

A LIST OF THE FERNS AND FERN ALLIES OF NORTH AMERICA NORTH OF MEXICO, WITH PRINCIPAL SYNONYMS AND DISTRIBUTION.

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In all the literature relating to American ferns and the so-called "fern allies," there have hitherto appeared but two systematic treatises of sufficiently wide scope to include the entire territory of North America north of Mexico, namely, the Ferns of North America, by Prof. D. C. Eaton (1877-1880), and Our Native Ferns and Their Allies (in several editions, 1881-1900), by Prof. L. M. Underwood. The first of these, a monograph of two large quarto volumes, contains descriptions and colored figures of all species comprised in the groups known at that time as the orders Filices and Ophioglossaceae. The treatment is full but concise, the style clear, the figures for the most part excellent; and the work as a whole must be regarded as the foundation for all subsequent studies of North American ferns. Without its good influence it is unlikely that the present degree of progress could have been attained; but we should remember first of all that it represents a critical estimate of the groups as they were understood over twenty years ago, and that since its appearance there has elapsed a period marked by unexampled botanical activity and progress. There has been collected in the meantime abundant material of many species either entirely new or then represented in herbaria by mere fragments, and with the aid of these specimens careful studies have been accomplished in the light of which not only new specific names have been proposed, but many changes in the older definitions of species have been shown to be desirable. If, then, we recognize that there have been and must continue to be many departures from the treatment contained in Professor Eaton's great work, we may escape that extreme conservatism which occasionally manifests itself in opposing innovation of almost any sort, and which regards the setting aside of an opinion there expressed as a proceeding hardly within the bounds of propriety.

The cost of Professor Eaton's volumes has been such, unfortunately, as to place them beyond the reach of a majority of fern students; and largely on this account it has remained for Professor Underwood's attractive little book to really popularize the study of ferns within the United States. The first edition of the latter appeared in 1881, and was entitled *Our Native Ferns and How to Study Them*. It contained 116 pages, the first half being devoted to chapters on the haunts, habits, and distribution of ferns, their morphology and structure, methods of study, and the like; the remaining portion comprising a systematic arrangement of the groups treated by Eaton in his larger work. The second edition, made necessary by a remarkable demand for the first, appeared the following year under the slightly emended title, *Our Native Ferns and Their Allies*, preserving the general scheme of the former volume, but extending the systematic treatment to include the Equisetaceae, Marsileaceae, Salviniaceae, Lycopodiaceae, Selaginellaceae, and Isoëtaceae, which had merely been listed in the first edition. The third edition appeared in 1888, being practically an enlargement of the preceding. The fourth was issued in 1893, and contained a number of nomenclatorial changes—notably the substitution of *Dryopteris* for *Aspidium*—to bring the nomenclature to the standard set by the "Rochester code." The fifth edition (1896), except for the addition of a few species, is practically like the fourth. The sixth and last, which appeared in June, 1900, is extensively remodeled in conformity with the author's views as set forth in part in a *Review of the Genera of Ferns proposed prior to 1832*.<sup>1</sup> The most notable changes have to do with matters of nomenclature, though the systematic arrangement is also considerably modified and the number of species increased. It is hardly to be supposed that further studies will not result in additional changes; nevertheless nothing is more certain than that the present edition represents the most logical sequence of genera and the most reasonable estimate of our species that has yet been presented. Its general scheme has been followed closely in the preparation of the present paper.

Owing to the fact that Professor Underwood's is essentially a popular treatise, all citations are naturally and properly omitted. In the *Ferns of North America*, on the other hand, we have extensive but often incomplete bibliography under each species; but notwithstanding its incompleteness there has hitherto appeared no index of synonyms or compendium of any sort to take its place. The present list has been prepared, therefore, with the object of affording full citations for all the included species and for the more important synonyms. An especial effort has been made to insure the accurate citation of references to all original descriptions. It has been impossible to verify without exception every citation; but the number unverified is very

<sup>1</sup> Mem. Torr. Club 6: 247-283. 1899.

small. The changes in the nomenclature of certain groups have been so extensive during the past few years as to necessitate devoting considerable space to their synonymy; but a constant aim has been to avoid the burden of useless bibliography. Such vernacular names as are in general use have been admitted, following the correct scientific name of the species and in the order of their importance.

There is at least one other feature which has seemed to warrant the publication of this list in its present form, namely, the considerable amount of attention given nowadays to geographical distribution. Within the past twenty years we have had but three comprehensive lists relating to North American pteridophyta and dealing with this phase of fern study. The first of these, a Systematic Fern-list, was issued by Professor Eaton in 1880. Its scope is well explained in the supplementary title, *A Classified List of the Known Ferns of the United States of America, with the Geographical Range of the Species*. The disposition is practically that of the *Ferns of North America*. The second list, published by Mr. George E. Davenport in the *Proceedings of the American Philosophical Society* in 1883, applies only to the United States and Alaska. It contains an enumeration of the ferns only, some comparative tables showing their distribution state by state, and an interesting discussion of the range of certain species. The third, issued in 1895, by the Linnaean Fern Chapter, as *Linnaean Fern Bulletin No. 9*, is a list of the species of Pteridophyta of North America north of Mexico, without synonymy, but with distribution briefly indicated. These and the numerous other lists and papers mentioned below have been consulted in the preparation of this paper; but the ranges herein given have been determined chiefly by careful examination of the material in the U. S. National Herbarium, the herbarium of Columbia University, the herbarium of the New York Botanical Garden, and, in certain genera, the D. C. Eaton herbarium at Yale University and the herbarium of the California Academy of Sciences. Few records unsubstantiated by specimens have been allowed. Many wrong identifications have been corrected, and the utmost care has been taken to eliminate doubtful records, whether of old or recent standing.

The following summary will be found to contain a large proportion of the more important lists or extended papers on the distribution and systematic relationship of our species:

1829. Synoptical Tables of the Ferns and Mosses of the United States. Lewis C. Beck in the *American Journal of Science* **15**: 287-297.
1840. Acotyledonae [of North America]. Sir W. J. Hooker, *Flora Boreali-Americana* **2**: 258-270.
1843. Flowerless or Cryptogamous Plants [of New York State]. John Torrey, *A Flora of the State of New York* **2**: 480-514.
1844. A Monography of the North American Species of Equisetum. Alexander Braun in the *American Journal of Science* **46**: 81-91.

1847. On the North American Species of Isoëtes and Marsilea. Alexander Braun in the American Journal of Science II. 3: 52-56.
1848. Notes on some Ferns of the United States. G. Kunze in the American Journal of Science II. 6: 80-89.
1859. [Equisetaceae, Filices, Lycopodiaceae, Hydropterides]. D. C. Eaton in Report on the United States and Mexican Boundary Survey 2<sup>1</sup>: 233-236.
1860. Filices [of the Southern United States]. D. C. Eaton in Chapman, Flora of the Southern United States ed. 1. 585-599.
1864. Synopsis of Canadian Ferns and Filicoid Plants. George Lawson in Canadian Naturalist II. 1: 262-300.
1864. Notes on the Habitats and Varieties of some Canadian Ferns. David R. McCord in Canadian Naturalist II. 1: 354-362.
1867. Filices [of the Northern United States]. D. C. Eaton in A. Gray, Manual of Botany of the Northern United States ed. 5. 655-672.
1870. [Review of Katharine M. Lyell's The Geographical Handbook of Ferns.] D. A. Watt in Canadian Naturalist II. 5: 343-349.
1873. Checklist of the Ferns of North America north of Mexico. John Robinson.
1875. Geographical Distribution of the Ferns of North America. John H. Redfield in Bulletin of the Torrey Botanical Club 6: 1-7.
1876. Catalogue of the Davenport Herbarium. George E. Davenport.
1876. Catalogue of North American Ferns. William Edwards. [Ed. 4. The third edition (1874) bears a slightly different title. A fifth edition appeared in 1879.]
1878. Ferns of Kentucky. John Williamson. [A local fern flora of 155 pages, containing illustrations of the species, and brief chapters on the structure, cultivation, collection, and study of ferns.]
1879. Catalogue of the "Davenport Herbarium" of North American Ferns . . . . George E. Davenport.
1879. Ferns of the Southwest. D. C. Eaton in Report U. S. Geographical Surveys West of One Hundredth Meridian 6: 301-340. [Volume 6 of this report is usually known as "Bot. Wheeler Survey." It bears date of 1878, but appeared first in May, 1879.]
1880. Systematic Fern-list; a Classified List of the Known Ferns of the United States of America, with the geographical range of the Species. Daniel C. Eaton.
1880. Vascular Acrogens [of California]. D. C. Eaton in Watson and Brewer, Botany of California 2: 329-352.
1882. Ferns of the Pacific Coast, including Arizona. J. G. Lemmon.
1882. The Genus Isoëtes in North America. George Englemann in Transactions of the St. Louis Academy of Science 4: 358-390.
1882. Ferns of the West. Marcus E. Jones.
1883. Some Comparative Tables showing the distribution of Ferns in the United States of America. George E. Davenport in Proceedings of the American Philosophical Society 20: 605-612.
1883. Catalogue of the Davenport Herbarium. Supplement. George E. Davenport.
1885. Canadian Filicineae. John Macoun and T. J. W. Burgess in Proceedings and Transactions of the Royal Society of Canada 2<sup>1</sup>: 163-226.
1887. Notes on the American Species of Marsilea. L. M. Underwood and O. F. Cook in Bulletin of the Torrey Botanical Club 14: 89-94.
1887. Recent Additions to the Canadian Filicineae. . . . T. J. W. Burgess in Proceedings and Transactions of the Royal Society of Canada 4<sup>1</sup>: 9-18.
1888. The distribution of Isoëtes. L. M. Underwood in Botanical Gazette 13: 89-94.
1889. The Fern Flora of Canada. George Lawson. [This excellent work was re-issued later in the same year under the title A School Fern Flora of Canada as an Appendix (pp. 221-251) to How Plants Grow, by Asa Gray].

1890. Catalogue of Canadian Plants. Part V. Acrogens. John Macoun.
1890. Vascular Acrogens or Pteridophytes [of the Northern United States]. D. C. Eaton in A. Gray, Manual of Botany of the Northern United States ed. 6. 675-701.
1895. Ferns and Evergreens of New England. Edward Knobel.
1895. The Pteridophyta of North America, north of Mexico. Linnean Fern Bulletin No. 9, Willard N. Clute, editor.
1896. The Ferns and Fern Allies of New England. Raynal Dodge. [An excellent descriptive work of viii + 52 pages.]
1896. Pteridophyta [of the Northern United States, Canada . . .]. L. M. Underwood in Britton and Brown, Illustrated Flora of the Northern United States, Canada . . . 1: 1-48.
1896. Ferns of Iowa and their Allies. T. J. Fitzpatrick.
1897. A Revision of the North American Species of *Ophioglossum*. Elizabeth G. Britton in Bulletin of the Torrey Botanical Club 24: 545-559.
1898. *Selaginella rupestris* and its Allies. L. M. Underwood in Bulletin of the Torrey Botanical Club 25: 125-133.
1898. American Ferns: I; the ternate species of *Botrychium*. L. M. Underwood in Bulletin of the Torrey Botanical Club 25: 521-541.
1899. How to Know the Ferns. Frances Theodora Parsons. [An extremely popular account of the ferns of the northeastern United States; pp. 215.]
1900. A Review of the Species of *Lycopodium* of North America. F. E. Lloyd and L. M. Underwood in Bulletin of the Torrey Botanical Club 27: 147-168.
1900. The Genus *Isoetes* in New England. A. A. Eaton in Fernwort Papers 1-16.

The files of the Torrey Botanical Club, especially the early volumes, present an unusually large proportion of interesting short papers and notes. Special mention should be given of a long series by Mr. George E. Davenport, beginning in the sixth volume (1875), and embracing descriptions of many new species and notes on the discovery and distribution of many others. In the same journal Professor Eaton began with the fourth volume (1873) a series entitled *New and Little-known Ferns of the United States*, which extended to the tenth volume (1883). The files of the *Botanical Gazette*, the *American Naturalist*, the *American Journal of Science*, and several other serials are replete with references to our American species, as are also in many cases the publications of the various state geological surveys. The only journal devoted exclusively to the study of pteridophyta is *The Fern Bulletin*, published in Binghamton, New York, and beginning with 1901 its ninth volume. It was established in 1893 as the *Linnean Fern Bulletin*, and from that time on has constituted the official organ of the Linnean Fern Chapter, an organization of fern students becoming world-wide. Descriptions of many new species have appeared in this journal during the past few years.

The greater portion of the verification of citations following has been accomplished in the Library of Congress, the libraries of the Smithsonian Institution and the U. S. National Museum, and in the library of the Department of Agriculture. To Prof. E. L. Greene the author is indebted for many courtesies, and particularly for the use of his extensive library; to Mr. Willard N. Clute for the suggestion

of the undertaking itself and for considerable assistance in its early stages; to Prof. L. M. Underwood and Mr. George E. Davenport for the completion or verification of many references, and especially to the former for many critical observations; to Mr. B. D. Gilbert for courtesies extended, especially in the study of specimens in his excellent private herbarium; to Mr. Frederick V. Coville, Mr. O. F. Cook, Dr. J. N. Rose, and Mr. Charles Louis Pollard for numerous helpful suggestions and criticisms; to Mr. Alvah A. Eaton for revising the Isoëtaceae and Equisetaceae; and to several others who have courteously assisted by contributing specimens and data or by supplying references otherwise unavailable.

## PTERIDOPHYTA Cohn.

Family I. OPHIOGLOSSACEAE Presl, Tent. Pterid. 10. 1836.

### OPHIGLOSSUM L. Sp. Pl. 1062. 1753.

- Ophioglossum vulgatum* L. Sp. Pl. 1062. 1753. ADDER'S-TONGUE.  
Quebec and Ontario, south to Florida. Also in California.
- Ophioglossum engelmanni* Prantl, Jahrb. Kön. Bot. Gart. Berlin 3: 318. *pl.* 7. *f.* 17. 1884.  
Virginia, Kentucky, Indiana, and Missouri, southwest to Louisiana, Texas, and Arizona.
- Ophioglossum arenarium* E. G. Britton, Bull. Torr. Club 24: 555. *pl.* 318. *pl.* 319. *f.* 3. 1897.  
Holly Beach, New Jersey. Rockingham County, New Hampshire (A. A. Eaton).
- Ophioglossum californicum* Prantl, Jahrb. Kön. Bot. Gart. Berlin 3: 315. *pl.* 7. *f.* 11. 1884.  
Near San Diego, California (Cleveland & Parry; Pringle).
- Ophioglossum alaskanum* E. G. Britton, Bull. Torr. Club 24: 556. *pl.* 319. *f.* 5. 1897.  
Unalaska Island, Alaska (Turner).
- Ophioglossum pusillum* Nutt. Gen. 2: 248. 1818.  
*Ophioglossum nudicaule* Sturm; Mart. Fl. Bras. 1<sup>2</sup>: 144. 1840, not L. f.  
South Carolina to Florida, west to Louisiana. Also in Arizona.
- Ophioglossum crotalophoroides* Walt. Fl. Car. 256. 1788.  
*Ophioglossum bulbosum* Michx. Fl. Bor. Am. 2: 276. 1803.  
South Carolina and Florida; Alabama, westward to Texas.

### CHEIROGLOSSA Presl, Abh. Kön. Böhm. Gesell. Wiss. V. 4: 316. 1847.

*Cheiroglossa palmata* (L.) Presl, Abh. Kön. Böhm. Gesell. Wiss. V. 4: 317. 1847.

*Ophioglossum palmatum* L. Sp. Pl. 1063. 1753.  
Florida.

**BOTRYCHIUM** Sw. Schrad. Journ. Bot. 1800<sup>3</sup> : 8. 1801.

**Botrychium pumicola** Coville in Underw. Our Native Ferns ed. 6. 69. 1900.  
Crater Lake, Oregon (*Coville & Applegate*).

**Botrychium tenebrosum** A. A. Eaton, Fern Bull. 7 : 8. 1899.  
New Hampshire to Connecticut, Long Island (New York) and central New York.

**Botrychium simplex** E. Hitchcock, Am. Journ. Sci. 6 : 103. *pl.* 8. 1823.  
SNAKE-TONGUE.

New England to Quebec, west to Wyoming, California, and Oregon.

**Botrychium lunaria** (L.) Sw. Schrad. Journ. Bot. 1800<sup>3</sup> : 110. 1801.  
MOONWORT.

*Osmunda lunaria* L. Sp. Pl. 1064. 1753.

Newfoundland to Connecticut, central New York, Michigan, and Minnesota.  
Also in Alaska, and south in the mountains to Montana, Colorado, Utah,  
and California.

**Botrychium boreale** (Fries) Milde, Bot. Zeit. 15 : 880. 1857.

*Botrychium lunaria* var. *boreale*-Fries, Herb. Normale 16 : 85.

Unalaska, Alaska.

**Botrychium neglectum** Wood, Class-book ed. 2. 816. 1860.

*Botrychium matricariaefolium* of American authors, not A. Br.; Döll. Rhein. Fl. 24. 1843.

Nova Scotia and New Brunswick to Maryland, Ohio, and South Dakota. Alaska  
to Washington.

**Botrychium matricariae** (Schrank) Spreng. Syst. Veg. 4 : 23. 1827.

*Osmunda matricariae* Schrank, Baier. Fl. 2 : 419. 1789.

*Botrychium rutaceum* Sw. Schrad. Journ. Bot. 1800<sup>2</sup> : 110. 1801.

*Botrychium matricarioides* Willd. Sp. Pl. 5 : 62. 1810.

*Botrychium rutaeifolium* A. Br. in Döll. Rhein. Fl. 24. 1843.

Labrador to northern New England and central New York.

**Botrychium biternatum** (Lam.) Underw. Bot. Gaz. 22 : 407. *pl.* 21. 1896.

*Osmunda biternata* Lam. Encyc. 4 : 650. 1797.

*Botrypus lunarioides* Michx. Fl. Bor. Am. 2 : 274. 1803.

*Botrychium lunarioides* Sw. Syn. Fil. 172. 1806, not Gray.

*Botrychium ternatum* var. *lunarioides* D. C. Eaton, Ferns N. Am. 1 : 148. *pl.* 20.  
*f.* 3. 1878.

South Carolina to Florida and Louisiana.

**Botrychium dissectum** Spreng. Anleit. Kennt. Gewächse ed. 1. 3 : 172.  
1804. GRAPE FERN. RATTLESNAKE FERN.

*Botrychium ternatum* var. *dissectum* D. C. Eaton, Ferns N. Am. 1 : 150. *pl.* 20.  
*f.* 1. 1878.

Maine to Virginia, Kentucky, Indiana, and Ohio.

**Botrychium obliquum** Muhl.; Willd. Sp. Pl. 5 : 63. 1810. GRAPE FERN.  
RATTLESNAKE FERN.

*Botrychium ternatum* var. *obliquum* D. C. Eaton, Ferns N. Am. 1 : 149. *pl.* 20.  
*f.* 2. 1878.

New Brunswick to Florida, Indiana, and Minnesota.

**Botrychium obliquum intermedium** (D. C. Eaton) Underw. Our Native Ferns ed. 6. 72. 1900. GRAPE FERN.

*Botrychium ternatum* var. *australe* subvar. *intermedium* D. C. Eaton, Ferns N. Am. 1 : 149. *pl. 20a* in part 187  
New England and New York.

**Botrychium silaifolium** Presl, Rel. Haenk. 1 : 76. 1830.

*Botrychium ternatum* var. *australe* D. C. Eaton, Ferns N. Am. 1 : 149. *pl. 20a* in part. 1878. Not *Botrychium australe* R. Br.  
California, Oregon, and British Columbia.

**Botrychium coulteri** Underw. Bull. Torr. Club 25 : 537. 1898.

Wyoming, the Yellowstone National Park, Montana, and Idaho.

**Botrychium occidentale** Underw. Bull. Torr. Club 25 : 538. 1898. WESTERN MOONWORT.

Oregon, Washington, and British Columbia.

**Botrychium lanceolatum** (S. G. Gmel.) Ångs. Bot. Notiser 1854 : 68. 1854.

*Osmunda lancolata* S. G. Gmel. Nov. Comm. Acad. Sci. Petrop. 12 : 516. 1768.  
Nova Scotia to New Jersey, Pennsylvania, Ohio, Michigan, and Alaska. Also in British Columbia, Washington, and Colorado.

**Botrychium virginianum** (L.) Sw. Schrad. Journ. Bot. 1800<sup>o</sup> : 111. 1801.

RATTLESNAKE FERN. GRAPE FERN.

*Osmunda virginiana* L. Sp. Pl. 1064. 1753.

*Botrychium gracile* Pursh, Fl. Am. Sept. 2 : 656. 1814.

Nova Scotia and Labrador to British Columbia and Washington, south to Arizona, Texas, and Florida.

Family II. HYMENOPHYLLACEÆ Gaud. in Bot. Freyc. Voy. 262. 1826.

**TRICHOMANES** L. Sp. Pl. 1097. 1753.

**Trichomanes petersii** A. Gray, Am. Journ. Sci. II. 15 : 326. 1853.

PETERS' FILMY FERN.

Alabama: Winston County (*Peters, Underwood*); Black Creek Falls, Etowah County (*Mohr; Pollard & Maron*); Marion County (*E. A. Smith*).

**Trichomanes radicans** Sw. Fl. Ind. Occ. 3 : 1736. 1806. BRISTLE-FERN.

Kentucky to Alabama and Florida.

Family III. SCHIZAEACEÆ Reichenb. Consp. 39. 1828.

**SCHIZAEA** J. E. Smith, Mém. Acad. Roy. Sci. Turin 5 : 419. 1793.

**Schizaea pusilla** Pursh, Fl. Am. Sept. 2 : 657. 1814. CURLY-GRASS.

New Jersey, Nova Scotia, and Newfoundland Rare and local.



**LYGODIUM** Sw. Schrad. Journ. Bot. 1800<sup>2</sup>: 106. 1801.

**Lygodium palmatum** (Bernh.) Sw. Syn. Fil. 154. 1806. CLIMBING FERN.  
HARTFORD FERN. CREEPING FERN. WINDSOR FERN. ALICE'S  
FERN.

*Gisopteris palmata* Bernh. Schrad. Journ. Bot. 1800<sup>2</sup>: 129. 1801.

New Hampshire and Massachusetts to Florida. Also in Kentucky and Tennessee. Mainly coastal.

**ORNITHOPTERIS** Bernh. Schrad. Neues Journ. Bot. 1<sup>2</sup>: 40.  
1806.

**Ornithopteris adiantifolia** (L.) Bernh. Schrad. Neues Journ. Bot. 1<sup>2</sup>: 50.  
*pl. 3. f. 15. b.* 1806.

*Osmunda adiantifolia* L. Sp. Pl. 1065. 1753.

*Anemia adiantifolia* Sw. Syn. Fil. 157. 1806.

Florida.

**Ornithopteris mexicana** (Klotzsch) Underw. Our Native Ferns ed. 6.  
76. 1900.

*Anemia mexicana* Klotzsch, Linnæa 18: 526. 1844.

Western Texas.

Family IV. OSMUNDACEAE R. Br. Prodr. Fl. Nov. Holl. 1: 161.  
1810.

**OSMUNDA** L. Sp. Pl. 1063. 1753.

**Osmunda regalis** L. Sp. Pl. 1065. 1753. ROYAL FERN. FLOWERING FERN.  
QUEEN FERN. WATER FERN. BUCK-HORN FERN.

Newfoundland to Florida, west to Mississippi, Nebraska, and Saskatchewan.

**Osmunda claytoniana** L. Sp. Pl. 1066. 1753. INTERRUPTED FERN. CLAYTON'S FERN.

*Osmunda interrupta* Michx. Fl. Bor. Am. 2: 273. 1803.

Newfoundland to Minnesota, south to North Carolina, Kentucky, and Missouri.

**Osmunda cinnamomea** L. Sp. Pl. 1066. 1753. CINNAMON FERN. BRAKES.  
WOOLLY FLOWERING-FERN. FIDDLE-HEADS.

Labrador to Newfoundland, Nova Scotia, and Minnesota, south to Florida, Louisiana, and New Mexico. The form known as var. *frondosa* is found with the type.

Family V. CERATOPTERIDACEAE Underw. Our Native Ferns  
ed. 6. 78. 1900.

**CERATOPTERIS** Brong. Bull. Soc. Philom. 1821: 184. 1821.

**Ceratopteris thalictroides** (L.) Brong. Bull. Soc. Philom. 1821: 186. *pl.*  
[1]. 1821. FLOATING FERN.

*Acrostichum thalictroides* L. Sp. Pl. 1070. 1753.

Florida.

Family VI. POLYPODIACEAE Presl, Tent. Pterid. 167. 1836.

**ACROSTICHUM** L. Sp. Pl. 1067. 1753.

**Acrostichum aureum** L. Sp. Pl. 1069. 1753.

Southern Florida.

**Acrostichum lomarioides** Jenm. Bull. Bot. Dept. Jam. II. 5 : 154. 1898.

*Chrysodium lomarioides* Jenm. Timehri 4 : 314. 1885.

Southern Florida.

**POLYPODIUM** L. Sp. Pl. 1082. 1753.

**Polypodium vulgare** L. Sp. Pl. 1085. 1753. POLYPODY. POLYPOD.

Labrador and Newfoundland to Georgia, Alabama, Missouri, Manitoba, and Keewatin. Probably has a wider range toward the northwest.

**Polypodium vulgare deceptum** Maxon, nom. nov.

*Polypodium vulgare* forma *biserratum* Millsp. W. Va. Exp. Sta. Bull. 24 : 479. 1892.

Not *Polypodium biserratum* Mart. & Gal.

*Polypodium vulgare oreophilum* Maxon in Morris, Proc. Biol. Soc. Wash. 13 : 174.

1900. Not *Polypodium orophilum* Gandoger.

West Virginia.

**Polypodium vulgare occidentale** Hook. Fl. Bor. Am. 2 : 258. 1840.

California to Alaska, along the coast.

**Polypodium hesperium** Maxon, Proc. Biol. Soc. Wash. 13 : 200. 1900.

Arizona to Washington, British Columbia, and Montana.

**Polypodium falcatum** Kellogg, Proc. Cal. Acad. Sci. 1 : 20. 1854.

*Polypodium glycyrrhiza* D. C. Eaton, Am. Journ. Sci. II. 22 : 138. 1856.

California to British Columbia and Alaska.

**Polypodium plumula** H. & B.; Willd. Sp. Pl. 5 : 178. 1810.

Florida.

**Polypodium pectinatum** L. Sp. Pl. 1085. 1753.

Southern Florida.

**Polypodium polypodioides** (L.) A. S. Hitchcock, Rep. Mo. Bot. Gard. 4 : 156. 1893. GRAY POLYPODY. RESURRECTION FERN. TREE FERN.

*Acrostichum polypodioides* L. Sp. Pl. 1068. 1753.

*Polypodium incanum* Sw. Fl. Ind. Occ. 3 : 1645. 1806.

Virginia to Florida, west to Iowa, Kansas, and Texas. On driftwood, Staten Island, New York (*Bastedo*).

**Polypodium thysanolepis** A. Br. in Klotzsch, Linnæa 20 : 392. 1847.

Huachuca Mountains, Arizona (*Lemmon*).

**Polypodium californicum** Kaulf. Enum. Fil. 102. 1824.

*Polypodium intermedium* Hook. & Arn. Bot. Beech. Voy. 405. 1841, not Muhl.

California. Extremely variable, presenting a number of forms.

**Polypodium scouleri** Hook. & Grev. Icon. Fil. 1 : pl. 56. 1829.

*Polypodium carnosum* Kellogg, Proc. Cal. Acad. Sci. 2 : 88. f. 24. 1861.

*Polypodium pachyphyllum* D. C. Eaton, Am. Journ. Sci. II. 22 : 138. 1856.

California to British Columbia.

**PHLEBODIUM** J. Sm. Journ. Bot. 4 : 58. 1842.

**Phlebodium aureum** (L.) J. Sm. Journ. Bot. 4 : 59. 1842. GOLDEN POLY-  
PODY. RABBIT'S-FOOT FERN.

*Polypodium aureum* L. Sp. Pl. 1087. 1753.

Florida.

**CAMPLYONEURON** Presl, Tent. Pterid. 189. 1836.

**Camplioneuron phyllitidis** (L.) Presl, Tent. Pterid. 190. *pl. 7. f. 18.*  
1836.

*Polypodium phyllitidis* L. Sp. Pl. 1083. 1753.

Florida.

**PHYMATODES** Presl, Tent. Pterid. 195. 1836.

**Phymatodes swartzii** (Baker) Underw. Our Native Ferns ed. 6. 84. 1900.

*Polypodium serpens* Sw. Fl. Ind. Occ. 3 : 1633. 1806, not Forster.

*Polypodium swartzii* Baker in Hook. & Baker, Syn. Fil. ed. 1. 357. 1868.

Key Largo, Florida (*Curtiss; Pollard, Morris, & Collins*).

**GYMNOPTERIS** Bernh. Schrad. Journ. Bot. 1799<sup>1</sup> : 297. 1799.

**Gymnopteris hispida** (Mett.) Underw. Our Native Ferns ed. 6. 84. 1900.

*Gymnogramme hispida* Mett. in Kuhn, Linnaea 36 : 72. 1869-70.

Texas to Arizona.

**Gymnopteris triangularis** (Kaulf.) Underw. Our Native Ferns ed. 6.  
84. 1900.

*Gymnogramma triangulare* Kaulf. Enum. Fil. 73. 1824.

California to British Columbia. Also in Arizona.

**NOTHOLAENA** R. Br. Prodr. Fl. Nov. Holl. 1 : 145. 1810.

**Notholaena sinuata** (Sw.) Kaulf. Enum. Fil. 135. 1824.

*Acrostichum sinuatum* Sw. Syn. Fil. 14. 1806.

Texas to Arizona.

**Notholaena ferruginea** Desv. Journ. Bot. Appl. 1 : 92. 1813.

*Cincinnati ferruginea* Desv. Mag. Gesell. Nat. Fr. Berlin 5 : 311. 1811.

Texas to Arizona.

**Notholaena parryi** D. C. Eaton, Am. Nat. 9 : 351. 1875.

Arizona and southern Utah to California.

**Notholaena newberryi** D. C. Eaton, Bull. Torr. Club 4 : 12. 1873. COT-  
TON FERN.

Southern California.

**Notholaena aschenborniana** Klotzsch, Linnaea 20 : 417. 1847.

Huachuca Mountains (*Lemmon*) and Santa Rita Mountains (*Pringle*), Arizona;

Texas (*Drummond*).

**Notholaena candida** (Mart. & Gal.) Hook. Sp. Fil. 5 : 110. 1864.

*Cheilanthes candida* Mart. & Gal. Mém. Acad. Brux. 15<sup>5</sup> : 73. *pl. 20.* 1842, in part.

Southern Texas and New Mexico

**Notholaena cretacea** Liebm. Mex. Breg. 64. 1849.

Southern California and Arizona.

**Notholaena hookeri** D. C. Eaton in U. S. Geog. Surv. W. 100th Merid.

6 : 308. *pl.* 30. 1879.

Texas to Arizona.

**Notholaena grayi** Davenp. Bull. Torr. Club 7 : 50. 1880.

Southeastern Arizona to Texas.

**Notholaena lemmoni** D. C. Eaton, Bull. Torr. Club 7 : 63. 1880.

Arizona.

**Notholaena schaffneri** (Fourn.) Underw.; Davenp. Garden & Forest 4 : 519. 1891.

*Aleuritopteris schaffneri* Fourn. Bull. Bot. Soc. France 27 : 328. 1880.

*Notholaena ncalleyi* Seaton, Contrib. U. S. Nat. Herb. 1 : 61. 1890.

Western Texas.

**Notholaena nivea** Desv. Journ. Bot. Appl. 1 : 93. 1813.

Arizona and New Mexico.

**Notholaena dealbata** (Pursh) Kunze, Am. Journ. Sci. II. 6 : 82. 1848.

*Cheilanthes dealbata* Pursh Fl. Am. Sept. 2 : 671. 1814.

*Notholaena nivea* var. *dealbata* Davenp. Cat. Davenp. Herb. Suppl. 44. 1883.

Nebraska and Missouri to Arizona and New Mexico.

**Notholaena fendleri** Kunze, Farrnkr. 2 : 87. *pl.* 136. 1851.

Wyoming to New Mexico and Arizona.

**Notholaena tenera** Gillies; Hook. Curtis's Bot. Mag. 58 : *pl.* 3055. 1831.

Southern Utah, Arizona, and southern California.

**CHEILOGRAMMA** Blume, Fl. Javæ 2 : 70. 1828.

**Cheilogramma lanceolata** (L.) Blume, Fl. Javæ 2 : 70. 1828.

*Pteris lanceolata* L. Sp. Pl. 1073. 1753.

*Tænitis lanceolata* R. Br. Prodr. Fl. Nov. Holl. 1 : 154. 1810.

Old Rhodes Key, Florida (*Curtiss*).

**VITTARIA** J. E. Smith, Mém. Acad. Roy. Sci. Turin 5 : 413. 1793.

**Vittaria lineata** (L.) J. E. Smith, Mém. Acad. Roy. Sci. Turin 5 : 413. 1793. GRASS FERN.

*Pteris lineata* L. Sp. Pl. 1073. 1753.

Florida, as far north as Jacksonville.

**ADIANTUM** L. Sp. Pl. 1094. 1753.

**Adiantum capillus-veneris** L. Sp. Pl. 1096. 1753. VENUS-HAIR FERN.  
BLACK MAIDENHAIR.

Virginia to Florida, west to Missouri, Utah, California, and Texas. Also in the Black Hills, Dakota (*Bessey*), and New York (*Rous*).

**Adiantum modestum** Underw. Bull. Torr. Club 28 : 46. 1901.

Roswell, New Mexico (*F. S. Earle*).

**Adiantum tenerum** Sw. Fl. Ind. Occ. 3 : 1719. 1806.

Florida.

**Adiantum jordani** C. Müll.; Kuhn, Jahrb. Kön. Bot. Gart. Berlin 1 : 346. 1881.

*Adiantum emarginatum* Hook.; D. C. Eaton, Ferns N. Am. 1 : 285. pl. 38. f. 1-3. 1879, not Bory.

California, New Mexico, Nevada, and Oregon.

**Adiantum tricholepis** Fée, 8<sup>me</sup> Mém. Fam. Foug. 72. 1854-57.

Western Texas and New Mexico.

**Adiantum pedatum** L. Sp. Pl. 1095. 1753. MAIDENHAIR.\*

Nova Scotia to British Columbia, south to Georgia, Mississippi, Arkansas, Kansas, Utah, and California. Also in Alaska.

### PTERIS L. Sp. Pl. 1073. 1753.

**Pteris longifolia** L. Sp. Pl. 1074. 1753.

Florida.

**Pteris cretica** L. Mant. 1 : 130. 1767.

Florida. Naturalized locally in Illinois.

**Pteris serrulata** L. f. Suppl. Pl. 445. 1781. RIBBON FERN. SPIDER FERN.

SAW-LEAVED BRACKEN.

Alabama, Georgia, and South Carolina. Probably escaped from cultivation.

### PTERIDIUM Scop. Fl. Carn. ed. 1. 169. 1760.

**Pteridium aquilinum** (L.) Kuhn in Decken's Reisen III. Bot. Ost-Afrika 11. 1879. BRAKE. BRACKEN. EAGLE FERN. UMBRELLA FERN. HOG BRAKES.

*Pteris aquilina* L. Sp. Pl. 1075. 1753.

Newfoundland and northern Quebec to northern Alabama, Missouri, and Manitoba.

**Pteridium aquilinum pseudocaudatum** Clute. Fern. Bull. 8 : 39. 1900, as syn.

Long Island, New York, to northern Florida, Alabama, and Texas, but mainly confined to territory near the coast.

**Pteridium aquilinum pubescens** Underw. Our Native Ferns ed. 6. 91. 1900.

*Pteris aquilina lanuginosa* of American authors. Not *Pteris lanuginosa* Bory; Willd. Sp. Pl. 5 : 403. 1810.

Arizona and California to British Columbia.

**Pteridium caudatum** (L.) Maxon, comb. nov.

*Pteris caudata* L. Sp. Pl. 1075. 1753.

*Pteris aquilina* var. *caudata* Hook. Sp. Fil. 2 : 196. 1858.

Southern Florida.

\* Includes the var. *rangiferinum* Burgess, Proc. Roy. Soc. Canada 4<sup>1</sup> : 11. 1887, an extreme form of the Pacific coast material, the most of which probably represents a species distinct from *A. pedatum*.

**CHEILANTHES** Sw. Syn. Fil. 126. 1806.

- Cheilanthes californica** (Nutt.) Mett. Abh. Senck. Nat. Gesell. 3: 88. 1859-61. LACE FERN.  
*Aspidotis californica* Nutt.; Hook. Sp. Fil. 2: 71. 1858, as syn.  
*Hypolepis californica* Hook. Sp. Fil. 2: 71. 1858.  
 California.
- Cheilanthes amoena** A. A. Eaton, Fern Bull. 5: 44. 1897.  
 Fresno County, California.
- Cheilanthes wrightii** Hook. Sp. Fil. 2: 87. *pl.* 110. A. 1858.  
 Western Texas, Arizona, and New Mexico.
- Cheilanthes pringlei** Davenp. Bull. Torr. Club 10: 61. *pl.* 34. 1883.  
 Southeastern Arizona.
- Cheilanthes microphylla** Sw. Syn. Fil. 127. 1806.  
 Florida, Texas, and New Mexico.
- Cheilanthes alabamensis** (Buckl.) Kunze, Linnaea 20: 4. 1847.  
*Pteris alabamensis* Buckl. Am. Journ. Sci. 45: 177. 1843.  
 Virginia to Alabama, west to Illinois, Tennessee, Arkansas, Texas, and Arizona.
- Cheilanthes viscida** Davenp. Bull. Torr. Club 6: 191. 1877.  
 Rather widely distributed in California, though rare.
- Cheilanthes leucopoda** Link, Fil. Sp. Hort. Berol. 66. 1841.  
 Texas.
- Cheilanthes lanosa** (Michx.) Watt, Journ. Bot. Brit. & Foreign 12: 48. 1874.  
*Nephrodium lanosum* Michx. Fl. Bor. Am. 2: 270. 1803.  
*Cheilanthes vestita* Sw. Syn. Fil. 128. 1806.  
 Connecticut and New York to Georgia, west to Kansas, Indian Territory, and Texas.
- Cheilanthes cooperae** D. C. Eaton, Bull. Torr. Club 6: 33. 1875.  
 Central and southern California. Rare.
- Cheilanthes gracillima** D. C. Eaton in Rep. U. S. & Mex. Bound. Surv. 2<sup>1</sup>: 234. 1859.  
*Cheilanthes vestita* Brack. in Wilkes's U. S. Explor. Exped. 16: 91. 1854, not Sw.  
 British Columbia to Idaho and California.
- Cheilanthes lendigera** (Cav.) Sw. Syn. Fil. 128. 1806.  
*Pteris lendigera* Cav. Descr. Pl. 268. 1802.  
 Huachuca Mountains, Arizona (*Lemmon*).
- Cheilanthes feei** Moore, Index Fil. xxxviii. 1857.  
*Myriopteris gracilis* Fée, Gen. Fil. 150. 1850-52.  
*Cheilanthes gracilis* Mett. Abh. Senck. Nat. Gesell. 3: 80. 1859-61, not Kaulf.  
*Cheilanthes lanuginosa* Nutt.; Hook. Sp. Fil. 2: 99. 1858, as syn.  
 Illinois and Minnesota to British Columbia, south to Texas, New Mexico, and Arizona.
- Cheilanthes tomentosa** Link, Hort. Berol. 2: 42. 1833. WOOLLY LIP-FERN.  
 Virginia to Georgia, west to Missouri, Texas, and Arizona.

- Cheilanthes eatoni** Baker in Hook. & Baker. Syn. Fil. ed. 1. 140. 1868.  
*Cheilanthes tomentosa* var. *eatoni* Davenp. Cat. Davenp. Herb. Suppl. 49. 1883.  
 Arizona and Texas.
- Cheilanthes fibrillosa** Davenp. Bull. Torr. Club 12: 21. 1885, as syn.  
 San Jacinto Mountains, California (*Parish*).
- Cheilanthes parishii** Davenp. Bull. Torr. Club 8: 61. 1881.  
 San Diego County, California (*Parish*).
- Cheilanthes fendleri** Hook. Sp. Fil. 2: 103. *pl.* 107. *B.* 1858.  
 Texas and Colorado to California.
- Cheilanthes clevelandii** D. C. Eaton, Bull. Torr. Club 6: 33. 1875.  
 California.
- Cheilanthes myriophylla** Desv. Mag. Gesell. Nat. Fr. Berlin 5: 328. 1811.  
*Cheilanthes elegans* Desv. Mag. Gesell. Nat. Fr. Berlin 5: 328. 1811.  
*Cheilanthes villosa* Davenp. Cat. Davenp. Herb. Suppl. 45. 1883.  
 Texas to Arizona.
- Cheilanthes lindheimeri** Hook. Sp. Fil. 2: 101. *pl.* 107. *A.* 1858.  
 Western Texas to Arizona.
- Cheilanthes argentea** (S. G. Gmel.) Kunze, Linnæa 23: 242. 1850.  
*Pteris argentea* S. G. Gmel. Nov. Comm. Acad. Sci. Petrop. 12: 519. *pl.* 12. *f.* 2.  
 1768.  
 Alaska.
- CRYPTOGRAMMA** R. Br. App. Frankl. Journ. 767. 1823.
- Cryptogramma acrostichoides** R. Br. App. Frankl. Journ. 767. 1823. PARSLEY FERN.  
 Alaska and Mackenzie south to California, Colorado, and the northern shores of Lake Huron.
- Cryptogramma stelleri** (S. G. Gmel.) Prantl, Engler's Bot. Jahrb. 3: 413. 1882. SLENDER CLIFF-BRAKE.  
*Pteris stelleri* S. G. Gmel. Nov. Comm. Acad. Sci. Petrop. 12: 519. *pl.* 12. *f.* 1.  
 1768.  
*Pellaea stelleri* Watt, Can. Fil. No. 2. 1869-70.  
*Pteris gracilis* Michx. Fl. Bor. Am. 2: 262. 1803.  
*Pellaea gracilis* Hook. Sp. Fil. 2: 138. *pl.* 133. *B.* 1858.  
 Labrador to Alaska, south to Massachusetts, Pennsylvania, Illinois, Iowa, and in the Rocky Mountains to Colorado.
- PELLAEA** Link, Fil. Sp. Hort. Berol. 59. 1841.
- Pellaea breweri** D. C. Eaton, Proc. Am. Acad. 6: 555. 1865.  
 Montana to Colorado, Nevada, Oregon, and California.
- Pellaea occidentalis** (E. Nelson) Rydberg, Mem. N. Y. Bot. Gard. 1: 466. 1900.  
*Pellaea atropurpurea occidentalis* E. Nelson, Fern Bull. 7: 30. 1899.  
*Pellaea pumila* Rydberg, Mem. N. Y. Bot. Gard. 1: 4. 1900.  
 South Dakota to Wyoming and Washington.
- Pellaea atropurpurea** (L.) Link, Fil. Sp. Hort. Berol. 59. 1841. PURPLE-STEMMED CLIFF-BRAKE. BLUE FERN. WINTER BRAKE.  
*Pteris atropurpurea* L. Sp. Pl. 1076. 1753.

Massachusetts, Vermont, and Ontario to British Columbia and Mackenzie, south to Georgia, Mississippi, Texas, Arizona, and California.

**Pellaea aspera** (Hook.) Baker in Hook. & Baker, Syn. Fil. ed. 1. 148. 1868.  
*Cheilanthes aspera* Hook. Sp. Fil. 2 : 111. *pl.* 108. A. 1858.

Western Texas and New Mexico.

**Pellaea andromedaefolia** (Kaulf.) Fée, Gen. Fil. 129. 1850-52. COFFEE FERN.

*Pteris andromedaefolia* Kaulf. Enum. Fil. 188. 1824.  
California and Arizona.

**Pellaea pulchella** (Mart. & Gal.) Fée, Gen. Fil. 129. 1850-52.

*Allosorus pulchellus* Mart. & Gal. Mém. Acad. Brux. 15<sup>o</sup> : 47. 1842.  
Western Texas and New Mexico.

**Pellaea marginata** (H. B. K.) Baker in Hook. & Baker, Syn. Fil. ed. 1. 151. 1868.

*Cheilanthes marginata* H. B. K. Nov. Gen. et Sp. Pl. 1 : 22. 1815.  
Huachuca Mountains, Arizona (*Lenmon*).

**Pellaea ternifolia** (Cav.) Link, Fil. Sp. Hort. Berol. 59. 1841

*Pteris ternifolia* Cav. Descr. Pl. 266. 1802.  
Western Texas.

**Pellaea brachyptera** (Moore) Baker in Hook. & Baker, Syn. Fil. ed. 2. 477. 1873.

*Platyloma brachypterum* Moore, Gard. Chron. 1873 : 141. 1873.  
California and Oregon.

**Pellaea ornithopus** Hook. Sp. Fil. 2 : 143. *pl.* 116. A. 1858. BIRD'S-FOOT CLIFF-BRAKE. BLACK FERN.

California.

**Pellaea wrightiana** Hook. Sp. Fil. 2 : 142. *pl.* 115. B. 1858.

Kansas to Texas, Arizona, and California. Extremely variable.

**Pellaea densa** (Brack.) Hook. Sp. Fil. 2 : 150. *pl.* 125. B. 1858.

*Onychium densum* Brack. in Wilkes's U. S. Explor. Exped. 16 : 120. *pl.* 13. *f.* 2. 1854.

British Columbia and Washington to Montana, Wyoming, Utah, and California.

Also on Mt. Albert, Quebec, and in Grey County, Ontario (*Ami*).

**Pellaea bridgesii** Hook. Sp. Fil. 2 : 238. 1858.

California.

**Pellaea flexuosa** (Kaulf.) Link, Fil. Sp. Hort. Berol. 60. 1841.

*Pteris flexuosa* Kaulf.; Schlecht. & Cham. Linnaea 5 : 614. 1830, excl. syn.  
Texas to California.

**Pellaea intermedia** Mett. in Kuhn, Linnaea 36 : 84. 1869-70.

Texas to Arizona.

**STRUTHIOPTERIS** Scop. Fl. Carn. ed. 1. 168. 1760.

**Struthiopteris spicant** (L.) Weiss, Pl. Crypt. 287. 1770. DEER FERN.  
HARD FERN.

*Osmunda spicant* L. Sp. Pl. 1066. 1753.

*Lomaria spicant* Desv. Mag. Gesell. Nat. Fr. Berlin 5 : 325. 1811.

*Blechnum boreale* Sw. Schrad. Journ. Bot. 1800<sup>2</sup> : 75. 1801.

*Blechnum spicant* J. E. Smith, Mém. Acad. Roy. Sci. Turin 5 : 411. 1793.  
California to British Columbia and Alaska.



**BLECHNUM** L. Sp. Pl. 1077. 1753.

**Blechnum serrulatum** Richard, Act. Soc. Hist. Nat. Paris 1: 114. 1792.  
Florida.

**WOODWARDIA** J. E. Smith, Mém. Acad. Roy. Sci. Turin 5:  
411. 1793.

**Woodwardia virginica** (L.) J. E. Smith, Mém. Acad. Roy. Sci. Turin  
5: 412. 1793. CHAIN-FERN. BOG FERN.

*Blechnum virginicum* L. Mant. 2: 307. 1771.

Nova Scotia to Ontario and Michigan, south to Florida, Louisiana, and Arkansas.

**Woodwardia areolata** (L.) Moore, Index Fil. xlv. 1857. NARROW-LEAVED  
CHAIN-FERN

*Acrostichum areolatum* L. Sp. Pl. 1069. 1753.

*Woodwardia angustifolia* J. E. Smith, Mém. Acad. Roy. Sci. Turin 5: 411. 1793.

Maine to Florida, Louisiana, and Arkansas. Also in Michigan.

**Woodwardia spinulosa** Mart. & Gal. Mém. Acad. Brux. 15<sup>5</sup>: 64. 1842.

*Woodwardia chamissoi* Brack. in Wilkes's U. S. Explor. Exped. 16: 138. 1854.

*Woodwardia radicans* var. *americana* Hook. Sp. Fil. 3: 67. 1860.

California and Arizona. Also in Washington (*Flett*).

**ASPLENIUM** L. Sp. Pl. 1078. 1753.

**Asplenium serratum** L. Sp. Pl. 1079. 1753.

Florida.

**Asplenium pinnatifidum** Nutt. Gen. 2: 251. 1818. PINNATIFID SPLEEN-  
WORT.

New Jersey and Pennsylvania to Georgia, Alabama, Missouri, and Arkansas.

Rare and local.

**Asplenium ebenoides** R. R. Scott; Berkeley, Journ. Roy. Hort. Soc.  
1866: 87. 1866.

Vermont to Virginia. Also in Illinois and Alabama. Extremely rare and local.

**Asplenium platyneuron** (L.) Oakes; D. C. Eaton, Ferns N. Am. 1: 24.  
1878. EBONY SPLEENWORT. SCREW FERN.

*Acrostichum platyneuros* L. Sp. Pl. 1069. 1753.

*Asplenium ebeneum* Ait. Hort. Kew. 3: 462. 1789.

Florida to Maine and southeastern Ontario, west to Texas and Colorado.

**Asplenium parvulum** Mart. & Gal. Mém. Acad. Brux. 15<sup>5</sup>: 60. *pl.* 15. *f.*  
3. 1842. SMALL SPLEENWORT. LITTLE EBONY SPLEENWORT.

Virginia to Florida, west to Kansas, Texas, and Arizona.

**Asplenium trichomanes** L. Sp. Pl. 1080. 1753. DWARF SPLEENWORT.  
MAIDENHAIR SPLEENWORT. WALL SPLEENWORT. BABY FERN.

Nova Scotia and the eastern coast of Hudson Bay to Alabama, Texas, and Ari-  
zona, northwestward to Oregon, British Columbia, and Alaska.

**Asplenium vespertinum** Maxon, Bull. Torr. Club 27: 197. 1900.

Southern California.

**Asplenium monanthes** L. Mant. 1: 130. 1767.

*Asplenium monanthemum* L.; Murray, Syst. Veg. ed. 1. 933. 1784.

Huachuca Mountains, Arizona (*Lemmon*).

- Asplenium viride** Huds. Fl. Angl. 385. 1762. GREEN SPLEENWORT.  
New Brunswick, northern Vermont and Quebec to Alaska, south to Oregon, Wyoming, and Colorado. Also in Greenland. Local.
- Asplenium trichomanes-dentatum** L. Sp. Pl. 1080. 1753.  
*Asplenium dentatum* of authors.  
South Carolina to Florida.
- Asplenium angustifolium** Michx. Fl. Bor. Am. 2:265. 1803. NARROW-LEAVED SPLEENWORT. SWAMP SPLEENWORT. KIDNEY FERN.  
Northern New England and southern Quebec to Wisconsin, south to northern Georgia, Tennessee, and Missouri.
- Asplenium firmum** Kunze, Bot. Zeit. 3:283. 1845.  
Florida and Arizona.
- Asplenium septentrionale** (L.) Hoffm. Deutsch. Fl. 2:12. 1795. FORKED SPLEENWORT.  
*Acrostichum septentrionale* L. Sp. Pl. 1068. 1753.  
Colorado, New Mexico, and Arizona; Black Hills of South Dakota (*Rydberg*).
- Asplenium ruta-muraria** L. Sp. Pl. 1081. 1753. WALL RUE. RUE SPLEENWORT.  
Vermont, southern Ontario, and Michigan, south to Alabama and Missouri.
- Asplenium montanum** Willd. Sp. Pl. 5:342. 1810. MOUNTAIN SPLEENWORT.  
Connecticut, New York, and Ohio, south to Georgia, Alabama, and Arkansas.
- Asplenium glenniei** Baker in Hook. & Baker, Syn. Fil. ed. 2. 488. 1873.  
Huachuca Mountains, Arizona (*Lehmann*).
- Asplenium fontanum** (L.) Bernh. Schrad. Journ. Bot. 1799<sup>1</sup>:314. 1799.  
*Polypodium fontanum* L. Sp. Pl. 1089. 1753.  
Lycoming County, Pennsylvania (*McMinn*); near Springfield, Ohio (*Spence*).
- Asplenium bradleyi** D. C. Eaton, Bull. Torr. Club 4:11. 1873.  
New York to Georgia, Arkansas, and Missouri.
- Asplenium myriophyllum** (Sw.) Presl, Rel. Haenk. 1:48. 1830.  
*Caenopteris myriophyllum* Sw. Fl. Ind. Occ. 3:1626. 1806.  
Florida.
- Asplenium cicutarium** Sw. Prodr. Veg. Ind. Occ. 130. 1788.  
Florida.

**ATHYRIUM** Roth, Tent. Fl. Germ. 3:58. 1800.

- Athyrium thelypteroides** (Michx.) Desv. Mém. Soc. Linn. Paris 6:266. 1827. SILVERY SPLEENWORT.  
*Asplenium thelypteroides* Michx. Fl. Bor. Am. 2:265. 1803.  
*Asplenium acrostichooides* Sw. Schrad. Journ. Bot. 1800<sup>2</sup>:54. 1801. Not *Athyrium acrostichoideum* Bory; Merat, Fl. Paris ed. 4. 1:372. 1836.  
Nova Scotia and New Brunswick to Minnesota, Illinois, Alabama, and Georgia.
- Athyrium filix-foemina** (L.) Roth, Tent. Fl. Germ. 3:65. 1800. LADY FERN. FEMALE FERN.  
*Polypodium filix-foemina* L. Sp. Pl. 1090. 1753.  
*Asplenium filix-foemina* Bernh. Schrad. Neues Journ. Bot. 1<sup>2</sup>:26. 1806.  
Newfoundland to Keewatin and British Columbia, south to Florida, Alabama, Indian Territory, Arizona, and California. Includes a large number of interesting forms, of which several are probably of subspecific rank.

- Athyrium cyclosorum** Rupr. Beitr. Pflanzenk. Russ. Reich. 3:41. 1845.  
*Athyrium filix-foemina* var. *cyclosorum* Ledeb. Fl. Ross. 4:519. 1853.  
*Asplenium filix-foemina* var. *cyclosorum* Rupr.; D. C. Eaton in U. S. Geog. Surv.  
 W. 100th Merid. 6:331. 1879.  
 Alaska to California, Arizona, and Nebraska.

**PHYLLITIS** Ludwig, Inst. Hist. Phys. Reg. Veg. ed. 2. 142.  
 1757.

- Phyllitis scolopendrium** (L.) Newm. Hist. Brit. Ferns ed. 2. 10. 1844.  
 HART'S-TONGUE. CATERPILLAR FERN. HOUND'S-TONGUE FERN.  
*Asplenium scolopendrium* L. Sp. Pl. 1079. 1753.  
*Scolopendrium vulgare* J. E. Smith, Mém. Acad. Roy. Sci. Turin 5:421. 1793.  
*Scolopendrium scolopendrium* Karst. Deutsch. Fl. ed. 1. 278. 1880-83.  
 Central New York; Tennessee; New Brunswick; Grey and Simcoe counties,  
 Ontario. Also in Alaska (?).\*

**CAMPTOSORUS** Link, Hort. Berol. 2:69. 1833.

- Camptosorus rhizophyllus** (L.) Link, Hort. Berol. 2:69. 1833. WALK-  
 ING LEAF. WALKING FERN. WALL LINK.  
*Asplenium rhizophyllum* L. Sp. Pl. 1078. 1753.  
 Maine and southern Quebec to Minnesota, south to Georgia, Alabama, and  
 Kansas.

- Camptosorus rhizophyllus intermedius** Arthur, Bot. Gaz. 8:200. *pl. 3*.  
 1883.  
 Iowa.

**PHEGOPTERIS** Fée, Gen. Fil. 242. 1850-52.

- Phegopteris phegopteris** (L.) Underw.; Small, Bull. Torr. Club 20:462.  
 1893. LONG BEECH FERN.  
*Polypodium phegopteris* L. Sp. Pl. 1089. 1753.  
*Phegopteris polypodioides* Fée, Gen. Fil. 243. 1850-52.  
 Newfoundland to Alaska, south to Virginia, Michigan, Iowa (*Fitzpatrick*), and  
 Washington. Also in Greenland.

- Phegopteris hexagonoptera** (Michx.) Fée, Gen. Fil. 243. 1850-52. BROAD  
 BEECH FERN.

*Polypodium hexagonopterum* Michx. Fl. Bor. Am. 2:271. 1803.

New England and Quebec to Minnesota, south to Kansas, Louisiana, and Florida.

- Phegopteris alpestris** (Hoppe) Mett. Fil. Hort. Bot. Lips. 83. 1856. AL-  
 PINE POLYPODY.

*Polypodium alpestre* Hoppe, Taschenb. 216. 1805.

California to Montana and British Columbia.

- Phegopteris dryopteris** (L.) Fée, Gen. Fil. 243. 1850-52. OAK FERN.

*Polypodium dryopteris* L. Sp. Pl. 1093. 1753.

Newfoundland to Alaska, south to Virginia, Minnesota, Kansas, Colorado, and  
 Oregon. Also in Greenland.

- Phegopteris robertiana** (Hoffm.) Underw. Our Native Ferns ed. 6. 109.  
 1900. LIMESTONE POLYPODY.

*Polypodium robertianum* Hoffm. Deutsch. Fl. 2:[Add. 4.]. 1795.

\* Distribution discussed in Fernwort Papers 30-46. 1900.

*Phegopteris dryopteris* var. *robertianum* Davenp. Cat. Davenp. Herb. Suppl. 47. 1883.

*Phegopteris calcarea* Fée, Gen. Fil. 243. 1850-52.

Labrador to Quebec, Iowa, Minnesota, and Manitoba. Reported from Idaho.

**Phegopteris tetragona** (Sw.) Fée, Gen. Fil. 243. 1850-52.

*Polypodium tetragonum* Sw. Fl. Ind. Occ. 3 : 1670. 1806.

Marion County, Florida (*Reynolds*).

**Phegopteris reptans** (Sw.) D. C. Eaton, Bull. Torr. Club 10 : 101. 1883.

*Polypodium reptans* Sw. Fl. Ind. Occ. 3 : 1655. 1806.

Near Brooksville, Florida (*J. Donnell Smith*).

**DRYOPTERIS** Adans. Fam. Pl. 2 : 20. 1763.

**Dryopteris oreopteris** (Sw.) Maxon, comb. nov. HEATH FERN.

*Aspidium oreopteris* Sw. Schrad. Journ. Bot. 1800<sup>2</sup> : 35. 1801.

*Polypodium montanum* J. A. Vogler, Dissert. Polyp. Mont. 1781, not Lam. 1778.

*Dryopteris montana* Kuntze, Rev. Gen. Pl. 2 : 813. 1891.

British Columbia (*Macoun*); Unalaska Island, Alaska (*Turner*); Washington (*Ehner*).

**Dryopteris nevadensis** (D. C. Eaton) Underw. Our Native Ferns ed. 4. 113. 1893.

*Aspidium nevadense* D. C. Eaton, Ferns N. Am. 1 : 73. pl. 10. 1878.

California and Oregon.

**Dryopteris contermina strigosa** (Fée) Underw. Our Native Ferns ed. 4. 113. 1893.

*Aspidium strigosum* Fée, Hist. Foug. et Lycop. Antilles 78. pl. 22. f. 2. 1866.

*Aspidium conterminum* var. *strigosum* D. C. Eaton, Bull. Torr. Club 7 : 62. 1880.

Florida.

**Dryopteris noveboracensis** (L.) A. Gray, Manual ed. 1. 630. 1848. NEW YORK FERN.

*Polypodium noveboracense* L. Sp. Pl. 1091. 1753.

*Aspidium noveboracense* Sw. Schrad. Journ. Bot. 1800<sup>2</sup> : 38. 1801.

Newfoundland to Ontario and Minnesota, south to northern Georgia, Alabama, and Arkansas.

**Dryopteris simulata** Davenp. Bot. Gaz. 19 : 497. 1894, as syn.

*Aspidium simulatum* Davenp. Bot. Gaz. 19 : 495. 1894.

Maine to Maryland. Reported also from Indian Territory and Missouri. Probably of wider range.

**Dryopteris thelypteris** (L.) A. Gray, Manual ed. 1. 630. 1848. MARSH FERN. SNUFF-BOX FERN.

*Acrostichum thelypteris* L. Sp. Pl. 1071. 1753.

*Aspidium thelypteris* Sw. Schrad. Journ. Bot. 1800<sup>2</sup> : 40. 1801.

New Brunswick to Manitoba, south to Kansas, Texas, and Florida.

**Dryopteris patens** (Sw.) Kuntze, Rev. Gen. Pl. 2 : 813. 1891. SWEET FERN.

*Polypodium patens* Sw. Prodr. Veg. Ind. Occ. 133. 1788.

*Aspidium patens* Sw. Syn. Fil. 49. 1806.

*Aspidium molle* Sw. Schrad. Journ. Bot. 1800<sup>2</sup> : 34. 1801.

Florida and Alabama to California.

**Dryopteris unita** (L.) Kuntze, Rev. Gen. Pl. 2 : 811. 1891.*Polypodium unitum* L. Sp. Pl. ed. 2. 1546. 1764.*Aspidium unitum* var. *glabra* Mett. Ann. Mus. Bot. Ludg. Bat. 1 : 230. 1863-64.Not *Aspidium glabrum* Mett. Abh. Senek. Nat. Gesell. 2 : 343. 1856-58.

Florida.

**Dryopteris fragrans** (L.) Schott, Gen. Fil. 1834. FRAGRANT FERN.*Polypodium fragrans* L. Sp. Pl. 1089. 1753.*Aspidium fragrans* Sw. Schrad. Journ. Bot. 1800<sup>2</sup> : 35. 1801.

Labrador to Alaska, south to Maine, New Hampshire, Vermont, New York, Wisconsin, and Minnesota. Also in Greenland.

**Dryopteris aquilonaris** Maxon, Bull. Torr. Club 27 : 638. 1900.Cape Nome, Alaska (*Flett*).**Dryopteris floridana** (Hook.) Kuntze, Rev. Gen. Pl. 2 : 812. 1891.*Nephrodium floridanum* Hook. Fil. Exot. pl. 99. 1859.*Aspidium floridanum* D. C. Eaton in Chapm. Fl. So. U. S. ed. 1. 595. 1860.

Florida and Alabama.

**Dryopteris cristata** (L.) A. Gray, Manual ed. 1. 631. 1848. CREST FERN.  
CRESTED SHIELD FERN.*Polypodium cristatum* L. Sp. Pl. 1090. 1753.*Aspidium cristatum* Sw. Schrad. Journ. Bot. 1800<sup>2</sup> : 37. 1801.

Newfoundland to Saskatchewan, south to Virginia, Arkansas, Nebraska, and Idaho.

**Dryopteris cristata clintoniana** (D. C. Eaton) Underw. Our Native Ferns ed. 4. 115. 1893.*Aspidium cristatum* var. *clintonianum* D. C. Eaton in A. Gray, Manual ed. 5. 665. 1867.Maine and Ontario to Wisconsin, south to Virginia (*Wm. Palmer*).**Dryopteris goldiana** (Hook.) A. Gray, Manual ed. 1. 631. 1848. GOLDIE'S FERN.*Aspidium goldianum* Hook. Edinb. Phil. Journ. 6 : 333. 1822.

New Brunswick to Minnesota, south to North Carolina, Tennessee, and Iowa.

**Dryopteris goldiana celsa** Palmer, Proc. Biol. Soc. Wash. 13 : 65. pl. 1. f. 1-6. 8-12. 1899. LOG FERN.Dismal Swamp, Virginia (*Wm. Palmer; Bartsch.*).**Dryopteris filix-mas** (L.) Schott, Gen. Fil. 1834. MALE FERN. SWEET FERN.*Polypodium filix-mas* L. Sp. Pl. 1090. 1753.*Aspidium filix-mas* Sw. Schrad. Journ. Bot. 1800<sup>2</sup> : 38. 1801.

Nova Scotia and Newfoundland to Alaska, south to Michigan, South Dakota, Arizona, and California.

**Dryopteris cristata** × **marginalis** Davenp. Bot. Gaz. 19 : 497. 1894, as syn.*Aspidium cristatum* × *marginale* Davenp. Bot. Gaz. 19 : 494. 1894.

All the New England States and New Jersey. Probably of wider distribution.

**Dryopteris marginalis** (L.) A. Gray, Manual ed. 1. 632. 1848. MARGINAL SHIELD FERN. ROCK FERN. WOOD FERN.*Polypodium marginale* L. Sp. Pl. 1091. 1753.*Aspidium marginale* Sw. Syn. Fil. 50. 1806.

Nova Scotia to British Columbia, south to Indian Territory, Arkansas, Alabama, and Georgia.

**Dryopteris rigida arguta** (Kaulf.) Underw. Our Native Ferns ed. 4. 116. 1893.

*Aspidium argutum* Kaulf. Enum. Fil. 242. 1824.

*Aspidium rigidum* var. *argutum* D. C. Eaton in U. S. Geog. Surv. W. 100th Merid. 6 : 333. 1879.

California to Alaska, chiefly near the coast.

**Dryopteris spinulosa** (Retz.) Kuntze, Rev. Gen. Pl. 2 : 813. 1891. SPINY SHIELD FERN.

*Polypodium spinulosum* Retz. Fl. Scand. ed 2. 250. 1795.

*Aspidium spinulosum* Sw. Schrad. Journ. Bot. 1800<sup>2</sup> : 38. 1801.

Newfoundland to Alaska, south to Virginia, Kentucky, Nebraska, and Washington.

**Dryopteris spinulosa intermedia** (Muhl.) Underw. Our Native Ferns ed. 4. 116. 1893. COMMON SPINY FERN.

*Aspidium intermedium* Muhl.; Willd. Sp. Pl. 5 : 262. 1810.

*Aspidium spinulosum* var. *intermedium* D. C. Eaton in A. Gray, Manual ed. 5. 665. 1867.

*Dryopteris intermedia* A. Gray, Manual ed. 1. 630. 1848.

Labrador to Alaska, south to North Carolina and Tennessee.

**Dryopteris spinulosa dilatata** (Hoffm.) Underw. Our Native Ferns ed. 4. 116. 1893. SPREADING WOOD-FERN.

*Polypodium dilatatum* Hoffm. Deutsch. Fl. 2 : 7. 1795.

*Aspidium spinulosum* var. *dilatatum* Hook. Brit. Fl. 444. 1830.

*Dryopteris dilatata* A. Gray, Manual ed. 1. 631. 1848.

Newfoundland to Alaska, south to California, Montana, and Virginia; mostly confined to the mountains.

**Dryopteris boottii** (Tuckerm.) Underw. Our Native Ferns ed. 4. 117. 1893. BOOTT'S WOOD-FERN.

*Aspidium boottii* Tuckerm. Hovey's Mag. Hort. 9 : 145. 1843.

*Aspidium spinulosum* var. *boottii* D. C. Eaton in A. Gray, Manual ed. 5. 665. 1867.

Nova Scotia, southern Ontario, and Minnesota, south to northern Virginia.\*

**Dryopteris patula** (Sw.) Underw. Our Native Ferns ed. 4. 117. 1893.

*Aspidium patulum* Sw. Kongl. Vetensk. Akad. Handl. 1817 : 74. 1817.

Huachuca Mountains, Arizona (*Leemmon*).

**POLYSTICHUM** Roth, Tent. Fl. Germ. 3 : 69. 1800.

**Polystichum acrostichoides** (Michx.) Schott, Gen. Fil. 1834. CHRISTMAS FERN. EVERGREEN WOOD-FERN. SHIELD FERN.

*Nephrodium acrostichoides* Michx. Fl. Bor. Am. 2 : 267. 1803.

*Aspidium acrostichoides* Sw. Syn. Fil. 44. 1806.

*Dryopteris acrostichoides* Kuntze, Rev. Gen. Pl. 2 : 812. 1891.

Nova Scotia and New Brunswick to Wisconsin, Iowa, Mississippi, and Florida.

The variable form known as var. *schweinitzii* (Beck), or the var. *incisum* A. Gray, has the range of the type.

**Polystichum munitum** (Kaulf.) Presl, Tent. Pterid. 83. 1836.

*Aspidium munitum* Kaulf. Enum. Fil. 236. 1824.

*Dryopteris munita* Kuntze, Rev. Gen. Pl. 2 : 813. 1891.

California, Oregon, and Idaho, northward to Alaska.

\* Reported from Loring, Alaska, by Miss Grace E. Cooley in Bull. Torr. Club 19 : 246. 1892.

**Polystichum munitum imbricans** (D. C. Eaton) Maxon, Fern Bull. 8: 30. 1900.

*Aspidium munitum* var. *imbricans* D. C. Eaton, Ferns N. Am. 1: 188. pl. 25. f. 3. 1878.

California to British Columbia.

**Polystichum munitum inciso-serratum** (D. C. Eaton) Underw. Our Native Ferns ed. 6. 116. 1900.

*Aspidium munitum* var. *inciso-serratum* D. C. Eaton, Ferns N. Am. 1: 188. 1878. California to British Columbia.

**Polystichum lonchitis** (L.) Roth, Tent. Fl. Germ. 3: 71. 1800. HOLLY FERN.

*Polypodium lonchitis* L. Sp. Pl. 1088. 1753.

*Aspidium lonchitis* Sw. Schrad. Journ. Bot. 1806<sup>2</sup>: 30. 1801.

*Dryopteris lonchitis* Kuntze, Rev. Gen. Pl. 2: 813. 1891.

Arctic America to Nova Scotia, southern Ontario, Wisconsin, Montana, and Washington, and in the mountains to Utah, Colorado, and California.

**Polystichum scopulinum** (D. C. Eaton) Maxon, Fern Bull. 8: 29. 1900.

*Aspidium aculeatum* var. *scopulinum* D. C. Eaton, Ferns N. Am. 2: 125. pl. 62. f. 8. 1880.

Washington to eastern Idaho, south to Utah and southern California. Also in Gaspé County, Quebec.

**Polystichum lemmoni** Underw. Our Native Ferns ed. 6. 116. 1900.

*Aspidium mohrioides* of American authors, not Bory, Crypt. Voy. Duperr. 267. 1828.

California to Alaska.

**Polystichum californicum** (D. C. Eaton) Underw. Our Native Ferns ed. 6. 116. 1900.

*Aspidium californicum* D. C. Eaton, Proc. Am. Acad. 6: 555. 1865.

*Aspidium aculeatum* var. *californicum* D. C. Eaton in U. S. Geog. Surv. W. 100th Merid. 6: 336. 1879.

*Dryopteris aculeata* var. *californica* (D. C. Eaton) Underw. Our Native Ferns ed. 4. 112. 1893.

California to Washington.

**Polystichum braunii** (Spenner) Lawson, Fern Fl. Canada [19]. 1889. BRAUN'S HOLLY-FERN. PRICKLY-FERN.

*Aspidium braunii* Spenner, Fl. Friib. 1: 9. 1825.

*Aspidium aculeatum* var. *braunii* Döll, Rhein. Fl. 21. 1843.

*Dryopteris aculeata* var. *braunii* (Spenner) Koch; Underw. Our Native Ferns ed. 4. 112. 1893.

*Dryopteris braunii* (Spenner) Underw. in Britt. & Br. Illustr. Fl. 1: 15. 1896. Nova Scotia to Alaska, south to British Columbia, Michigan, Pennsylvania, Vermont, New Hampshire, and Maine.

**Polystichum aculeatum** (L.) Roth, Tent. Fl. Germ. 3: 79. 1800.

*Polypodium aculeatum* L. Sp. Pl. 1090. 1753.

*Aspidium aculeatum* Sw. Schrad. Journ. Bot. 1806<sup>2</sup>: 37. 1801.

*Dryopteris aculeata* Kuntze, Rev. Gen. Pl. 2: 812. 1891.

California to Washington.

**PHANEROPHLEBIA** Presl, Tent. Pterid. 84. 1836.

**Phanerophlebia auriculata** Underw. Bull. Torr. Club **26**: 212. *pl.* 359.  
*f.* 3-4. *pl.* 360. *f.* 2. 1899.

*Aspidium juglandifolium* in part of recent authors, not Kunze; Klotzsch, Linnaea **20**: 363. 1847.

Arizona to Texas.

**TECTARIA** Cav. Deser. Pl. 249. 1802.

**Tectaria trifoliata** (L.) Cav. Deser. Pl. 249. 1802.

*Polypodium trifoliatum* L. Sp. Pl. 1087. 1753.

*Aspidium trifoliatum* Sw. Schrad. Journ. Bot. **1800**<sup>2</sup>: 30. 1801.

*Dryopteris trifoliata* Kuntze, Rev. Gen. Pl. **2**: 814. 1891.

Florida and western Texas.

**NEPHROLEPIS** Schott, Gen. Fil. 1834.

**Nephrolepis exaltata** (L.) Schott, Gen. Fil. 1834. SWORD FERN.

*Polypodium exaltatum* L. Sp. Pl. ed. 2. 1548. 1763.

*Aspidium exaltatum* Sw. Schrad. Journ. Bot. **1800**<sup>2</sup>: 32. 1801.

Florida.

**Nephrolepis biserrata** (Sw.) Schott, Gen. Fil. 1834.

*Aspidium biserratum* Sw. Schrad. Journ. Bot. **1800**<sup>2</sup>: 32. 1801.

*Aspidium acutum* Sw. Syn. Fil. 46. 1806.

*Nephrolepis acuta* Presl, Tent. Pterid. 79. 1836.

Southern Florida.

**FILIX** Adans. Fam. Pl. **2**: 20. 1763.

**Filix bulbifera** (L.) Underw. Our Native Ferns ed. 6. 119. 1900. BLADDER-FERN.

*Polypodium bulbiferum* L. Sp. Pl. 1091. 1753.

*Cystopteris bulbifera* Bernh. Schrad. Neues Journ. Bot. **1**<sup>2</sup>: 26. 1806.

Newfoundland to Manitoba and Iowa, south to North Carolina, Alabama, and Arkansas. Also in Alaska.

**Filix fragilis** (L.) Underw. Our Native Ferns ed. 6. 119. 1900. BRITTLE FERN. BRITTLE BLADDER-FERN.

*Polypodium fragile* L. Sp. Pl. 1091. 1753.

*Cystopteris fragilis* Bernh. Schrad. Neues Journ. Bot. **1**<sup>2</sup>: 27. 1806.

Newfoundland and Labrador to Alaska, south to southern California, Arizona, Kansas, Alabama, and Georgia. Extremely polymorphic, but apparently presenting no geographic subspecies. Also in Greenland.

**Filix montana** (Lam.) Underw. Our Native Ferns ed. 6. 119. 1900.

*Polypodium montanum* Lam. Fl. Franc. **1**: 23. 1778.

*Cystopteris montana* Bernh. Schrad. Neues Journ. Bot. **1**<sup>2</sup>: 26. 1806.

Labrador and Quebec to British Columbia and Alaska, south to the northern shore of Lake Superior. Also in Colorado. Rare.



**ONOCLEA** L. Sp. Pl. 1062. 1753.

**Onoclea sensibilis** L. Sp. Pl. 1062. 1753. SENSITIVE FERN. OAK-LEAVED FERN.

Newfoundland to Saskatchewan, south to Nebraska, Louisiana, and Florida. The var. *obtusilobata* of Torrey comprises plants of which one or more of the fertile fronds are more or less foliose.

**MATTEUCCIA** Todaro, Syn. Pl. Acot. Vasc. Sicilia 30. 1866.

**Matteuccia struthiopteris** (L.) Todaro, Syn. Pl. Acot. Vasc. Sicilia 30. 1866.

*Osmunda struthiopteris* L. Sp. Pl. 1066. 1753.

*Struthiopteris germanica* Willd. Enum. Pl. Hort. Bot. Berol. 1071. 1809.

*Onoclea struthiopteris* Hoffm. Deutsch. Fl. 2 : 11. 1795.

Nova Scotia to Virginia, west to Iowa and British Columbia.

**WOODSIA** R. Br. Prodr. Fl. Nov. Holl. 1 : 158. 1810.

**Woodsia ilvensis** (L.) R. Br. Prodr. Fl. Nov. Holl. 1 : 158. 1810. RUSTY WOODSIA.

*Acrostichum ilvense* L. Sp. Pl. 1071. 1753.

Labrador to Alaska, south to North Carolina, Kentucky, and Minnesota. Also in Greenland.

**Woodsia alpina** (Bolton) S. F. Gray, Nat. Arr. Brit. Pl. 2 : 17. 1821. ALPINE WOODSIA.

*Acrostichum alpinum* Bolton, Fil. Brit. 76. pl. 42. 1790.

*Acrostichum hyperboreum* Liljeb. Kongl. Vetensk. Akad. Nya Handl. 14 : 201. 1793.

*Woodsia hyperborea* R. Br. Prodr. Fl. Nov. Holl. 1 : 158. 1810.

Labrador to Alaska, south to Maine, Vermont, northern New York and western Ontario. Also in Greenland.

**Woodsia glabella** R. Br. App. Frankl. Journ. 754. 1823.

Central New York and Vermont to New Brunswick, westward in Canada to British Columbia, northward to Alaska and Mackenzie. Also in Greenland.

**Woodsia scopulina** D. C. Eaton, Can. Nat. II. 2 : 91. 1865.

Michigan and western Ontario to British Columbia, south in the mountains to Arizona and California. Also in Alaska.

**Woodsia oregana** D. C. Eaton, Can. Nat. II. 2 : 90. 1865.

British Columbia and Athabasca, to Manitoba, Nebraska, Oklahoma, Colorado, Arizona, and California. Also in Wisconsin and northern Michigan.

**Woodsia obtusa** (Spreng.) Torr. Cat. Pl. in Geol. Rep. N. Y. 195. 1840.

*Polypodium obtusum* Spreng. Anleit. Kennt. Gewächse ed. 1. 3 : 92. 1804.

Nova Scotia to Wisconsin and Nebraska, south to Georgia, Alabama, and Texas. Also in Alaska and British Columbia.

**Woodsia obtusa plummerae** (Lemmon) Maxon, comb. nov.*Woodsia plummerae* Lemmon, Bot. Gaz. 7 : 6. 1882.*Woodsia obtusa* var. *glandulosa* D. C. Eaton & Faxon, Bull. Torr. Club 9 : 50. 1882.

New Mexico and Arizona.

**Woodsia mexicana** Fée, 7<sup>me</sup> Mém. Fam. Foug. 66. 1854.

Texas, New Mexico, and Arizona.

**DENNSTAEDTIA** Bernh. Schrad. Journ. Bot. 1800<sup>2</sup>: 124. 1801.**Dennstaedtia punctilobula** (Michx.) Moore, Index Fil. xvii. 1857.*Nephrodium punctilobulum* Michx. Fl. Bor. Am. 2 : 268. 1803.*Dicksonia punctiloba* Hook. Sp. Fil. 1 : 79. 1846.*Dicksonia pilosiuscula* Willd. Enum. Pl. Hort. Berol. 1076. 1809.

Nova Scotia and New Brunswick to Ontario and Minnesota, south to Georgia and Alabama.

## Family VII. MARSILEACEAE R. Br. Prodr. Fl. Nov. Holl. 1 : 166. 1810.

**MARSILEA** L. Sp. Pl. 1099. 1753.**Marsilea quadrifolia** L. Sp. Pl. 1099. 1753.Apparently indigenous at Bantam Lake, Litchfield County, Connecticut (*Allen*), though possibly adventive from Europe. Extensively introduced.**Marsilea macropoda** Engelm. Am. Journ. Sci. II. 3 : 56. 1847.

Texas and New Mexico.

**Marsilea uncinata** A. Br. Flora 22 : 300. 1839.Louisiana; Dallas, Texas (*Reverchon*).**Marsilea vestita** Hook. & Grev. Icon. Fil. 2 : pl. 159. 1831.*Marsilea mucronata* A. Br. Am. Journ. Sci. II. 3 : 55. text f. 2. 1847.

Arkansas and Texas to California, north to Washington, British Columbia, Montana, and South Dakota. Also in Florida.

**Marsilea tenuifolia** Engelm.; Kunze, Am. Journ. Sci. II. 6 : 89. 1848.Pierdenales, Texas (*Lindheimer*); western Texas (*Wright*).**PILULARIA** L. Sp. Pl. 1100. 1753.**Pilularia americana** A. Br. Monatsb. Kön. Akad. Wiss. Berlin 1863 : 435. 1863. PILLWORT.Several localities in California. Also in Arkansas (*Nuttall*) and Oregon (*Leiberg*).

## Family VIII. SALVINIACEAE Reichenb. Consp. 30. 1828.

**SALVINIA** Adans. Fam. Pl. 2 : 15. 1763.**Salvinia natans** (L.) Hoffm. Deutsch. Fl. 2 : 1. 1795. SALVINIA.*Marsilea natans* L. Sp. Pl. 1099. 1753.Bois Brulé Bottoms, Perry County, Missouri (*Demetrio*); central New York (*Pursh*).

**AZOLLA** Lam. Encyc. 1: 343. 1783.

**Azolla caroliniana** Willd. Sp. Pl. 5: 541. 1810.

New York to Florida, Arizona, California, and Oregon.

**Azolla filiculoides** Lam. Encyc. 1: 343. 1783.

California. Probably of wider range. Introduced at Springfield, Massachusetts (A. A. Eaton).

Family IX. EUISETACEAE Michx. Fl. Bor. Am. 2: 281. 1803.

**EQUISETUM** L. Sp. Pl. 1061. 1753.

**Equisetum arvense** L. Sp. Pl. 1061. 1753. COMMON HORSE-TAIL.

Virginia to California, north to Newfoundland and Alaska. Also in Greenland. Very variable, apparently presenting no stable subspecies.

**Equisetum pratense** Ehrh. Hannöv. Mag. 1784: 138. 1784.

Nova Scotia to Alaska, south to New Jersey, Minnesota, Nebraska, and Colorado.

**Equisetum telmateia** Ehrh. Hannöv. Mag. 1783: 287. 1783.

California to British Columbia.

**Equisetum sylvaticum** L. Sp. Pl. 1061. 1753. WOOD HORSE-TAIL.

Newfoundland and Labrador to Alaska, south to Virginia and Nebraska. Also in Greenland.

**Equisetum palustre** L. Sp. Pl. 1061. 1753. MARSH HORSE-TAIL.

Nova Scotia to Saskatchewan and Alaska, south to Maine, Connecticut, western New York, Illinois, Minnesota (?), and Washington.

**Equisetum littorale** Kuhl.; Rupr. Beitr. Pflanzenk. Russ. Reich. 4: 91. 1845. JOINT-GRASS.

Maine and Ontario to New Jersey and Pennsylvania, west to Minnesota (*Holzinger*).

**Equisetum fluviatile** L. Sp. Pl. 1062. 1753. SWAMP HORSE-TAIL. TOAD-PIPES. JOINT-GRASS.

*Equisetum limosum* L. Sp. Pl. 1062. 1753.

Nova Scotia to Alaska, south to Virginia, Kansas, and Washington.

**Equisetum ramosissimum** Desf. Fl. Atl. 2: 398. 1800.

Vancouver Island, British Columbia (*Lyell*). Also in southern California (*Davidson*).

**Equisetum mexicanum** Milde. Verhandl. k.-k. zoolog.-bot. Gesell. 12<sup>3</sup>: 1256. 1862.

San Bernardino and Los Angeles counties, California.

**Equisetum robustum** A. Br. Am. Journ. Sci. 46: 88. 1844.

New Jersey to Georgia and Louisiana, west to British Columbia and California.

**Equisetum hyemale** L. Sp. Pl. 1062. 1753. SCOURING-RUSH. PIPES. SHAVE-GRASS.

Quebec and New England to Virginia, Texas, California, Washington, and British Columbia.

**Equisetum laevigatum** A. Br. Am. Journ. Sci. 46: 87. 1844. SMOOTH SCOURING-RUSH.

New Jersey to North Carolina and Louisiana, west to British Columbia, Oregon, California, and Texas.

**Equisetum variegatum** Schleich. Cat. Pl. Helvet. 27. 1807.

Arctic America, south to New Brunswick, New Hampshire, New York, Nebraska, and Nevada. Also in Greenland.

**Equisetum seirpoides** Michx. Fl. Bor. Am. 2:281. 1803.

Labrador to Alaska, south to New Brunswick, Massachusetts, Pennsylvania, Illinois, Nebraska, Montana, and British Columbia. Also in Greenland.

## Family X. LYCOPODIACEAE Michx. Fl. Bor. Am. 2:281. 1803.

**LYCOPODIUM** L. Sp. Pl. 1100. 1753.**Lycopodium selago** L. Sp. Pl. 1102. 1753. FIR CLUB-MOSS.

Labrador to Alaska, south to Washington, Idaho, Michigan, northern New York, Vermont, Maine, and in the higher mountains to North Carolina. Also in Greenland.

**Lycopodium porophyllum** Lloyd & Underw. Bull. Torr. Club 27:150. *pl.* 2. f. 6-7. 1900.

Wisconsin; Indiana; Kentucky; Alabama (*Peters; Underwood*).

**Lycopodium lucidulum** Michx. Fl. Bor. Am. 2:284. 1803. SWAMP EVERGREEN. SHINING CLUB-MOSS.

Newfoundland and Prince Edward Island to Ontario and Minnesota, south to South Carolina, Tennessee, and Missouri.

**Lycopodium inundatum** L. Sp. Pl. 1102. 1753. BOG CLUB-MOSS. CROW'S-FOOT.

Newfoundland, Prince Edward Island, and Nova Scotia to New Jersey, Pennsylvania, Illinois, Michigan, and Ontario. Also from Washington to Alaska.

**Lycopodium inundatum bigelovii** Tuckerm. Am. Journ. Sci. 45:47. 1843.

Cape Breton Island and Nova Scotia to Vermont, Rhode Island, and New Jersey.

**Lycopodium chapmani** Underw., nom. nov.

*Lycopodium inundatum* var. *appressum* Chapm. Bot. Gaz. 3:20. 1878. Not

*Lycopodium selago* var. *appressum* Desv. Mém. Soc. Linn. Paris 6:180. 1827.

*Lycopodium adpressum* (Chapm.) Lloyd & Underw. Bull. Torr. Club 27:153. 1900.

*Lycopodium inundatum* var. *elongatum* Chapm. Bot. Gaz. 3:21. 1878. Not *Lycopodium elongatum* Sw. Syn. Fil. 175. 1806.

Massachusetts to Rhode Island and New York (Long Island), south to Florida, Alabama, and Louisiana. Coastal in its range.

**Lycopodium pinnatum** (Chapm.) Lloyd & Underw. Bull. Torr. Club 27:155. *pl.* 3. f. 27-30. *pl.* 4 in part. 1900.

*Lycopodium inundatum* var. *pinnatum* Chapm. Fl. So. U. S. ed. 1. 600. 1860.

*Lycopodium alopecuroides* var. *pinnatum* Chapm. Fl. So. U. S. ed. 3. 638. 1897. Florida and Georgia to Mississippi.

**Lycopodium alopecuroides** L. Sp. Pl. 1102. 1753.

Long Island, New York (*Clute*) to Florida, Alabama, and Mississippi. Mainly near the coast.

**Lycopodium carolinianum** L. Sp. Pl. 1104. 1753.

New Jersey to Florida and Mississippi.

**Lycopodium annotinum** L. Sp. Pl. 1103. 1753. STIFF CLUB-MOSS.

Newfoundland and Nova Scotia to Mackenzie and Alaska, south to Massachusetts, Pennsylvania, Michigan, Minnesota, Colorado, Idaho, and Washington. Also in Greenland. Includes the form known as var. *pubgens*.

**Lycopodium clavatum** L. Sp. Pl. 1101. 1753. RUNNING PINE. STAG-HORN EVERGREEN.

Labrador and Newfoundland to Alaska, south to Oregon, Saskatchewan, Minnesota, Wisconsin, Michigan, Pennsylvania, and southern New England.

**Lycopodium obscurum** L. Sp. Pl. 1102. 1753. GROUND PINE. TREE CLUB-MOSS.

*Lycopodium dendroideum* Michx. Fl. Bor. Am. 2: 282. 1803.

Newfoundland and Nova Scotia to North Carolina, Tennessee, Minnesota, and Montana. Also in Alaska.

**Lycopodium cernuum** L. Sp. Pl. 1103. 1753.

Florida, Alabama, and Mississippi; near the coast.

**Lycopodium sitchense** Rupr. Beitr. Pflanzenk. Russ. Reich. 3: 30. 1845.

Labrador to northern New England, New York, and western Ontario. Also from Idaho and Oregon to Alaska.

**Lycopodium sabinaefolium** Willd. Sp. Pl. 5: 20. 1810. GROUND FIR.

Prince Edward Island, northern New England, and Ontario.

**Lycopodium chamaecyparissus** A. Br. in Döll, Rhein. Fl. 36. 1843.

Maine to Georgia and Minnesota.

**Lycopodium complanatum** L. Sp. Pl. 1104. 1753.

Labrador and Cape Breton Island to British Columbia, south to Virginia, Indiana, Minnesota and Idaho.

**Lycopodium alpinum** L. Sp. Pl. 1104. 1753.

British Columbia to Alaska. Also in Greenland.

**PSILOTUM** Sw. Syn. Fil. 187. 1806.**Psilotum nudum** (L.) Griseb. Abh. Kön. Gesell. Wiss. Göttingen 7: 278. 1857.

*Lycopodium nudum* L. Sp. Pl. 1100. 1753.

Bluffton, South Carolina (*Mellichamp*); southern Florida.

## Family XI. SELAGINELLACEAE Underw. Our Native Ferns ed. 1. 103. 1881.

**SELAGINELLA** Beauv. Prodr. Aetheog. 101. 1805.\***Selaginella selaginoides** (L.) Link. Fil. Sp. Hort. Berol. 158. 1841.

*Lycopodium selaginoides* L. Sp. Pl. 1101. 1753.

*Selaginella spinosa* Beauv. Prodr. Aetheog. 112. 1805.

Labrador to New Hampshire, New York, Michigan, Saskatchewan, and Alaska. Also in Colorado and Greenland.

**Selaginella rupestris** (L.) Spring in Mart. Fl. Bras. 1<sup>2</sup>: 118. 1840.

*Lycopodium rupestre* L. Sp. Pl. 1101. 1753.

New England and Ontario to Georgia, west to California, Idaho, and British Columbia.

\* A number of new species of the *rupestris* group have recently been described by Dr. G. Hieronymus, from western North America. (*Hedwigia* 39: 290 *et seq.* 1900). Although several of these will probably prove valid, it has been thought best, on account of insufficient material, to exclude all from the list.

- Selaginella rupestris fendleri** Underw. Bull. Torr. Club **25**: 127. 1898.  
New Mexico and Colorado.
- Selaginella densa** Rydberg. Mem. N. Y. Bot. Gard. **1**: 7. 1900.  
Western Nebraska to Montana.
- Selaginella bryoides** (Nutt.) Underw. Our Native Ferns ed. 6. 138. 1900.  
*Lycopodium bryoides* Nutt.; Baker, Handbook Fern Allies 35. 1887.  
*Selaginella cinerascens* A. A. Eaton, Fern Bull. **7**: 33. 1899.  
Southern California.
- Selaginella watsoni** Underw. Bull. Torr. Club **25**: 127. 1898.  
High mountains of Utah, Nevada, and California.
- Selaginella mutica** D. C. Eaton in Underw. Bull. Torr. Club **25**: 128. 1898.  
New Mexico, Arizona, and Colorado.
- Selaginella tortipila** A. Br. Ann. Sci. Nat. V. **3**: 271. 1865.  
Macon County (*J. Donnell Smith*) and Broad River (*Rugel*), North Carolina;  
Caesars Head, South Carolina (*J. Donnell Smith*).
- Selaginella struthioloides** (Presl) Underw. Bull. Torr. Club **25**: 132.  
1898.  
*Lycopodium struthioloides* Presl, Rel. Haenk. **1**: 82. 1830.  
*Selaginella oregana* D. C. Eaton in Brewer & Wats. Bot. Cal. **2**: 350. 1880.  
Oregon and Washington.
- Selaginella arenicola** Underw. Bull. Torr. Club **25**: 541. 1898.  
*Selaginella arenaria* Underw. Bull. Torr. Club **25**: 129. 1898, not Baker.  
Florida and Texas.
- Selaginella rupicola** Underw. Bull. Torr. Club **25**: 129. 1898.  
New Mexico and Arizona.
- Selaginella bigelovii** Underw. Bull. Torr. Club **25**: 130. 1898.  
Southern California.
- Selaginella douglassii** (Hook. & Grev.) Spring, Mém. Acad. Brux. **24**<sup>1</sup>: 92.  
1850.  
*Lycopodium ovalifolium* Hook. & Grev. Icon. Fil. **2**: pl. 177. 1831, not Desv.  
*Lycopodium douglassii* Hook. & Grev. Bot. Misc. **2**: 396. 1832.  
Northern California to British Columbia.
- Selaginella apus** (L.) Spring in Mart. Fl. Bras. **1**<sup>2</sup>: 119. 1840.  
*Lycopodium apodum* L. Sp. Pl. 1105. 1753.  
Maine and Ontario to British Columbia, south to Florida, Alabama, Louisiana,  
and Texas.
- Selaginella ludoviciana** A. Br. Ann. Sci. Nat. IV. **13**: 58. 1860.  
Louisiana (*Drummond*); Alabama (*Mohr*); Florida (*Curtiss*).
- Selaginella lepidophylla** (Hook. & Grev.) Spring, Mém. Acad. Brux.  
**24**<sup>1</sup>: 72. 1850.  
*Lycopodium lepidophyllum* Hook. & Grev. Bot. Misc. **3**: 106. 1832.  
Texas to Arizona.
- Selaginella pringlei** Baker, Handbook Fern Allies 88. 1887.  
Chenete Mountains, Texas (*Nealley*).
- Selaginella pilifera** A. Br. Ind. Sem. Hort. Berol. App. **1857**: 20. 1857.  
Texas (*Wright*).

## Family XII. ISOETACEAE Torr. Fl. State N. Y. 2:514. 1843.

## ISOETES L. Sp. Pl. 1100. 1753. QUILLWORT.

**Isoetes lacustris** L. Sp. Pl. 1100. 1753.

Labrador to the Lake Superior region and New Jersey.

**Isoetes paupercula** (Engelm.) A. A. Eaton, comb. nov.

*Isoetes lacustris* var. *paupercula* Engelm. Trans. St. Louis Acad. Sci. 4:377. 1882.

*Isoetes occidentalis* Henderson, Bull. Torr. Club 27:358. 1900.

Colorado to California, Washington, and Idaho.

**Isoetes heterospora** A. A. Eaton, Fernwort Papers 8. 1900.

Jordan Pond, Mount Desert Island, Maine (*Rand*).

**Isoetes riparia** Engelm.: A. Br. Flora 29:178. 1846.

Along the banks of the Delaware River in the following localities: Near Philadelphia, Pennsylvania (*Zantzing*; *Durand*)\*; Camden, New Jersey (*Parker*; *D. C. Eaton*); Chester, Pennsylvania (*T. C. Palmer*); Wilmington, Delaware (*Commons*; *Canby*).

**Isoetes tuckermanni** A. Br. in A. Gray, Manual ed. 5. 676. 1867.

Maine, New Hampshire, Massachusetts, and Connecticut.

**Isoetes tuckermanni borealis** A. A. Eaton, Fernwort Papers 10. 1900.

Labrador (*Allen*); Epping, New Hampshire (*A. A. Eaton*); Mount Desert Island, Kennebago Lake (*Coville*), and Oldtown (*Harvey*), Maine.

**Isoetes hieroglyphica** A. A. Eaton, Fernwort Papers 10. 1900.†

Maine: St. Francis Lake; Moosehead Lake; Rangeley Lakes.

**Isoetes harveyi** A. A. Eaton, Fernwort Papers 11. 1900.

Oldtown and Mount Desert Island, Maine; Cambridge, Massachusetts (*Boott*).

**Isoetes foveolata** A. A. Eaton in Dodge, Ferns & Fern Allies New Eng. 38. 1896.

Epping, West Epping, East Kingston, and Newmarket, New Hampshire (*A. A. Eaton*); Meriden, Connecticut (*F. W. Hall*).

**Isoetes saccharata** Engelm. in A. Gray, Manual ed. 5. 676. 1867.

Banks of the Wicomico River, below Salisbury, and of the Nanticoke River, Maryland (*Canby*); Elk River, Maryland (*T. C. Palmer*); Four-Mile Run, near Washington, D. C. (*Steele*).

**Isoetes saccharata reticulata** A. A. Eaton in Steele, Proc. Biol. Soc. Wash. 14:49. 1901.

Hunting Creek, near Alexandria, Virginia (*Coville & Vasey*; *Marou*).

**Isoetes saccharata palmeri** A. A. Eaton in Steele, Proc. Biol. Soc. Wash. 14:49. 1901.

Lloyds Creek, Maryland (*T. C. Palmer*); Mount Vernon, Virginia (*Coville*).

**Isoetes melanospora** Engelm. Trans. St. Louis Acad. Sci. 3:395. 1877.

Georgia: Stone Mountain, (*Canby*; *Underwood*; *Boynton*); Little Stone Mountain, Lithonia (*Small*).

\* Locality now apparently destroyed by improvements.—*A. A. Eaton*.

† The Robinson & Schrenk, Quiddy Viddy Lake, Newfoundland, specimens are probably to be referred here.—*A. A. Eaton*.

- Isoetes echinospora braunii** (Durieu) Engelm. in A. Gray, Manual ed. 5. 676. 1867.  
*Isoetes braunii* Durieu, Bull. Soc. Bot. France 11 : 101. 1864.  
*Isoetes echinospora* var. *boottii* Engelm. in A. Gray, Manual ed. 5. 676. 1867.  
 Labrador and Greenland to Alaska, southward to New England, New Jersey, Pennsylvania, Michigan, Utah, and southern Washington.
- Isoetes echinospora robusta** Engelm. Trans. St. Louis Acad. Sci. 4 : 380. 1882.  
 Isle La Motte in Lake Champlain (*Pringle*); Epping, New Hampshire (A. A. Eaton).
- Isoetes echinospora muricata** (Durieu) Engelm. in A. Gray, Manual ed. 5. 676. 1867.  
*Isoetes muricata* Durieu, Bull. Soc. Bot. France 11 : 100. 1864.  
 Near the St. John at Madawaska, Maine (*Fernald*); Rockingham County, New Hampshire (A. A. Eaton); near Boston, Massachusetts; Lyme, Connecticut (*C. B. Graves*); Toms River, New Jersey (*Parker & Smith; Pollard*).
- Isoetes bolanderi** Engelm. in Parry, Am. Nat. 8 : 214. 1874.  
 Montana and Washington to western Colorado, Utah, and California.
- Isoetes pygmaea** Engelm. in Parry, Am. Nat. 8 : 214. 1874.  
 Mono Pass, California (*Bolander*).
- Isoetes macounii** A. A. Eaton, Fern Bull. 8 : 12. 1900.  
 Atka Island, Alaska (*Macoun*).
- Isoetes maritima** Underw. Bot. Gaz. 13 : 94. 1888.  
 Alberni, Vancouver Island, British Columbia (*Macoun*).
- Isoetes canadensis** (Engelm.) A. A. Eaton, comb. nov.  
*Isoetes riparia* var. *canadensis* Engelm. Trans. St. Louis Acad. Sci. 4 : 383. 1882.  
*Isoetes dodgei* A. A. Eaton, Fern Bull. 6 : 6. 1898.  
 Hastings County, Ontario (*Macoun*); East Wilton (*Fernald*), Cornish (*Chickering*), and Kennebunk, Maine; Uxbridge (*Robbins*), and Dedham (*Faxon*), Massachusetts; Brattleboro, Vermont (*Frost*); Kingston, New Hampshire (A. A. Eaton); Point Pleasant (*Best*), and Bethlehem, Pennsylvania.
- Isoetes eatoni** Dodge, Ferns & Fern Allies New Eng. 39. 1896.  
 Several localities in Rockingham County, New Hampshire. Also in Essex County, Massachusetts.
- Isoetes gravesii** A. A. Eaton, Fernwort Papers 14. 1900.  
 Connecticut: Goshen (*Underwood*); Lyme (*Graves*).
- Isoetes engelmanni** A. Br. Flora 29 : 178. 1846.  
 Maine to Delaware and Pennsylvania. Also in Illinois and Missouri.
- Isoetes engelmanni caroliniana** A. A. Eaton, Fern Bull. 8 : 60. 1900.  
 Several localities in North Carolina.
- Isoetes engelmanni valida** Engelm. in A. Gray, Manual ed. 5. 677. 1867.  
 Warriors Mark, Cornwall, and Smithville, Pennsylvania (*Porter*); Wilmington, Delaware (*Canby*); Salt Pond Mountain, Virginia (*Canby*); Great Falls, Maryland (*Ward*).
- Isoetes engelmanni georgiana** Engelm. Trans. St. Louis Acad. Sci. 4 : 384. 1882.  
 Georgia: Floyd County (*Canby*); Whitfield County (*Harper*).



- Isoetes howelli** Engelm. Trans. St. Louis Acad. Sci. 4 : 385. 1882.  
*Isoetes nuda* Engelm. Trans. St. Louis Acad. Sci. 4 : 385. 1882.  
*Isoetes underwoodii* Henderson, Bot. Gaz. 23 : 124. 1897.  
 Trinity and Calaveras counties, California; Dalles of the Columbia and Hood River, Oregon (*Howell*); Klickitat and Spokane counties, Washington (*Suksdorf*); Idaho (*Henderson*).
- Isoetes flaccida** Shuttlew.; A. Br. Flora 29 : 178. 1846.  
*Isoetes flaccida* var. *chapmani* Engelm. Trans. St. Louis Acad. Sci. 4 : 386. 1882.  
 Several localities in Florida.
- Isoetes melanopoda** J. Gay, Bull. Soc. Bot. France 11 : 192. 1864.  
 Several localities in Illinois. Clifton, Iowa (*Vasey*); Oklahoma (*Butler*); Exeter, Nebraska; Jackson County, Missouri.
- Isoetes melanopoda pallida** Engelm. Trans. St. Louis Acad. Sci. 4 : 387. 1882.  
 Texas: Dallas (*Reverchon*); Hempstead and Houston (*Hall*); Harrisburg (*Joor*); Columbia (*Bush*); Hockley (*Thurrow*).
- Isoetes butleri** Engelm. Bot. Gaz. 3 : 1. 1878.  
 Missouri, Oklahoma, and Tennessee.
- Isoetes butleri immaculata** Engelm. Trans. St. Louis Acad. Sci. 4 : 388. 1882.  
 Near Nashville, Tennessee (*Gatlinger*); St. Louis, Missouri (*Eggert*).
- Isoetes minima** A. A. Eaton, Fern Bull. 6 : 30. 1898.  
 Near Waverly, Spokane County, Washington (*Suksdorf*).
- Isoetes nuttallii** A. Br. in Parry, Am. Nat. 8 : 215. 1874.  
*Isoetes suksdorfii* Baker, Handbook Fern Allies 132. 1887.  
 Washington, Oregon, and Idaho; Vancouver Island, British Columbia (*Macoun*); Marin County, California (*Mrs. Brandegee*).
- Isoetes orcuttii** A. A. Eaton, Fern Bull. 8 : 13. 1900.  
 San Diego, California (*Orcutt*).

*Addition to Bibliography on page 623.*

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