

BIBLIOGRAPHY OF
CAULOPHYLLUM THALICTROIDES LINNE

MICHAUX

By

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A Thesis Submitted for the Degree of
GRADUATE IN PHARMACY

University of Wisconsin

1926

Linne, C. V.

1753.

Leontice Thalictroides.

Species Plantarum, Holmiae, 1, p. 312.

Gives general description of the drug *Leontice thalictroides*.

Michaux, A.

1803.

Caulophyllum Thalictroides.

Flora Boreali-Americana, 1, p. 204.

Gives a general description, habitat of *Caulophyllum thalictroides* with an illustration.

Ewell, J.

1817.

Cohush or Papoose Root. *Caulophyllum Thalictroides*.

Medical Companion, 3rd ed., p. 511.

Gives habitat, description of plant, medical uses of the root.

Rafinesque, C. S.

1828.

Caulophyllum thalictroides.

Med. Flor. N. Am. vol. 3, p. 97.

Gives English name, French name, German name, official name, 7 synonyms, description, history, locality, qualities and properties of the drug *Caulophyllum*.

Bigelow, J.

1840.

Hexandria; Monogynia. *Leontice Caulophyllum*.

Flor. Bostoniensis, 3 ed., p. 135.

Lists 1 synonym and description of the drug *Caulophyllum*.

Torrey, J. 1843.

Caulophyllum.

Flora State of N.Y., v. 1, p. 33.

Gives a description of the drug Caulophyllum.

Gray, A. 1848.

Caulophyllum Thalictroides.

A Manual of the Bot. of Northern S.; (Med. Plants of U.S. p. 45, 1852).

Lists 2 synonyms and a description of the drug Caulophyllum.

Bigelow, J. M. 1849.

Leontice Thalictroides.

Big. List Med. Pl. of Ohio, v. 1, No. 6. (Med. Plants of U.S. p. 45, 1852).

Lists 7 synonyms, description and uses of the drug Leontice thalictroides.

Clapp, A. 1852.

Leontice thalictroides.

Med. Plants of the U.S. p. 45.

Gives the properties of the drug Leontice thalictroides.

Lee, A. L. 1861.

Caulophyllum Thalictroides - Leontice Thalictroides.

Jour. Mat. Med., 3, p. 305.

Lee gives 2 synonyms, natural order, description of the drug, its value in medicine, its use in preparations. He also gives some of the constituents of the drug.

Bentley, F.L. S.

1863.

Caulophyllum Thalictroides.

Pharm. Jour. , p. 52; (Proc. Am. Pharm. Assoc., 11, p. 72.)

Lists the history, 3 synonyms, botany, generic character, specific character, habitat, collection, general characteristics, composition and chemical characteristics, medicinal properties, uses, administration, preparations and doses of the Caulophyllum.

Mayer, F.F.

1863.

Caulophyllum Thalictroides.

Am. Jour. Pharm., 35, p. 99; Proc. Am. Pharm. Assoc., 11, pp. 72 & 516.

States that drug contains a colorless alkaloid and a saponaceous principle.

Ebert, A. E.

1864.

On Caulophyllum Thalictroides (Blue Cohosh).

Am. Jour. Pharm., 36, p. 203; Proc. Am. Pharm. Assoc., 12, p. 96.

He discusses the analysis of the drug and gives the inorganic constituents of the drug.

King, J.

1864.

Caulophyllum Thalictroides.

Am. Dispens., 6 ed., p. 204; *ibid.*, 10 ed., p. 198.

Lists 1 synonym, description, history, properties, uses and official preparations of Caulophyllum.

Wood, G. B. & Bache, F. 1865.

Caulophyllum Thalictroides.

U.S. Dispens. 12 ed., p. 1488; *ibid.*, 13 ed., p. 1558;
ibid., 14 ed., p. 1608.

Lists 2 synonyms, description, habitat, part used,
uses, how administered and dose of Caulophyllum.

Bates, J. 1868.

Caulophyllum Thalictroides.

Jour. Mat. Med., 7, p. 257.

Lists natural order, 4 synonyms, generic description,
specific description, habitat, history, constituents,
properties, employment and preparations of the drug Caulo-
phyllum thalictroides.

Porcher, F. P. 1869.

Resources Southern Fields & Med. Bot. of S. States. Forests
new ed., p. 54.

Gives habitat, properties, uses, and doses of the
drug Caulophyllum.

Stille, A. & Maisch, J. M. 1879.

Caulophyllum Thalictroides.

Nat. Dispens., 2 ed., p. 373; *ibid.*, 3 ed., p. 406; *ibid.*,
5 ed., p. 428.

Lists 3 synonyms, natural order, origin, description,
constituents, medicinal action and uses of Caulophyllum
with illustrations.

Johnson, L. 1884.

Caulophyllum Thalictroides.

A Manual of the Medical Botany of N. Am., p. 78.

Gives 4 synonyms, description, habitat, part used, constituents, preparations, medical properties and uses of the drug Caulophyllum.

Johnson, L. 1884.

Caulophyllum.

Med. Bot. N. Am., p. 78.

Lists 3 synonyms, description, habitat, part used, constituents, preparations, medical properties and uses of the drug Caulophyllum.

Oldberg, O. & Wall, O. A. 1884.

Caulophyllum: U.S.

A Companion to the U.S. Pharmacopoeia, p. 300.

Gives 4 synonyms, the origin, habitat, part used, description, constituents, medicinal uses and dose of Caulophyllum.

Lloyd, J. U. & C. G. 1885.

Caulophyllum Thalictroides.

Drugs & Medicines of N. Am., v. 2, p. 141. (U.S. Dispens., 19 ed., p. 1438; *ibid.*, 20 ed., p. 1309.)

Gives part used, common name, botanical description, botanical history, geographical description, description of drug, commercial history, pharmacopoeial history, constituents, uses, homeopathic history and therapeutic action of the drug with map and illustrations.

Wood, G. B., Remington, J. P. & Sadtler, S. P. 1886.

Caulophyllum.

U.S. Dispens., 12 ed., p. 380.

Lists 1 synonym, description, properties and medical properties of Caulophyllum with 3 illustrations.

Bedford, P. W. 1887.

Caulophyllum.

Pharm. Rec., v. 7, p. 359.

Gives us 4 synonyms, the habitat, a description & some of the constituents of the drug Caulophyllum.

Lloyd, J. U. & Lloyd, C. G. 1887.

Caulophyllum - Blue Cohosh

Pharm. Rec., v. 7, p. 339.

Gives 1 synonym, part used, botanical description, geographical description, an illustration and the pharmaceutical preparation of Caulophyllum.

Millspaugh, M. D. 1892.

Caulophyllum Thalictroides.

Medicinal Plants, v. 1, Plate 16 & v. 2, app. p. 28.

Gives 8 common names, synonyms, description, history, habitat, part used, preparations, chemical constituents, physiological action of the drug. In volume 2, he gives 15 bibliographic references.

Bastin, E. S. 1893.

Starch of Caulophyllum.

Am. Drugg. & Pharm. Rec., 23, p. 250.

The writer tells that the starch of Caulophyllum is characteristic. The starch is minutely grained, mostly in aggregated globular masses. The grains do not polarize.

1893.

Caulophyllum Thalictroides.

Proc. Am. Pharm. Assoc., __, p. 115. U.S. Dispens., 19, ed., p. 1438.

Adolphus, J.

1897.

Restudy the Materia Medica.

Elec. Med. Jour., 57, p. 264.

The writer tells us the action and uses of the drug Caulophyllum.

Felter, H.W. & Lloyd, J. U.

1898.

Caulophyllum Thalictroides.

King's American Dispensatory, 18 ed., 3 rev., v. 2, p. 468.

Lists 3 synonyms, illustration, botanical source, history, description, chemical composition, action, medical usage, dosage, specific indication and uses of Caulophyllum and related drugs. Also gives an illustration of the drug.

Nelson, B. E.

1902.

An Analytical Scheme for the Microscopical Examination of Powdered Drugs. Caulophyllum.

Merck's Rept., 11, p. 264.

Lists 1 synonym, natural order, description and contents of powdered Caulophyllum.

Lloyd, J. U.

1905.

Concerning Substitutes and Adulterations of Caulophyllum.

Pharm. Rev., 23, p. 299.

The writer gives one synonym of Caulophyllum. He also states that the fiber of Caulophyllum is in itself a common adulterant of Hydrastis.

Brookland, T. H.

1907.

Medicinal Plants of North America. Caulophyllum Thalictroides.

Merck's Rept., 16, p. 94. (Dig. Com. U.S.P. & N.F. p. 20).

Lists 6 synonyms, habitat, part used, family order, describes the root, its internal structure, the rhizome and its structure, the axes above the ground, the inflorescence, the pedicel, the leaf of the drug *Caulophyllum*. He also gives 15 illustrations.

Henkel, Alice

1907.

Blue Cohosh. *Caulophyllum Thalictroides*. (L. Michx.)

Am. Root Drugs, p. 37; Dept. Agric., No. 107, p. 37; Bull. Bur. Plant Ind., U.S. (Dig. Com. U.S.P. & N.F. p. 201).

Lists 7 synonyms, habitat and range, description of plant, description of root stock, collection, prices, and uses of *Caulophyllum thalictroides*.

Kinyon, C.B.

1907.

Caulophyllum.

Tr. Am. Inst. Homoeop., 63rd session, p. 384; (Dig. Com. U.S. P. & N.F. p. 201.)

"He recommends the use of *Caulophyllum* in diseases of women when the patient is almost frantic or even delirious at times because of the pain."

Wood, H.C., Remington, J.P. & Sadtler, S.P.

1907.

Caulophyllum.

U.S. Dispens., 19 ed., p. 1437.

Lists 3 synonyms, gives description, uses and methods of administration of *Caulophyllum*.

Jones, E. G.

1908.

The True Action of *Caulophyllum* (Blue Cohosh).

Eclec. Med. Jour., v. 68, p. 368.

The writer gives 1 synonym of the drug. He tells of the true action of *Caulophyllum*.

Hare, H. A., Caspari, C. & 1909.
Rusby, H. H.

Caulophyllum Thalictroides.

The Nat'l. Stand. Dispens., 2 ed., p. 404.

Lists 4 synonyms, origin, description, constituents, substitutes, pharmaceutical preparations, action and uses of *Caulophyllum*.

Stockton, E. & Eldredge, C. G. 1909.

Caulophyllum Thalictroides - Proximate Examination of the Fruit.

Proc. Am. Pharm. Assoc., 57, p. 194.

The authors state that they have made a proximate examination of the fruit of blue cohosh.

Beringer, G. M. 1912.

Report of Committee on Unofficial *Caulophyllum* Standards.

Jour. Am. Pharm. Assoc., v. 1, p. 162.

Gives the Latin title, 5 synonyms, a description and ash limit of the drug *Caulophyllum*.

Gilmore, M. R. 1912.

Some Plants Used Medicinally by the Omaha Indians of Nebraska.

Merck's Rept., 21, p. 215.

States that the root of *Caulophyllum Thalictroides* was the favorite febrifuge used by these Indians.

Lloyd, J. U. 1913.

Constituents of Blue Cohosh.

Pharm. Era, 46, p. 194.

States that he has isolated the various constituents of *Caulophyllum*.

Power, F. B. & Salway, A.H. 1913.

Constituents of Caulophyllum.

Am. Drugg. & Pharm. Rec., 61, p. 84; (Chem. & Drugg., 82, p. 202; Am. Jour. Pharm., 85, p. 127).

The book gives us the constituents of Caulophyllum.

Wilbert, M. I. 1913.

A Quarterly Review of Some of the More Interesting Literature Relating to Pharmacy and Materia Medica.

Am. Journ. Pharm., 85, p. 127; (Pharm. Era, 46, p. 194).

Caulophyllum was found to contain two crystalline glucosides; the predominating one Caulosaponin, the other Caulophyllosaponin.

Hunsdale, A. E. 1916.

Caulophyllum.

Eclec. Med. Jour., v. 76, p. 259.

The writer says that Caulophyllum may be truly called the "homeopathic twilight sleep."

Dohme, A.R.L. 1917.

Caulophyllum.

Proc. N.W.D.A. p. 82; (Dig. Com. U.S.P. & N.F. p. 179).

"One lot of blue cohosh examined contained 5% of earthy material, 15% of twin leaf root, and 3% of unicorn."

Felter, H. W. 1918.

American Medicinal Plants - Caulophyllum.

Eclec. Med. Jour., 78, p. 256; (Dig. Com. U.S.P. & N.F.)

Lists 3 synonyms, a description, the uses of Caulophyllum. The active principle is leontin, a substance of considerable activity. Also gives an illustration of Caulophyllum thalictroides.

Remington, J.P., Wood, H.C., Sadtler, S.P., 1918.
LaWall, C. H., Kraemer, H. & Anderson, J.F.

U.S. Dispensatory, 20 ed., p. 1309.

Lists 3 synonyms, gives description and uses of Caulophyllum.

1919.

Caulophyllum.

S. R. A. Chem. Suppl. No. 61, p. 20 (Dig. Com. U.S.P. & N.F. p. 202).

"The Department of Agriculture reports that a sample of powdered blue cohosh examined yielded 15.73% ash, whereas the National Formulary provided that it shall not yield more than 6%."

Lloyd, J. U. 1921.

Caulophyllum Thalictroides.

Origin and History of all the Pharmacopoeial Vegetable Drugs, Chemicals and Preparations with Bibliography, v. 1, p. 55.

Is briefly discussed with Cimicifuga.

Fearn, ___ 1922.

Caulophyllum.

Eclec. Med. Jour. v. 82, p. 502.

Lists the habitat, 2 synonyms, the specific indication, uses, therapy, and the dose of Caulophyllum.

Felter, H. W. 1924.

Caulophyllum.

Eclec. Med. Jour., 84, p. 358.

Discusses the drug as to synonyms, action, uses and

specific indications of the drug Caulophyllum. Also states that its active principle of Caulophyllum is Leontin. Caulophyllum is an ingredient of "Mother's cordial".

Lists of Books Consulted.

- Barton, B. S. Collection toward an essay on Mat. Med. of U.S. Part I & II - 1798-1801.
- Barton, W.P.C. - Flora of N.A. - 2 vol.
- Barton, W.P.C. - Veg. Mat. Med. - 2 vol. 1817.
- Barton, W.P.C. - Compendium Florea Philadelphicae, 2 vol. 1818.
- Bentley, R. & Trimen, H. - Med. Botany - 4 vol. 1880.
- Bigelow, J. - Florula Bostoniensis - 1 ed, 1814.
- Bigelow, J. - Mat. Med. 1822.
- Clapp, A. - Med. Plants of U.S. - 1852.
- Coxe, J. R. - Am. Dispens., 1806, 1809, 1818, 1827.
- Cutler, M. - An Account of Some of the Vegetables etc. 1785.
- Flueckiger, F. A. & Hanbury, D. Pharmacographia, 1 ed., 1874.
- Forster, J. R. Flora Americae Septentrionatis, 1771.
- Gallinger, A. Med. Plants of Tenn. 1894.
- Hare, Caspari & Rusby - Natl. Standard Dispens., 1909.
- Henkel, Alice - Weeds Used in Medicine, 1904.
- " " - Wild Medicinæ Plants, 1906.
- " " - Am. Root Drugs, 1907.
- " " - Am. Barks, 1907.
- " " - Am. Leaves & Shrubs, 1907.
- " " - Am. Flowers, Fruits & Seeds, 1907.
- Henning, F. U.W.'23 - Thesis on Black and White Illustrations of Med. Plants.
- Hitchcock, __. A Catalogue of Plants Growing Without Cultivation in the Vicinity of Amherst College, 1829.
- Johnson, L. - Med. Bot. of N. Am. 1884.
- Kasson, M. U.W.'23 - Thesis on Colored Illustrations.

- King, J. - Am. Dispens., 1864, 1875, 1898, 1900.
- Lange, E. U.W.'23 - Thesis on Black & White Illustrations
of Med. Plants.
- Lee, J. R. U.W.'22 - Thesis on Colored Illustrations.
- Lee, C. A. - Med. Plants of N.Y. 1848.
- Linnaeus, C. - Species Plantarum, 1 ed., 2 vol. 1753.
- Lloyd, J. U. - Hist. of Pharmacopoeial Drugs, 1911.
- Lloyd, J. U. - Origin & Hist. of Pharmacopoeial Drugs, 1912.
- Lloyd, J. U. & C. G. - Drugs of N. Am., 2 vol. 1884-85.
- Oldberg & Wall - A Comparison to the U.S. Pharmacopoeia,
1884.
- Physician, An American - Ecler. Dispens.
- Porcher, F.P. - Med. Plants of S.C. 1849.
- Porcher, F. P. - Resources S. Fields & Forests, new ed.,
1869.
- Rafinesque, C.S. - Med. Flora of N. Am., 3 vol. 1828-31.
- Schoepf, J. D. Materia Medica Americana, 1787.
Bull. Lloyd Lib. Reproduc. Series)
- Smith, Peter - The Indian Doctor's Dispens., 1812.
- Michaux, A. Flora Americanae Boreali, 2 vol., 1803.
- Stearns, F. - Med. Plants of Mich., 1858.
- Stille, A. & Maisch, J. M. Nat'l. Dispens., 1879, 1884, 1894.
- Thacher, J. - New Am. Dispens., _ _
- Torrey, J. Bot. State of N.Y. - 2 vol., 1843.
- Williams, S. W. - Med. Plants of Mass., 1849.
- Wood, G. B. & Bache, F. - U.S. Dispens., 1834, 1836, 1839,
1843, 1854, 1865, 1873, 1879, & 1907.

Lists of Journals Consulted

- Am. Drugg. 1884-1891.
Am. Drugg. & Pharm. Rec. 1892-1924.
Am. Jour. Pharm. 1825-1924.
Bull. Pharm. 1886-1924.
Dig. Com. U.S.P. & N.F. 1905-1923.
Drugg. Circ. 1857-1925.
Eelec. Med. Jour. 1853-1924.
Jour. Am. Pharm. Assoc. 1912-1924.
Jour. Mat. Med. 1859-1880.
Merck's Report 1894-1924.
New Eng. Drugg. 1894-1903.
New Rem. 1876-1883.
Pharm. Era 1887-1923.
Pharm. Rec. 1884-1893.
Pharm. Rev.)
Pharm. Runds. N.Y.) 1892-1900
Proc. Am. Pharm. Assoc. 1852-1911.
West. Drugg. 1879-1924.
Yrbk. Am. Pharm. Assoc. 1912-1923.

History of Caulophyllum

in

U.S.P. 1820-1920 & N.F. IV

U.S.P. 1880 - p. 68.

CAULOPHYLLUM

Caulophyllum

(Blue Cohosh)

The rhizome and rootlets of Caulophyllum thalictroides Michaux (Nat. ord., Berberidaceae).

Rhizome about four inches (10 Centimeters) long, and about one-fourth to two-fifths of an inch (6 to 10 millimeters) thick, bent; on the upper side with broad, concave stem scars and short, knotty branches, externally gray-brown, internally whitish, tough and woody. Rootlets numerous, matted, about four inches (10 centimeters) long, and one twenty-fifth of an inch (1 millimeter) thick, rather tough; nearly inodorous; taste sweetish, slightly bitter and somewhat acrid.

U.S.P. 1890 - p. 82.

CAULOPHYLLUM

Caulophyllum

(Blue Cohosh)

The rhizome and roots of Caulophyllum thalictroides (Linne) Michaux (nat. ord. Berberidaceae).

Rhizome of horizontal growth, about 10 Cm. long, and about 6 to 10 Mm. thick, bent, on the upper side with broad, concave stem scars and short, knotty branches; externally grayish-brown, internally whitish, tough and woody. Roots

numerous, matted, about 10 Cm. long, and 1 Mm. thick, rather tough, nearly inodorous; taste sweetish, slightly bitter and somewhat acrid.

N.F. IV - p. 280.

CAULOPHYLLUM

Caulophyllum

Caulophyl - Blue Cohosh Papoose Root - Squaw Root.

The dried rhizome and roots of Caulophyllum thalictroides (Linne) Michaux (Fam. Berberidaceae).

Rhizome of horizontal growth, from 7 to 25 cm. in length and from 5 to 15 Mm. in thickness, much branched, slightly compressed from above, bearing large, cup-shaped stem scars on the upper surface, underneath a tangled or matted mass of long, curved, thin, tough roots which frequently conceal the rhizome; both rhizome and roots of a grayish or yellowish gray color; fracture tough and woody. Odorless, but sternutatory, taste bitter-sweet and acrid.

The powdered drug is light brown and, when examined under the microscope, it exhibits numerous starch grains, spherical in outline, mostly simple, up to 0.016 mm. in diameter; fragments of cork with cells about 0.05 mm. in diameter and having yellowish-brown walls; tracheae with bordered pores, the cells being up to 0.05 mm. in width; wood fibers with heavily lignified walls; fragments of parenchyma tissue with many of the cells containing starch grains. Caulophyllum yields not more than 6% of ash.

Summary of Data of U.S.P. 1820-1920

and N.F. IV.

Caulophyllum Thalictroides

Official in U.S.P. '80, '90, N.F. IV.

Official Latin Titles

Caulophyllum U.S.P. '80, '90, N.F. IV.

Official Abbreviation

Caulophyl N.F. IV

Official Synonyms

Blue Cohosh '80, '90

Blue Cohosh N.F. IV

Papoose Root N.F. IV

Squaw Root N.F. IV

Botanical Name

Caulophyllum Thalictroides, Michaux '80

" " Linne '90

" " (Linne) Michaux N.F.IV.

Family

Berberidaceae. U.S.P. '80, '90, N.F. IV.

Part used

Rhizome & Roots. U.S.P. '80, '90

Dried rhizomes & Roots. N.F.IV.

Description

U.S.P. 1880, p. 68.

Rhizome about four inches (10 centimeters) long, and about one-fourth to two-fifths of an inch (6 to 10 millimeters) thick, bent; on the upper side with broad, concave stem scars, short knotty branches, externally gray-brown, internally whitish, tough & woody. Rootlets numerous, matted, about four inches (10 centimeters) long, and one twenty-fifth of an inch (1 millimeter) thick, rather tough; nearly inodorous; taste sweetish, slightly bitter and somewhat acrid.

U.S.P. 1890, p. 82.

Rhizome of horizontal growth, about 10 cm. long, and about 6 to 10 mm. thick, bent, on the upper side with broad concave stem-scars and short, knotty, branches; externally whitish, tough and woody. Roots numerous, matted, about 10 cm. long, and 1 mm. thick, rather tough, nearly inodorous, taste sweetish, slightly bitter and somewhat acrid.

N.F. IV, p. 280.

Rhizome horizontal growth, from 7 to 25 cm. in length and from 5 to 15 mm. in thickness, much branches, slightly compressed from above, bearing large, cup-shaped stem scars on the upper surface, underneath a tangled or matted mass of long, curved, thin, tough roots which frequently conceal the rhizome; both rhizome and roots of a grayish or yellowish-gray color; fracture tough and woody. Odorless but sternutatory, taste bitter sweet and acrid.

The powdered drug is light brown and, when examined

under the microscope, it exhibits numerous starch grains, spherical in outline, mostly simple, up to 0.016 mm. in diameter, fragments of cork with cells about 0.05 mm. in diameter and having yellowish-brown walls; tracheae with bordered pores, the cells being up to 0.05 mm. in width; wood fibers with heavily lignified walls; fragments of parenchyma tissue with many of the cells containing starch grains. Caulophyllum yields not more than 6 per cent of ash.

Approved by W O Richtmann

Asst. Prof. of Pharmacognosy.