyperboreus? Heer Lx. = *Zizyphus Lesquereuxii*.

Zizyphus Lesquereuxii nom. nov.

Zizyphus hyperboreus? Heer. Lx., Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 389, 1872 [1873]; Tert. Fl., p. 276, pl. li, f. 15, 1878. [Not *Z. hyperboreus* of Heer.]

Denver group: Golden, Colorado.

Laramie group?: Carbon, Wyoming.

Zizyphus Lewisiana Hollick. Bull. Torr. Bot. Club, vol. xxi, p. 58, pl. clxxx, f. 13, 1894.

Cretaceous: Oak Neck, Long Island.

Zizyphus longifolia Newby. Proc. U. S. Nat. Mus., vol. v, p. 513, 1882 [1883].

Eocene: Green River, Wyoming.

Zizyphus Meekii Lx. Ann. Rept. U. S. Geol. and Geogr. Surv. Terr., p. 388, 1872 [1873]; Tert. Fl., p. 275, pl. li, f. 10-14, 1878; Ward, Bull.

U. S. Geol. Surv., no. 37, p. 74, pl. xxxiii, f. 5, 6, 1887.

Denver group: Mount Bross, Middle Park, Colorado.

Laramie group: Black Buttes, Wyoming.

Laramie group?: Carbon, Wyoming.

Livingston beds: Bozeman coal field, Montana.

Zizyphus microphyllus Lx. Mem. Mus. Comp. Zoöl., vol. vi, no. 2, p. 28, pl. viii, f. 9, 1878.

Miocene: Chalk Bluffs, California.

Zizyphus piperoides Lx. Mem. Mus. Comp. Zoöl., vol. vi, no. 2, p. 28, pl. viii, f. 10, 11, 1878.

Miocene: Chalk Bluffs, California.

Zizyphus serrulatus Ward. Bull. U. S. Geol. Surv., no. 37, p. 73, pl. xxxiii, f. 3, 4, 1887.

Fort Union group: Burns's Ranch, Montana.

Zizyphus Townsendi Kn. Proc. U. S. Nat. Mus., vol. xvii, p. 229, pl. ix, f. 8, 9, 1894.

Eocene?: Herenden Bay, Alaska.

Zizyphus sp., Kn. Bull. Geol. Soc. Am., vol. viii, p. 134, 1897.

Fort Union group: Lightning Creek, Converse County, Wyoming.

Zizyphus sp., Kn. Bull. Geol. Soc. Am., vol. viii, p. 148, 1897.

Laramie group: Rock Springs, Wyoming.

Zonarites digitatus (Brongn.) Gein.

Ficoides digitatus Brongn. Lx., Ann. Rept., op. cit., p. 421, 1872 [1873]; Hist. d. Vég. Foss., p. 69, pl. ix, f. 1, 1828.

Dakota group: Kansas.

Zostera marina L. Paisley, Can. Nat., 2d ser., vol. vii, p. 270, 1875.

Post-Pliocene: Bathurst, New Brunswick.