

Wildenow, G.

1797

(*Apocynum cannabinum*)

BIBLIOGRAPHY OF APOCYNUM CANNABINUM (LINNAEUS)

AND APOCYNUM ANDROSAEMIFOLIUM (LINNAEUS)

Describes this drug, and further gives its habitat.

Wildenow, G.

1797

(*Apocynum androsaemifolium*)

BY

FOSTER LLOYD COLBY

Linnaeus, *U.S. Dispens.*, 2 ed., p. 98

Linnaeus, *U.S. Dispens.*, 2 ed., p. 98

Gives a description of *apocynum androsaemifolium* and then gives its habitat.

Knapp, W. L.

1826

A Dissertation on the Properties of *apocynum cannabinum*.

A THESIS SUBMITTED FOR THE DEGREE OF

GRADUATE OF PHARMACY

States that *apocynum cannabinum* is a very valuable diuretic. It is supposed to be the first time that this drug was called to the attention of the medical profession; it seems, however, that the virtues of this drug were known to the aborigines before this time.

UNIVERSITY OF WISCONSIN

1928

Wildenow, C.

1797

(*Apocynum cannabinum*)

Linnis Species Plantarum; V.1., p. 1259  
(U.S. Dispens., 2 ed., p. 98)

Describes this drug, and further gives its  
habitat.

- - - - -

Wildenow, C.

1797

(*Apocynum androsaemifolium*)

Linnis Species Plantarum, V.1., p. 1259  
(U.S. Dispens., 2 ed., p. 98)

Gives a description of *apocynum androsaemifolium*  
and then gives its habitat.

- - - - -

Knapp, M. L.

1826

A Dissertation on the Properties of  
*Apocynum Cannabinum*.

Am. Med. Rev. and Journ., 3, p. 194 (U.S.  
Dispens; 2 ed., p. 98; U.S. Dispens; 21 ed.,  
p. 153; Therap. Gaz., 22; p. 732; S.G.L; V. 1,  
p. 488; Jour. Am. Med. Assoc; 77; p. 1865)

States that *apocynum cannabinum* is a very  
valuable diuretic. This is supposed to be  
the first time that this drug was called to  
the attention of the medical profession; it  
seems, however, that the virtues of this drug  
were known to the aborigines before this time.

- - - - -

Bigelow, J.

1819

Apocynum androsaemifolium

Am. Med. Bot., 2; p. 148 (U.S. Dispens; 2 ed;  
p. 98.

Gives the common names, its habitat, and  
describes the flowering part of the overground  
portion; he also includes a colored illustration  
and gives the constituents and uses of this drug.

American Physican

1827

Apocynum androsaemifolium.  
Ecleu, and Ge. Dispens., p. 591

Simply mentions the root as follows:

American Dog's Bone

Root Emetic

Coxe, J.R.

1827

Apocynum androsaemifolium - Dog's Bone

Am. Dispens., 7 ed., p. 85.

Discusses the general therapeutic uses, con-  
stituents, and also gives the habit of  
apocynum androsaemifolium.

Eglesfeld, G. R.

1832

The Vegetable Emetics of the United States

Am. Journ. Pharm., 4, p. 283

States that powdered root of Apocynum  
androsaemifolium proves a safe and effectual

emetic in doses from 30 to 40 grains. Further discusses the advantages and disadvantages of this drug.

Gri

Griscom, J. R.

1833

Observations on Apocynum Cannabinum

Am. Journ. Pharm., 5, p. 126; Am. Journ. Med. Sc., 12, p. 55; Therap. Gaz., 22, p. 732 (U.S. Dispens., 2 ed., p. 99; S.G.L., V. 1, S.1, p. 488; Journ. Am. Med. Assoc., 77, p. 1865)

Gives a botanical history, synonyms, the general characteristics of the overground and underground parts of the plant and further gives the constituents and medicinal properties of this drug.

Zollickoffer, W.

1833

Observations on the Use of Podophyllum

Peltatum and Apocynum androsaemifolium.

Am. Journ. Med. Sc., 12, p. 378 (Am. Journ. Pharm., 5, p. 253; S.G.L., S. 1, V. 1, p. 488)

Gives a general description of the latter plant, its habitat, four common names, chemical composition, physical properties, incompatibilities, and medicinal properties.

Original was not available.

Wood, G. B. and Bache, F. 1834

Apocynum cannabinum U.S. Secondary.

Indian Hemp.

(U.S. Dispens., 2 ed., p. 98; U.S. Dispens; 3 ed., p. 98; U.S. Dispens; 4 ed., p. 99; U.S. Dispens; 5 ed., p. 108; U.S. Dispens., 10 ed., 107; U.S. Dispens., 12 ed., p. 125; U.S. Dispens., 13 ed., p. 133)

Gives a general description of the root, its constituents, medicinal properties and uses.

Louise, W. H.

- - - - -

Wood, G. B. and Bache, F. 1834

Apocynum androsaemifolium U.S. Secondary.

Dog's-bone.

(U.S. Dispens., 2 ed., p. 98; U.S. Dispens., 3 ed., p. 97; U.S. Dispens., 4 ed., p. 99; U.S. Dispens., 5 ed., p. 107; U.S. Dispens., 10 ed., p. 106; U.S. Dispens., 12 ed., p. 125; U.S. Dispens., 13 ed., p. 132.)

Gives the U.S.P. definition, general characteristics, popular description, habitat, and medicinal properties of Dog's-bone.

apocynum cannabinum, and claims it has proven

to be powerful antiperiodic. The act of

1837

(American Ipecac)

(Apocynum androsaemifolium)

Bost. Med. and Sc. Journ., 17, p. 58 (S.G.L.J; S. 1 V. 1., p. 488.

Original was not available.

- - - - -

O'Shanghnessy, W. B.

1842

(Apocynaceae)

The Bengal Dispens., p. 448.

Lists apocynum androsaemifolium and apocynum cannabinum as members of the apocynaceae family, and then gives their common names and medicinal properties.

- - - - -

Lomme, W. H.

1857

Apocynum androsaemifolium or Dog's Bone in Dyspepsia.

Cincin. Med. Obs., 2, p. 393. (S.G.L. J. S.1 V. 1., p. 488)

The original was not available.

- - - - -

Cauthorn, R. S.

1858

New Antiperiodic

Am. Journ. Pharm., 30, p. 126 (Drugg Circ. 2, p.79.)

Discusses the therapeutic properties of apocynum cannabinum, and claims it has proven to be powerful antiperiodic. The action of this drug was discovered by an herb doctor, and it is sometimes called, "Dr. Rogland's Root of Man."

- - - - -

Lannon

1858

Apocynum androsaemifolium

Proc. Am. Pharm. Assoc., 2, p. 72 (U.S. Dispens., 13 ed., p. 132.)

Discusses the therapeutic properties of this drug and gives a method for administering it.

-----

Trent, P.

1859

Apocynum cannabinum as an antiperiodic In the Treatment of Intermittants.

South Med. & Sc. Journ., 15, p. 6 (Drugg. Circ; 3; p. 53.)

Reports his own favorable findings and results when he administered the root of apocynum cannabinum for ague.

-----

King, J.

1864

Apocynum androsaemifolium. Bitter- Root. Dog's-Bone.

Am. Dispens., 6 ed., p. 112; Am. Dispens., 8 ed., p. 113.

Gives a general description of the drug, history, common names, habitat, constituents, medicinal properties, and the official preparations into which this drug enters.

-----

Med. Rec. N. Y., 10; p. 480; S.G.L. Index, 1; series 1; p. 482)

The original was not available.

1864

## Apocynum Cannabinum

Buffalo Med. & Sc. Journ., 4, p. 44 (S.G.L. I,  
S. 1. V. 1; p. 488.)

The original was not available.

- - - - -

Mettauer, J. P.

1867

## Apocynum androsaemifolium In Dyspsia

Bost. Med. & Surg. Journ., 77; p. 230.  
(U.S. Dispensl., 13 ed., p. 133; S.G.L. S. 1,  
V. 1., p. 488)

Gives an account of the use of apocynum androsae-  
mifolium for the above mentioned purpose.

- - - - -

(A. Ph. A. Comm.)

1875

## Report on Adulterations and Sophistications

Proc. Am. Pharm. Assoc., 23; p. 501.

In a list of drugs that are often adulterated,  
says that Apocynum cannabinum is often substi-  
tuted for Apocynum androsaemifolium according  
to Wallace Brothers of Statesville, N.C.

- - - - -

Hutchins,

1875

Apocynum cannabinum; its value in Dropsical  
Affections.

Med. Rec. N. Y., 10; p. 460; S.G.L. Index, 1;  
series 1; p. 488)

The original was not available.

- - - - -

Ransom, 1877

Apocynum cannabinum

Trans. Ill. Med. Soc., 27, p. 121 (S. G. L. I, S. 2., V. 1, p. 581.)

The original was not available

- - - - -

Turner, H. C. (Mrs.) 1877

Apocynum

Floral Kingdom, p. 20

Gives a description of the overground parts of this plant. Further states that there is a drug sometimes called dogbone, because according to Pliny some of the species were supposedly fatal to dogs.

- - - - -

Palmer, E. 1878

Plants Used by the Indians of the United States.

Am. Journ. Pharm., 50, p. 588; (Proc. Am. Pharm. Assoc., 27, p. 168.)

"The Indians of southern Utah, California and Arizona used the fiber prepared from the stems of apocynum cannabinum plant to make ropes, twine, nets, and various articles of clothing."

- - - - -

Lloyd, J. U. 1879

Apocynum Cannabinum, Precipitate from Tincture

and Fluidextract.

Am. Journ. Pharm., 51, p. 235

Discusses the physical changes that take place when the tincture or fluidextract of apocynum is allowed to stand.

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

Apocynum cannabinum U. S. Indian Hemp and

Apocynum androsaemifolium U. S. Dog's Bone.

Nat. Dispens., 2 ed., p. 192; Nat. Dispens., 3 ed., p. 219; Nat. Dispens., 5 ed., p. 233.

Gives the habitat, general description of the overground and underground parts of both plants and then gives their constituents and medicinal properties.

Hurd, E. P. 1882

(Apocynum cannabinum)

New York Med. Journ., 22, p. 281 (Journ. Am. Med. Assoc., 77, p. 1865)

The original was not available.

Lloyd, J. W. 1881

Discussion of the Histology of the Roots of Apocynum cannabinum and Apocynum androsaemifolium.

Proc. Am. Pharm. Assoc., 29, p. 516

Says, that he has never been able to find a specimen of *apocynum androsaemifolium* on the market.

Maisch, J. M. *Pharm. Assoc.*, 29, p. 516. 1881

Discussion of the Histology of the Roots of *Apocynum cannabinum* and *apocynum androsaemifolium*.

*Proc. Am. Pharm. Assoc.*, 29, p. 516

Gives his own personal observations with the two species of *apocynum*; giving their similarities and dissimilarities. He states that the two drugs can be easily identified by their physical characteristics.

Manheimer, E. A. 1881

The Roots of *Apocynum androsaemifolium* and *apocynum cannabinum*.

*Am. Jour. Pharm.*, 53; p. 554 (*Ibid.*, 68, p. 193; *Proc. Am. Pharm. Assoc.*, 30; p. 180; *U.S. Dispens.*, 21 ed., p. 153)

Compares the two species of *apocynum* as to habitat, size and length of roots, color internally and externally, and as to the microscopic characters of their cross sections giving drawings of each.

States that *apocynum cannabinum* contains two substances, which belong to the digitalin group;

Saunders, W. 1881

Discussion of a Paper on the Histology of the Roots of *Apocynum cannabinum* and *apocynum androsaemifolium*.

Proc. Am. Pharm. Assoc., 29, p. 516.

Gives the habitat of these drugs which is chiefly northern North America.

- - - - -

Stewart, E. B. 1881

History of the microscopic Examination of the Rhizome of *Apocynum cannabinum* and *Apocynum androsaemifolium*.

Drugg. Circ., 25; p. 147; (Proc. Am. Pharm. Assoc., 29; p. 468. Nat. Dispens., 5 ed., p. 234)

Discussed the microscopic appearance of these drugs; gives the habitats of each; stated that *apocynum cannabinum* is more plentiful, hence is more largely collected; and that this species is frequently sold for *apocynum androsaemifolium*.

- - - - -

Schmiedeberg, O. 1883

(Contributions to the Knowledge of the Pharmacological Group of Digitalin)

Arch. f. exper. Path. U. Pharmakol., 16, p. 161; (Therap. Gaz., 4; p. 147; Am. Journ. Pharm., 55; p. 194; Journ. Am. Med. Assoc., 77; p. 1865; Chem. Soc. Jour., 95; p. 734.)

States that *Apocynum cannabinum* contains two substances, which belong to the digitalin group;

namely apocynin and apocynein; and that the action of apocynin is more violent than the action of apocynein.

-----  
 McPetridge, W. C. 1884

Isolation of Lacticiferous Vessels.

Am. Jour. Pharm., 56; p. 131; (Proc. Am. Pharm. Assoc., 32; p. 142)

Finds that apocynum cannabinum contains lacticiferous vessels and gives a drawing of a microscopical cross section showing the position of these vessels.

-----  
 Bastin, E. S. 1885

Microscopy of Apocynum cannabinum and apocynum androsaemifolium.

Pharmacist and Chemist, 18; p. 297; (Proc. Am. Pharm. Assoc., 34; p. 405)

Discusses these two species as to their habitats, common names, description of the overground plants, and gives a detailed microscopic description of both plants.

-----  
 Smith, A. H. 1886

The Treatment of Dropsy with Apocynum Cannabinum

Med. Record, 29; p. 217 (New Rem., 2; p. 207)

Gives the part of plant that is used, its common names, habitat, and then sights specific cases where either he or other doctors have found this drug to be useful in treating dropsy and that it also is a very good diuretic and tonic.

Plugge, P. C.

1887

The Active Principles of Digitalis and Their Therapeutic Substitutes.

Am. Drugg., 16; p. 23

In giving a list of the drugs which have a physiological action similar to that of digitalis includes apocynin and apocynein as two constituents obtained from the root of apocynum cannabinum.

Poppenhusen, H. A. C.

1888

Apocynum Cannabinum

Am. Journ. Pharm., 60; p. 168; (Proc. Am. Pharm. Assoc., 36; p. 330)

Gives a general description of the root structure, and constituents.

Sokoloff, D. A.

1888

(On The Action of the Root of Apocynum Cannabinum on the Heart and Vacular System In Warm Blooded Animals.)

Ejened. Klin. Gaz.,---; nos. 25, p. 507. (Med. Chronicle, 8; p. 466; U.S. Dispens., 17 ed., p. 185; Am. Jour. Pharm., 60, p. 581; Proc. Am. Pharm. Assoc., 37, p. 446; Drugg. Circ., 43, p. 280; Journ. Am. Med. Assoc., 77, p. 1865; New Rem, 4, p. 535)

Discusses the thirapeutic properties found as a result of expirementation with an infusion of the root in varying doses, administered intravenously.

- - - - -

Aynard, L.

1889

Etude Sur la Famille des Apocynees

Montpellier pamphlet, 4, p. 10 (S. G. L; S, 2; V. 1; p. 581.)

The original was not available.

- - - - -

Garcin, A. G.

1889

Recherches sur les apocynees; etude de botanique et de matiere medicale.

Pamphlet; Lyon; p. 256. (S. G.L.I; S. 2 V. 1, p. 581)

The original was not available.

- - - - -

Murray, G. R.

1889

The Physiological Action and Therapeutical Value of Apocynum Cannabinum.

Therap. Gaz., 13; p. 585. (Nat. Dispens., 5 ed., p. 234; S. G. L., S. 2 V. 1; p. 581; Jour. Am. Med. Assoc., 77, p. 1865)

Gives the common name of this plant, its habitat, physical description of the root, the constituents

as found by others, and compares the use of this drug with digitalis. He uses specific cases to prove his statements.

- - - - -

Parker, C. E.

1889

Adulterations of Euonymin and Other Resinoids  
Drugg. Circ., 33; p. 30

Discusses the adulteration of apocynin, saying that barium was a common adulterant.

- - - - -

Schmiedeberg, O.

1889

Apocynum cannabinum comme Medicament cardioque

Allg. Med. Centr. Zeit; 30, p. --; Pharm. ztschft. of Russland; --p. 106 (Apoth. Ztg, Rep., 5, p. 18; New Rem; 6; p. 179)

States that the root of apocynum cannabinum has two active ingredients, and that both of these constituents have a medicinal action similar to digitalis and strophanthus.

- - - - -

O'Connor, J. T.

1890

Apocynum androsaemifolium and Apocynum cannabinum.

Am. Homoeop. Pharm., 4 ed., p. 78

Gives the natural order, common names, habitat, general morphological description, and preparations of apocynum androsaemifolium and apocynum cannabinum.

- - - - -

Oefele, F. F.

1891

Apocynthein ien Herzgift aus Apocynum Venetum

Jour. Pharm. Eloass-Lothr; 18, p. 325.  
 (U. S. Dispens., 19 ed., p. 159)

Discusses the results of his research work on apocynum cannabinum. He isolated an alholoid which he called apocynthein; he found that is alholoid had medicinal properties similar to digitalis.

Petteruti, G. and Somma, E.

1893

Sugli effectti cordiocinetici e diuretici deel' apocinum cannabinum.

Policlin, (Roma) 1, pp. 233, 285, and 335.  
 (S. G. L. S. 2, V. 1, p. 581; Am. Jour. Pharm., 71, p. 91)

The original was not available

D'Amore, L.

1894

Sull' azione biologica dell' apocinina

Attid. XI Cong. Med. Internaz., Roma, Tharmacol, 64; and Progresso med., Napoli; 8, p. 145; (S.G. L. I; S. 2, V. 1, p. 581)

The original was not available.

Glinski, A. G.

1894

Koren Konop. tairiki pri bol. serdtza.

(Radix apocyni cannabinum in diseases of the heart)

Vrack, St. Petersb., 15, p. 171. (S.G.L., S. 2 V. 1., p. 581; New Rem., 10; p. 417; Med. Obozr.,

41; p. 478)

From experiments and research using the root of apocynum cannabinum found that this drug has a specific action on the heart.

Gray, R. B. 1894

Apocynum Cannabinum: Its use By the American Indians.

N.Y. Med. Journ., 60, p. 759 (Therap. Gaz., 22, p. 731; Jour. Am. Med. Assoc., 77, p. 1865; S. G. L. Index; S. 2. V. 1., p. 581.)

States "that in 1820 Judge John Gray acquired a knowledge of the virtues of this drug from the Chattarangus Indians, who called it, "Nunquot". It was used at that time for treating dropsy.

Lowery, J. H. 1894

Apocynum cannabinum

N. Y. Med. Journ., 60; p. 472 (Therap. Gaz., 22, p. 132; Jour. Am. Med. Assoc., 77, p. 1865.)

Discusses the use of apocynum cannabinum as a specific for the diseases of the great artery, the aorta, and in mitral diseases.

Massa, -- 1894

(Apocynaceae)

Allg. Homeopat. Zeit; --- ----(Proc. Am. Pharm. Assoc., 42, p. 868.)

Reports cases showing the diuretic action of  
apocynum cannabinum.

- - - - -

Wood, H. C. Remington, J. P. Sadtler, S. P. 1894

Apocynum U. S. Canadian Hemp  
U.S. Dispens., 17 ed., p. 185  
Gives the U. S. P. definition also gives the  
general characteristics of the two species,  
namely: apocynum cannabinum and apocynum  
androsaemifolium. Gives the habitat, con-  
stituents, medicinal properties and uses of this  
drug.

Beringer, G. M. 1895

The Apocynaceae in Materia Medica  
Am. Jour. Pharm., 67; p. 167  
Gives a general description of apocynum canna-  
binum and Apocynum androsaemifolium, a specific  
description of the rhizomes, time of collection,  
medicinal properties, and a list of synonyms.  
Further compares these two species as to habitats  
and anatomical structures.

Dochevski, I. I. 1895

О физwлогическан и терапевтическом деиствii  
zhidkoi vityazhki konopelnaro tainika

Vrach, St. Petersburg., 9; p. 629. (S.G.L., S. 2, Vo. 1, p. 581; Bul. Pharm; 10, p. 178)

States that the fluidextract possesses properties similar to digitalis in that apocynum shows the heart-beat, but more energetically and more regularly. It overcomes edema by augmenting circulation and diuresis and further gives an ordinary dose - 5 to 10 grains. Tid.

Fromont, L. 1895

Action cardioque de l'Apocynum cannabinum

Pamphlet--; Paris. (S.G. L., S.3, V. 1, p. 657)

The original was not available.

Glinski, A. G. 1895

Radix Apocyni cannabini

Pharm. Contreh., 36; p. 62 (New Rem., 11, p. 136)

Gives the preparations, dose, and uses of the root of apocynum cannabinum.

Kimball, J. P. 1895

Apocynum cannabinum: Its Use in Snake Bites

New York Med. Jour., 61, p. 21. (S.G.L., S. 2 V. 1, p. 581; Jour. Am. Med. Assoc., 77, p. 1865; Therap. Gaz., 22, p. 731.)

States that Indians chiefly, the Sioux and the Cheyennes, used this drug exclusively for the deadly bite of the rattlesnake. They would

put the powdered roots on the point of entrance of the fangs, and then an infusion of the root was taken internally.

Lapshin, A. 1895

(Apropos of the Application of Apocynum)

Urach. Zapiski, Mosk., 2, p. 332.

(S.G. L., 3, V. 1, p. 658)

The original was not available.

Lowe, C. B. 1896

Botanical Notes

Am. Jour. Pharm., 68, p. 193. (Proc. Am. Pharm. Assoc., 44, p. 568)

Discusses the substitution of one species of apocynum for another. Gives a chemical test to distinguish between them. Further states, "that these roots resemble each other very closely in structure, but there is a slight difference in their therapeutic properties, apocynum cannabinum being the more active.

Tarasoff, F. I. 1896

(On the Pharmacology of Canadian Hemp.)

Vestrik, Med., Kharkov; 1, p. 229. (S.G.L.I; S. 3, V. 1, p. 658)

The original was not available.

Jour. Am. Med. Assoc., 77, p. 1865; S.G.L. S.3  
V. 1, p. 568; Vratsh; 19, p. 227; New Remed., 14;  
p. 239; Bul. Pharm., 12, p. 81)

Gives the common names with historial deriviations,  
the uses of this drug, based upon eleven cases.

- - - - -

Andrews, M.

1898

(Apocynum Cannabinum

Med. Brief; ---p. --- (August) (Therap. Gaz., 22;  
p. 732)

"I can add that my twenty years' of experience in  
its use has given me absolute confidence in my  
ability to entirely discard the use of the trocar  
whenever a tincture, fluidextract, or infusion of  
the bark of the root of the genuine apocynum  
cannabinum can be obtained." Abstr. from Therap.  
Gaz.

- - - - -

Dabney, T. S.

1898

Apocynum cannabinum - "The Vegetable Trocar"

Therap. Gaz., 22; p. 730; (Am. Jour. Pharm., 71;  
p. 90; Drugg. Circ; 43; p. 280; Jour. Am. Med.  
Assoc., 77; p. 1865; S.G.L., S. 3, V. 1, p. 658)

Upholds the use of apocynum cannabinum he gives  
its therapeutic properties and in each case cites  
a specific instance where this drug has been  
found of value. "He states that this drug has  
advantages of a diuretic and heart tonic; only  
a small quantity is necessary to produce diuresis;

it has tonic properties, and lastly it is harmless."

Felter, H. W. & Lloyd, J. W. 1898

*Apocynum androsaemifolium*. Dog's Bone

King's Am. Dispens., 18 ed., 3 rev., V. 1, p. 228

Gives the botanical source, history, description, and common names of this plant. Explains the reason for the confusion of the common names applied indiscriminately to both species. Also gives the medicinal properties and the average dose of this drug.

Felter, H. W. & Lloyd, J. W. 1898

*Apocynum (Apocynum cannabinum)* Canadian Hemp, Bitter Root, Indian Hemp.

King's Am. Dispens., 18 ed., 3 rev., V. 1, p. 225

Gives botanical source, history of the plant, description of root, its composition, medicinal properties, and dose.

Jennings, M. C. 1898

"*Apocynum Cannabinum* Again"

Therap. Gaz., 22, p. 576;  
(Drugg. Circ., vol. 43, p. 280)

States, that he has used the fluidextract of *apocynum* in two cases for cardiac dropsy and one case didn't do any good; in fact it caused

cardiac poisoning in one case.

Kostkenich, A. I. 1898

Materiali K izucheniyuvliyaniya  
apocynini amorphi Merck 'a na  
krovoobrashtsheniye u kholodnokrovnskhi  
tyoplokrovnikh zhivotnikt (On the influence  
of Apocynum upon the blood circulation of  
cold and warm blooded animals.)

Pamphlet, St. Peterburg (S.G.L., S. 3, V. 3,  
p. 658)

The original was not available.

Millard, F. R. 1898

Some of the Uses of Apocynum Cannabinum.

Med. & Surg. Rept., 87, p. 93 (S.G.L. I.,  
S. 3, V. 1, p. 658)

The original was not available.

Turner, W. D. 1898

Apocynum Cannabinum

Therap. Gaz., 22, p. 806. (S.G.L. S. 3, V. 1, p.658)

Comments favorably on the therapeutic properties  
of apocynum cannabinum based on his own experience.

Kostkiewicz 1899

L'extrait fluide d'Apocynum cannabinum dans  
les hydropisies d'origiue cardiaque

New Rem., 15, p. 167.

Discusses the therapeutic properties of apocynum  
cannabinum.

Mayhugh, G. H.

1899

Apocynum cannabinum

Therap. Gaz., 15, p. 154 (S. G. L. I., S. 3, V. 1, p. 658)

Criticizes the therapeutic uses of apocynum cannabinum and then gives 3 cases of J. M. Shaller in which the drug was reported to be a very valuable cardiac stimulant.

- - - - -

Sayre, L. E.

1899

Shall Apocynum Be Dismissed from the Pharmacopoeia of 1900?

Drugg. Circ., vol. 43, p. 280.

Gives a history of this drug in the Pharmacopoeia and then reasons both pro and con concerning the dismissal of this drug from the U. S. Pharmacopoeia of 1900.

- - - - -

Chestnut, V. K. &amp; Wilcox, E. U.

1901

The Stock Poisoning Plants of Montana

U.S. D. A., Div. of Bot., Bull. No. 26, p. 57.

Thesis, A. Lang, U. W. 1919.

Includes apocynum cannabinum among the thirty-six poisonous plants of Montana.

- - - - -

"States that apocynum is a mild, irritant, yet positive diuretic, producing copious excretion of

Pieters, A. J. 1901

Hemp symptoms, unless in large doses.

Yrbk. U.S. D. A., p. 250

Thesis by Lang. U. W. 1919, p. 60

The cultivation of hemp for seed in Kentucky,  
Missouri, and eastern Kansas is discussed with  
illustration.

Carrier De Boissy, G. 1902

Contribution a' l'etude therapeutique de l'apocynum  
cannabinum.

Pamphlet, Lyon, (S.G. L., S.3, V. 1, p. 657)

The original was not available.

Dmitrenko, L. 1904

Sur un cas d' action rapide de l' apocynum  
cannabinum

Rev. geni de clin et de therap., Par., 18, p. 372.  
(S.G.L., S. 3, V. 1, p. 658)

The original was not available.

Best, W. P. 1904

Apocynum Cannabinum

Nat. Ecler. Med. Assoc. Trans., 32, p. 89; (Ecler.  
Med. Jour., 73, p. 244; Dig. of Com. on U.S.P., 1913,  
p. 186.)

"States that apocynum is a mild, unirritating, yet  
positive diuretic, producing copious excretion of

of limpid urine, unmarked by any untoward symptoms, unless in large doses."

Pawinski, J. 1904

Apocynum cannabinum comme Cardiaque et

Diuretique

Nowv. Remedies; 20, p. 121; (Proc. Am. Pharm. Assoc., 52, p. 667; Pharm. Journ; 72, p. 739, S.G.L. S. 3 V. 1, p. 658)

Discusses the physiological action of apocynum cannabinum and states that it is a valuable substitute for digitalis.

Robin, A. 1904

(Apocynum cannabinum)

Munch. Med. Woch; 51, p. 686 (Ibid., 56, p. 2320)

States that he uses apocynum cannabinum with theobromine, and then further gives an average dose.

Wood, H. C. Jr. 1904

A Study of Apocynum Cannabinum

Therap. Rev. 1, p. 86; (Jour. Am. Med. Assoc., 43, p. 1953; U. S. Dispens; 21 ed., p. 153; Jour. Am. Med. Assoc., 77, p. 1865; S.G.L. S. 3, V. 1, p. 658; Chem. Soc. Jour, 95, p. 734)

Discusses the physiological action of apocynum with specific reference to its action on the heart, and compares it with digitalis.

Eberle, E. G. 1905

Notes On Some Medicinal Plants of Texas

Proc. Am. Pharm. Assoc., 53, p. 304;  
(Dig. of Com. on U.S.P., 8 Rev., p. 113)

The author gives a list of official drugs growing in Texas; he includes apocynum cannabinum as one of them.

- - - - -

Frye, T. C. & Blodgett, E. B. 1905

A Contribution To The Life History of  
Apocynum Androsaemifolium.

Bot. Gaz., 40, p. 49 (Dig. of Com. on U.S.P.  
8 Rev., p. 113)

Gives the morphology of apocynum androsaemifolium, and further drawing to show individual characteristics.

- - - - -

Keys, J. 1905

(Apocynum cannabinum)

Abst. in Hahneman Month; 40, p. 397.  
(Dig. of Com. on U.S.P., 8 Rev. p. 113)

Discusses the therapeutic properties and uses of apocynum cannabinum.

- - - - -

Lloyd, J. U. 1905

Apocynum cannabinum (Indian Hemp)

Pharm. Rev., 23, p. 298. (Dig. of Com. on U.S.P.,  
8 rev., p. 113.)

States that this American drug has been confused with the Indian Hemp of India, because of its common name. He recommends the term Indian Hemp be dropped and the term Canadian Hemp adopted, if a common name for it is necessary.

- - - - -

Rusby, H. H.

1905

Adulteration of Vegetable Drugs

Mercks Rept., 14, p. 212; (Dig. of Com. on U.S.P., 8 rev; p. 113)

States that apocynum is a drug which is poorly understood, hence the roots of several species have been used indiscriminately. Due to this fact the drug has become discredited and fallen into disuse.

- - - - -

Shaller, J. M.

1905

Apocynin

Wis. Med. Rec., 8; p. 348. (S.G.L., S. 3, V. 1, p. 658)

Discusses the therapeutic and physiological action of apocynin. He states that it is a wonderfully effective resinoid with a digitalis - like action, but without its cumulative effects; further that it is a very good diuretic based upon clinical data.

- - - - -

Felter, H. W. 1906

Apocynum In Epilepsy

Eclec. Med. Jour; 66, p. 234; (Dig. of Com. on U.S.P; 8 Rev; p. 163)

States that a "specific apocynum" prepared from apocynum cannabinum is a specific for epilepsy, and that there is a difference in the therapeutic action of the two species. The indication for apocynum have evolved from apocynum cannabinum and transferred to the other species so that a pharmacopoeal tincture is not likely to meet the object of the prescriber.

- - - - -

Fyfe, J. W. 1906

Some of The Founder's Remedies

(Apocynum cannabinum)

Eclec. Med. Jour., 66, p. 320; (Dig. of com. on U.S.P., 8 Rev., p. 163)

Discusses the uses of this drug, he esteems it as a remedy in treating some forms of dropsy and indigestion. He also gives an average dose for this drug.

- - - - -

Hure, W. H. 1906

Apocynum In Sciatica

Eclec. Med. Jour., 66, p. 96; (Dig. of Com. on U.S.P., 8 Rev., p. 163)

Discusses the therapeutic properties of Apocynum

cannabinum with specific reference to its use in  
 sciatica.

Henkel, Alice 1906

Wild Medicinal Plants of The United States.

Bus. Plant Ind., U.S. D.A., Bull. 89, p. 11;  
 (Dig. of Com. on U.S.P., 8 rev., p. 162)

Gives three common names of apocynum cannabinum,  
 also gives its habitat, life history, and part  
 used.

Kraemer, H. 1906

Report of the Committee on Drug Adulterations  
 Proc. Am. Pharm. Assoc., 54., p. 33; (Dig. of  
 com. on U.S.P., 8 rev., p. 163)

States that a spurious root is being substituted  
 for apocynum; Apocynum has a circle of stone  
 cells in the bark near the combium.

Schneider, A. 1906

The Medicinal Plants of the California Indians

Pacific Pharm., 1; p. 303 (Merck's Rept., 15, p. 65;  
 Dig. of Com. on U.S.P; 8 rev., p. 162)

This is a common plant of California, and the  
 Indians used the fiber from apocynum cannabinum  
 for weaving.

Farwell, O. A. 1907

Adulterations and Substitutions of Crude  
Drugs.

Merck's Rept., 16, p. 220; Dig. of Com. on  
U.S.P., 8 rev., p. 153)

States that the apocynum on the market is not  
obtained from *Apocynum androsaemifolium*, but  
*Apocynum cannabinum*. The reason that *apocynum*  
*androsaemifolium* is not collected is due to the  
fact that it is chiefly a northern species and  
unknown to collectors. Compares the two species  
as to their physical characteristics.

Gane, E. H. 1907

Report of Committee On Drug Market

Proc. Am. Pharm. Assoc., 55, p. 318.,

(Dig. of Com. on U.S.P., 8 rev., p. 153)

"Points out that the percentage of alcohol  
in the fluidextract of *Apocynum* varies with  
the method of determination and the amount of  
water and extractive contained in the drug."

Henkel, Alice 1907

Black India Hemp. (*Apocynum Cannabinum*)

Bus. Plant Ind., U.S.D.A. Bul. No. 107; p, 55;  
(Dig. of Com. on U.S.P., 8 rev., p. 153)

Gives the pharmacopoeial name, common names,  
habitat, description of the plant and then

discusses the other species that have been confused with the official drug. Further gives a detailed description of the rootstock, time of collection, price, and its therapeutic virtues.

- - - - -

Lehr, W. T.

1907

Apocynum Cannabinum (Bitter Root)

Eclectic Med. Jour. 67, p. 479; (Dig. of Com. U.S.P., 8 rev., p. 153)

Discusses the physiological effect of apocynum and result when used in treating dropsy. Gives other uses of this drug such as emetic, cathartic, diuretic, alterative and tonic.

- - - - -

Wood, H. C, Remington, J.P & Sadter, S.P. 1907

Apocynum U.S. Canadian Hemp, Black Indian Hemp, Dog's-Bone.

U.S. Dispens., 19 ed., p. 158; U.S. Dispens., 20 ed., p. 1259.

Gives the Pharmacopoeial definition, general characteristics of the two species, with their variations, habitat, constituents, medicinal properties, and official preparations.

- - - - -

Beringer, G. M.

1908

Fluidglycerates

Drugg. Circ., 52; p. 551; (Proc. Am. Pharm. Assoc., 56, p. 986; Dig. of Com. on U.S.P., 1908, p. 171)

"Outlines a formula for preparing fluidglycerates of apocynum, which he believes to be an excellent form for exhibition of its action." Further gives the physical characteristics of the fluidglycerate.

- - - - -

Beringer, G. M. 1908

Some Minor Suggestions For Improvements In  
The United States Pharmacopoeia

Am. Jour. Pharm., 80; p. 430; Proc. New Jersey Pharm. Assoc., ---; p. 89; Proc. Am. Pharm. Assoc., 56, p. 526, (Dig. of Com. on U.S.P., 1908; p. 170)

Quotes the U.S.P. definition and then comments on its faults, giving suggestions for an improvement.

Kornacker, A. 1908

The Indicated Remedy. Apocynum.

Eclectic Med. Gleaner; 4, p. 3 (Dig. of Com. on U.S.P., 1908; p. 171.)

Asserts that the specific action of apocynum is upon the blood vessels and heart; that this drug possesses decided cathartic properties, but is seldom used as an intestinal evacuant.

Finnemore, H. 1908

The Constituents of Canadian Hemp.

(Apocynin)

Jour. Chem. Soc., 93, p. 1513; (Dig. of Com. on U.S.P., 1908; p. 170; Jour. Chem. Soc., 95; p. 734.)

Discusses the constituents, especially apocynin, phenolic derivatives, and then a new method for synthesizing it.

- - - - -

Gray, A. 1908

( Apocynum )

New Manual of Bot., 7 ed., p. 662. (Chem. Soc. Jour., 95; p. 734)

Gives a general description of the characteristics of apocynaceae family, and then gives a more specific description of apocynum androsaemifolium and apocynum cannabinum.

- - - - -

Korndoerfer, A. 1908

(Apocynum Cannabinum)

Eclec. Rev., 11; p. 25 (Dig. of Com. on U.S.P., 1908; p. 171)

"Says, this drug deserves special mention, because of its marked influence over dropsical conditions developed in many heart cases."

- - - - -

Sayre, L. E. 1908

Some Unforeseen Problems Connected with the Food and Drug Law.

Merck's Rept., 17p p. 4 (Dig. of Com. on U.S.P., 1908, p. 171)

"Points out that the menstrum for fluidextract of apocynum was changed from 60 per cent alcohol and 10 per cent glycerin in the U.S.P. 1890, to 51 per cent of alcohol and 10 per cent of glycerin in the U.S.P. 1910."

- - - - -

Tunmann, O. 1908

Mikroskopisch pharmakognostische Beiträge zur Kenntnis einiger neuerer Arzneidrogen  
Pharm. Zentraeh; 49; p. 299. (Dig. of Com. on U.S.P., 1908, p. 170)

In this article the author describes and illustrates the pharmacologic and microscopic characteristics of the rhzome of apocynum cannabinum.

- - - - -

Beringer, G. M. 1909

Microscopical Examination of Powdered Drugs.  
(Apocynum)

Proc. Am. Pharm. Assoc., 57; p. 811. (Dig. of Com. on U.S.P., 1909; p. 247)

"Says that the definition of apocynum certainly needs revision, and that the descriptions would be improved by addition of the histologic characters of the drug and the common adulterants."

- - - - -

Finnemore, H. 1909

Cyanotoxin

Proc. Chem. Soc., 25, p. 77; (Apoth. Zeitz; 24; p. 491; Am. Jour. Pharm. 81; p. 423; U.S. Dispens; 21 ed., p. 153)

Discusses a new substance isolated from apocynum, called cyanotoxin. Gives its physical properties and formula.

- - - - -

Finnemore, H.

1909

Apocynin Aceto-Vanillone - Characters and Synthesis

Proc. Chem. Soc., 24; p. 344; (Proc. Am. Pharm. Assoc., 57, p. 390)

The active constituent of apocynum is apocynin or aceto-vanillone, which is present in the root; describes the physical characteristics, its chemical characteristics, and a synthetic method for preparing apocynin.

- - - - -

Fyfe, J. W.

1909

(Apocynum cannabinum)

Ecler. Rev., 12; p. 83. (Dig. of Com. on U.S.P., 1909; p. 247)

"States that this drug is a remedy of varied usefulness, but is perhaps more frequently employed in the treatment of dropsy."

- - - - -

Gone, E. H. & Webster, M. H.

1909

Pharmacopoeial Notes and Comments

Drug Topics., 24; p. 341; (Dig. of Com. on U.S.P., 8 Rev., p. 247)

States that the uncertainty surrounding the action of apocynum and the difficulty in obtaining the true species has resulted in the fact that this drug is falling into disuse.

Graham, J. C. W.

1909

The Pharmacology of Apocynum Cannabinum

Bio-Chem. Jour., (Liverp.) 4., p. 385. (S.G.L., S. 3. V. 1; p. 658., Dig. of Com. on U.S.P. 1909; p. 248)

"Discusses the pharmacology of this drug, and presents a report on a number of observations illustrated by tracings."

Howes, P. E.

1909

(Apocynum)

Jour. Therap. & Dietet., 3; p. 218; (Dig. of Com. on U.S.P., 1909, p. 247)

"Asserts that apocynum is one of the remedies on which one can place great reliance in the treatment of oedema in rheumatic patients."

Kraemer, D. F.

1909

Ein Beitrag Zur Wirkung des fluidextracti

Apocyni cannabinici.

Munch. Med. Woch., 56; p. 2320 (New Rem., 26, p. 172; S.G.L. Index; Series 3, V. 1; p. 658; Merck's Ann. Rept; 23; p. 198; Dig. of Com. on U.S.P., 8 Rev., p. 248)

Lists the active constituents of Apocynum cannabinum and then discusses the therapeutic properties with specific reference to its fluidextract.

-----

Laidlaw, P. P. 1909

The Active Principle of Apocynum Cannabinum

Proc. Physiol. Soc., Jour. Physiol., 38; p. 76.  
(Dig. of Com. on U.S.P., 1909; p. 248; S.G.L.,  
S. 3, V. 1, p. 658.)

"Gives a preliminary note on the pharmacological action of a crystalline substance isolated from this drug, by H. Finnemore to which the name cynotoxin has been given."

-----

Leming, W. 1909

(Apocynum cannabinum)

Jour. Therap. & Dietet; 4, p. 305 (Dig. of Com on U.S.P., 1909; p. 247)

"States that the specific indications for apocynum are enfeebled heart action and circulation with cellular fullness and dropsy."

-----

Lloyd, J. U. 1909

Apocynum (Old Domestic Name (Dog's Bone)

Eclectic Med. Jour., 69., p. 454. (Dig. of Com. on U.S.P., 1909., p. 247)

States that this is a very valuable drug and that it has the confidence of the physicians who know how to use it; but due to the fact it is bitter and over doses are distressing its use is rather limited. Research carried out under the direction of B. Power it was found that from apocynum a poison capable of illing dogs in a very short time was obtained.

Moore, C. W.

1909

The Constituents of the Phizome of Apocynum Androsaemifolium.

Jour. Chem. Soc., 95, p. 734. (New Rem., 26, p. 227; Apoth. Zeitg; 24, p. 491; Am. Jour. Pharm., 81; p. 423; Proc. Am. Pharm. Assoc., 58, p. 185; Schimmels Semi-An. Rept., Oct. 1909, p. 17; Dig. of Com. on U.S.P., 1909, p. 247, U.S. Dispens, 21 ed., p. 153)

Gives a list of the constituents of the rhizome of apocynum androsaemifolium, and a process for isolating the different constituents.

Rusby, H. H.

1909

The Federal Law and the Pharmacopoeia

Bull. Am. Pharm. Assoc., 4, p. 188; (Pharm. Era., 42, p. 633; Dig. of Com. on U.S.P., 1909, p. 247)

The Pharmacopoeia says, "that it is the rhizome of Apocynum cannabinum or closely allied species that is official." He then states that the phrase "closely allied species" is too indefinite and

no one can tell which species they might have.

- - - - -

Comm. A. Ph. A.

1910

Report of Committee On Physiological Assay

Proc. Am. Pharm. Assoc., 58, p. 941, Jour.  
Am. Med. Assoc., 56, p. 232 (Dig. of Com on  
U.S.P., 1910; pp. 232 and 310.)

"Discusses the adoption of a physiological method  
of assaying apocynum."

- - - - -

Dale, H. H. and Laidlaw, P.P.

1910

L'Action d'un Principe actif d'apocynum

Nour. Remedes., 26, p. 343; (Dig. of Com. on  
U.S.P., 1910; p. 310; U.S. Dispens, 20 ed., p.  
1260; U.S. Dispens., 21 ed., p. 154; Jour. Am.  
Med. Assoc., 77, p. 1865., S.G.L., S. 3 V. 1, p.658)

Gives a report on the effects of the active  
principles of Apocynum cannabinum and apocynum  
androsaemifolium; further states that cynotovine  
is obtained from apocynum cannabinum and that  
apocynamine is obtained from apocynum androsaemi-  
folium. In regards to its action this drug seems  
to be more irritating to mucous membranes than  
either digitalis or strophanthus. This report  
shows too, that this drug is a powerful diuretic.

- - - - -

Editor,

1910

Apocynum

Am. Dugg. & Pharm. Rec., 57; p. 165.

Gives the constituents of apocynum, together with the names of the men who first isolated them and also states that active principles of this drug act similar to those of the digitalis series.

- - - - -

Forbush, A. W. 1910

Apocynum Cannabinum

Jour. Therap. & Dietet; 5; p. 10 (Dig. of Com. on U.S.P., 1910; p. 232; S.G.L. S. 3, V. 1., p. 658)

"States that the keynote of apocynum is atony, a condition permitting leakage from the circulatory system."

- - - - -

Gehe & Co. 1910

Extractum Apocyni cannabini fluidum

Handels-Bericht., 1910; p. 118; (Dig. of Com. on U.S. P., 8 rev., p. 310)

Apocynum is gradually being introduced in Germany as a diuretic and cardiac. Its action on the heart is quicker than digitalis, but its duration of activity is shorter.

- - - - -

Githens, T. S. & Vanderkeud, C. E. 1910

Physiologic Standardization of Cardiac Stimulants and Depressants.

Proc. Am. Pharm. Assoc., 58; p. 918; (Dig. of Comm. on U.S. P., 8 rev., p. 310)

"Discusses the physiologic standarization of cardiac stimulants, and then presents a standard for the fluidextract and tincture of apocynum."

- - - - -

Holm, T.

1910

Medicinal Plants of North America

Merck's Rept., 19, p. 277 (Proc. Am. Pharm. Assoc., 59; p. 151; Dig. of Com. on the U.S.P., 8 rev., p. 310, (U.S. Dispens., 20 ed., p. 1259; Ibid., 21 ed., p. 153)

Gives the United States Pharmacopoeial definition, constituetns, medicinal uses of apocynum; further gives a botanical characterization together with illustrations of microscopical structure.

- - - - -

La Wall, C. H., & Bradshaw, H. A.

1910

Ash Standards In Drugs - Are they Necessary?

Proc. Am. Pharm. Assoc., 58, p. 751; (Dig. of Com. on U.S. P., 1910, p. 310)

Gives the ash content of apocynum cannabinum as 3.4%.

- - - - -

Leming, W.

1910

The Eclectic League For Drug Research.

Eclect. Med. Jour. 70; p. 344; (Dig. of Com. on U.S.P., 1910, p. 310)

Gives a general report on the uses of apocynum cannabinum. He states that this drug is a cardiac

stimulant, antirheumatic, diuretic, and  
cathartic.

- - - - -

Rusby, H. H. 1910

The Physical Standards of the United States  
Pharmacopoeia.

Drugg. Circ., 54, p. 616; (Dig. of Com. on U.S.P.,  
1910; p. 310; Pharm. Era., 44; p. 94; Dig. of Com.  
on U.S.P., 1010; p. 231.)

Discusses the definition of apocynum, stating that  
it is faulty, further that the proper requirements  
for this drug cannot be established until the  
proper species has been determined.

- - - - -

Sloat, H. G. 1910

Apocynum cannabinum.

Hahnemann. Month., 45; p. 52; (Dig. of Com. on  
U.S. P., 1910, p. 310)

"Reports his observations on the use of apocynum  
as a remedy in the routine treatment of alcoholism."

- - - - -

Coleman, D.E.S. 1911

Apocynum Cannabinum, an Antidote For Alcoholic  
Poisoning.

Eclec. Med. Gleaner., 7., p. 424., (Dig. of Com. on  
U.S.P., 1911; p. 231)

Discusses the use of apocynum cannabinum as an  
antidote for alcoholic poisoning.

Editor 1911  
 Cardiac Tonics of Minor Importance (Canadian  
 Hemp)

Jour. Am. Med. Assoc., 56; p. 967. (Dig. of  
 Com. on U.S.P., 1911; p. 231)

Gives a description, local action, systemic  
 action, toxic symptoms of Canadian hemp.

Further gives its official and unofficial  
 preparations, and lastly a discussion on the  
 administration of the drug.

- - - - -

Lloyd, J. U. 1911  
 Apocynum

Bull. Lloyd. Libr., No. 18; p. 5 (Dig. of Com.  
 on U.S.P., 1911, p. 231)

Gives the common name, medicinal properties,  
 and history of apocynum cannabinum.

- - - - -

Mac Farlan, M. 1911  
 (Apocynum Cannabinum)

Jour. Am. Inst. Homoeop., 3., p. 914;  
 (Dig. of Com. on U.S.P., 1911, p. 231)

"Discusses the action of Apocynum Cannabinum  
 in some forms of Bright's disease."

- - - - -

Cartier, F. 1912  
 Uses of Apocynum Cannabinum)

Jour. Am. Inst. Homoeop., 4., p. 145. (Dig. of  
 Com. on U.S.P., 1912, p. 186)

"Discusses the uses of this drug, saying that it is a diuretic and recent physiologic experiments class it among the cardiac medicaments."

- - - - -

Lloyd, J. U.

1912

(Apocynum)

Nat. Eclect. Med. Assoc., quart., 4; p. 133.  
(Dig. of Com. on U.S.P., 1912, p. 186)

"States that the reputation of apocynum was made by the aqueous preparation."

- - - - -

Neidham, R. H.

1912

Practical Suggestions On Pharmacopoeial Revision

Jour. Am. Pharm. Assoc., 1, p. 1346; (Dig. of Com. on U.S.P. 1912; p. 185)

"Discusses the uses of Apocynum, stating that this drug is a very good diuretic, but it is not as good as digitalis."

- - - - -

Moerke, A. C.

1912

(Apocynum)

Ellingwood's Therap. 6., p. 411. (Dig. of Com. on U.S.P. 1912, p. 186)

"States that this drug is a good remedy for dropsy and a vegetable trocar when used in the right cases."

- - - - -

Ruble, W. R.

1912

Kidney Affections: Their Results and Treatments

Eclectic Med. Jour., 72; p. 390. (Dig. of Com.  
on U.S.P. 1912, p. 186)

States that apocynum is a very good remedy for  
the treatment of acute or chronic kidney ailments.

- - - - -

Thomas, R. L.

1912

(Apocynum)

Nat. Eclectic Med. Assoc., quart; 4; p. 133.  
(Dig. of Com. on U.S.P., 1912, p. 185)

"States that this drug yields its properties better  
to an acueous decostion than to an alcoholic  
preparation."

- - - - -

Allard, ---

1913

(Apocynum Cannabinum)

D. M. W., 39; p. 783. (U.S. Dispens., 20 ed., p.  
1260)

The original was not available.

- - - - -

(A. Ph. A. Comm.)

1913

Report of Committee on Drug. Market

Journ. Am. Pharm. Assoc., 2; p. 685.

States that no one yet knows which species ought  
to be used, nor how to identify it, according  
to H. H. Rusby.

- - - - -

Editor

1913

## Notes on New Remedies - Apocynamarin.

Am. Drugg. & Pharm. Rec. 61; p. 232. (Drugg. Circ; 57; p. 329)

Apocynamarin is a new preparation of apocynum cannabinum; this preparation is extracted by petroleum ether and purified by recrystallization. It consists of colorless crystals and has a strong, bitter taste.

- - - - -

Ellingwood, F.

1913

(Apocynum)

Nat. Eelect. Med. Assoc., Quart., 5, p. 123; (Dig. of Com. on U.S.P., 1913, p. 186)

"Says, that while apocynum is reputed to be an excellent remedy for dropsy many physicans are never able to get any results themselves."

- - - - -

Bayer &amp; Co.

1913

Darstellung des therapeutisch wichtigen wirksamen Prinzips aus apocynum

Pharm. Zeitz., 58; p. 168 (Apoth. Zeitz; 28, p. 250; Apoth. Zeitz; 28, p. 313; (Dig. of Com. on U.S.P. 1913, p. 186)

Gives a patented process (number 255,537) for the preparation of the fluidextract of apocynum cannabinum.

- - - - -

Graves, N. A.

1913

(Apocynum cannabinum)

Ellingwood's Therap; 7; p. 129. (Dig. of Com. on U.S.P., 1913; p. 187)

"States that this drug is of much value in valvular insufficiency, where there is compensatory failure as shown by dropsy of the feet or legs."

- - - - -

Anon

1914

(Apocynum)

Am. Drugg., 62; p. 454. (Dig. of Com. on U.S.P. 1914; p. 180)

"Discusses a new active principle found in Canadian Hemp".

- - - - -

Georgia, A. E.

1914

List of Plants Distinctly Poisonous or Mechanically Harmful to Animal Life.

Manual of Wieds., p. 563. (Thesis, A. Lang, U.W., 1919, p. 111)

Lists apocynum as one of the poisonous plants.

- - - - -

Kraemer, H.

1914

Apocynaceae or Dogbone Family. Applied

Applied and Economic Botany; p. 664.

Gives a general description of this family, and then gives a specific description of the plants in this family.

Lilly, J. K.

1914

(Report of Committee on Prevention of  
Adulteration of Apocynum)

Proc. Natl. Wholesale Drugg. Assoc., --; p. 262.  
(Oil, Paint & Drugg. Rep; 86, p. 34; (Dig. of  
Com. on U.S.P. 1914, p. 180)

"States that several species of apocynum other  
than apocynum cannabinum are regularly collected  
and marketed for the official drug."

- - - - -

Marrow, T. L.

1914

Apocynum

Ellingwood's Therap., 8., p. 134. (Dig. of Com.  
on U.S.P., 1914, p. 180)

"Says that apocynum is a useful remedy in the  
treatment of acute alcoholism."

- - - - -

Mundy, W. N.

1914

(Apocynum)

Ellingwood's Therap., 8; p. 362 (Dig. of Com.  
on U.S.P., 1914, p. 180)

"States that apocynum is a sovereign remedy in  
cardiac dropsy."

- - - - -

Puckner, W. A.

1914

New And Nonofficial Remedies.

Journ. Am. Med. Assoc., 63, p. 1393; (U.S. Dispens.,  
21 ed., p. 153)

Discusses cymarín, stating that it is a neutral,

non-glucosidal substance obtained from Apocynum cannabinum and apocynum androsaemifolium; gives also the medicinal properties and dose.

- - - - -

Ellingwood, F.

1915

(Uses of Apocynum Cannabinum)

Am. Jour. Clin. Med. 22; p. 1106; (Dig. of Com. on U.S.P., 1915, p. 180)

"States that from physiological experiments that apocynum cannabinum is an active cardiac poison, producing profound contraction of the heart."

- - - - -

Hecht, A. F.

1915

Klinische und tierexperimentelle untersuchungen uber die Beziehungen des wirksomen Prinzips von Apocynum zum Herzmechanismus.

Ztschr. f.d. ges. exper. Med; Bul., 4, p. 264. (S.G.L. S. 3 V. 1, p. 658)

The original was not available.

- - - - -

Lloyd, J. U.

1915

Spurious Drugs.

Drugg. Circ., 59., p. 90. (Dig. of Com. on U.S.P., 1915., p. 179)

Discusses the uncertainty as to which species of apocynum comes into the market. States that it is difficult to distinguish the two species. They

are very similar as to their physiological action.

Lilly, J. K.

1915

Apocynum

Oil, Paint & Drug. Rep., 88, p. 31. (Dig. of Com. on U.S.P. 1915, p. 180)

"Says that one lot of "bitter root" contained 25 per cent of foreign roots and stems; further stating that bitter root is much confused with apocynum."

Newcomb, E. L.

1915

The Percentage of Moisture Lost In the Preparation of Some Official and Unofficial Drugs.

Jour. Am. Pharm. Assoc., 4, p. 530. (Dig. of Com. on U.S.P. 1915, p. 179)

Gives the moisture content as found in six samples of the root of apocynum with 60% as the average percentage.

Siim, J.

1915

Apocynum

Arch. Pharm. og. chem., 22, p. 305 (Apoth. zeitg; 30; p. 542. (Dig. of Com. on U.S.P. 1915, p. 180)

"Gives pharmacognostic and pharmacologic observations on several of the apocynaceae."

Wendaus, A. &amp; Hermanns, L.

1915

(Chemistry of Cymarin - Apocynum)

Sudd. Apoth. Ztg., 55; p. 336; (Ber. deutsch. Chem. Gesellsch; 48; p. 991, Apoth. Ztg., 30; p.337; Yrbok. Am. Pharm. Assoc., 4; p. 369; Dig. of Com. on U.S.P; 1915, p. 180; U.S. Dispens; 21 ed., p. 153)

Gives the physical and chemical properties of cymarin, its formula, and medicinal properties, and compares its therapeutic properties with strophanthus and digitalis.

Zufall, C. J.

1915

A Criticism of the United States Pharmacopoeial Descriptions of Vegetable Drugs.

Jour. Am. Pharm. Assoc., 4; p. 531. (Dig. of Com. on U.S.P., 1915; p. 179)

States that the pharmacopoeial description of apocynum is too indefinite; it is non-discriminating, for it states that the dried rhizome of apocynum cannabinum or closely allied species may be used. He says the phrase "closely allied" species should be omitted for it is difficult to distinguish what is a closely allied specie. He claims that apocynum androsaemifolium has different medicinal properties, therefore the definition should limit and describe only one specie.

Frier, M. G.

1916

La cymarine du chanvre canadien et ses rapports

avec les poisons du coeur.

Jour. d. pharm. et de chim., 13; p. 105. (Dig. of Com. on U.S.P; 1916, p. 144)

Discusses the physical, chemical, and medicinal properties of cymarine; and also its relation to heart poisons.

- - - - -

Lloyd, J. U.

1918

(Apocynum cannabinum)

Ellingwood's Therap; 12; p. 62. (Dig. of Com. on U.S.P; 1918, p. 170)

"Gives notes on chemistry and pharmacy of apocynum cannabinum."

- - - - -

Beco, L. & Dossin, F.

1920

Experimental Research on the Physiologic Cardio-vascular Action of the Active Principle of Apocynum.

Arch. d. mal. du. coeur; 13, p. 376. (Bul. Aced. roy. med. Belg; 29; p. 1184, Physiol. Abstr; 5, p. 325; Dig. of Com. on U.S.P; 1920; p. 195; Jour. Am. Med. Assoc., 77; p. 1865)

"Gives a report on the cardio-vascular action of cymarine, the active principle of apocynum cannabinum. It is found to behave like a very active cardiac poison."

- - - - -

Scoville, W. L.

1920

The Function of Glycerin in Tinctures and Fluid-

extracts.

Jour. Am. Pharm. Assoc., 9, p. 874.

Discusses the fluidextract of Apocynum of the National Formulary with reference to its method of preparation; stating that a sample made without glycerin in the menstrum is fully as good as a sample made with glycerin as part of its menstrum.

- - - - -

Bownsmann, --- of Pharm., 2 ed., p. 780. 1921

(Therapeutic Properties of Cymarin)

Med. Klin., 17, p. 1522. (U.S. Dispens; 21 ed; p. 154)

"States that cymarin has been used as a cardiac stimulant and tonic in daily doses of 1/20 to 1/60 of a grain hypodermically.

- - - - -

Marvin, M. H. & White, Ph. D. 1921

Clinical Studies of Drugs of the Digitalis Series.

Jour. Am. Med. Assoc., 77; p. 1865. (U.S. Dispens., 21 ed., p. 154.)

Lists Apocynum among the drugs of the Digitalis series, and then continues to give the specific action of this drug on the heart, based upon actual cases.

- - - - -

Standley, P. C. 1921

(Apocynum)

Flora of Glacier Park; 22; p. 395

Gives the general description of the dogbone family, and further gives the common name, habitat, and morphological description of apocynum cannabinum.

- - - - -

Arny, H. V.

1923

Apocynum

Principles of Pharm., 2 ed., p. 780.

Gives the common name, part used, scientific name, family, constituents, medicinal properties, and the dose of apocynum.

- - - - -

Rusby, H. H.

1926

Pharmacy at the Fourth International Botanical Congress.

Jour. Am. Pharm. Assoc., 15, p. 733.

States that Prof. Charles W. Ballard in his paper, "A Histological Study of the Genus Apocynum", makes the statement that the National Formulary is wrong when it states that Apocynum contains few or no stone cells. Rusby says it appears to contain none, the few reported probably having been found in some associated rhizome.

- - - - -

Wood, H. C. &amp; La Wall, C. H.

1926

Apocynum - N. F. Canadian Hemp

U.S. Dispens., 21 ed., p. 153.

Gives the official definition, synonyms,  
description of the two species used with a  
discussion on their physical properties, the  
uses, constituents, dose, and preparations  
of this drug.

U.S.P. (Phil) 1830

S. p. 39

Apocynum Cannabinum - Apocynum Cannabinum, N. F.

1850

Indian Hemp - Radix. The root.

U.S. P. 1840

S. p. 43

Apocynum Cannabinum - Indian Hemp.

The root of Apocynum Cannabinum.

U.S.P. 1850

S. p. 47

Apocynum Cannabinum. Indian Hemp

The root of Apocynum Cannabinum.

U.S.P. 1860

S. p. 50

Apocynum Cannabinum. Indian Hemp.

The root of Apocynum Cannabinum.

U.S.P. 1870

S. p. 50

Apocynum Cannabinum. Indian Hemp

The root of Apocynum Cannabinum.

U.S.P. 1850

P. 40

History of  
Apocynum Cannabinum

and

Apocynum Androsoemifolium

United States Pharmacopoeia ( O -x ) 1820-1920  
National Formulary ( 1 - V ) 1888 - 1926.

U.S.P. (Phil) 1830 S. p. 29  
Apocynum Cannabinum - Apocynum Cannabinum. W. I.  
1259  
Indian Hemp Radix. The root.

U.S. P. 1840 S. p. 41  
Apocynum Cannabinum - Indian Hemp.  
The root of Apocynum Cannabinum.

U.S.P. 1850 S. p. 47  
Apocynum Cannabinum. Indian Hemp  
The root of Apocynum cannabinum.

U.S.P. 1860 S. p. 56  
Apocynum Cannabinum. Indian Hemp.  
The root of apocynum cannabinum.

U.S.P. 1870 S. p. 56  
Apocynum Cannabinum. Indian Hemp  
The root of Apocynum Cannabinum.

U.S.P. 1880

P. 40

Apocynum.

Apocynum

The dried root (Canadian Hemp) *Cannabium* Linne, or  
The root of *Apocynum cannabinum* (Fab. Apocynaceae).  
Linne (Nat. Ord., Apocynaceae).

Long, cylindrical, somewhat branched, one-fourth to one-third of an inch (6 to 8/millimeters) thick, pale brown, longitudinally wrinkled and transversely fissured; brittle; fracture short, white; the bark rather thick, medullary rays and a thin pith; inodorous; taste bitter, disagreeable.

U.S.P. 1890

P. 45

Apocynum

Apocynum

(Canadian Hemp)  
The root of *Apocynum Cannabinum* Linne  
(Nat. Ord. Apocynaceae)

Long, cylindrical, somewhat branched, 5 to 10 mm. thick, gray or brownish gray, longitudinally wrinkled and transversely fissured; brittle; fracture short, white; the bark rather thick; the wood porous, spongy, with delicate, medullary rays; inodorous; taste bitter, disagreeable. Preparation: *Extractum Apocyni Fluidum*.

foreign matter. - - - - -

U. S. P. 1900 P. 48

Apocynum

Apocynum

The dried rhizome of *Apocynum Cannabinum* Linne, or of closely allied species of *Apocynum* (Fam. Apocynaceae)/.

Of varying length, 3 to 8 mm. thick, cylindrical or with a few angles produced by drying, lightly wrinkled longitudinally, and usually more or less fissured transversely; orange-brown, becoming gray-brown on keeping; brittle; fracture sharply transverse, exhibiting a thin brown layer of cork, the remainder of the bark nearly as thick as the radius of the wood, white or sometimes pinkish, starchy containing lacticiferous ducts; the wood yellowish, having several rings, finely radiate and very coarsely porous; almost inodorous, the taste starchy, afterwards becoming bitter and somewhat acrid.

Average dose - 1 Gm. ( 15 grains)

N. F. IV. 1916 P. 269

Apocynum

Apocynum

Apocyn. of wood fibers, associated with Canadian Hemp.

The dried rhizome and roots of *Apocynum cannabinum* Linne (Fam. Apocynum), without the presence of more than 5 per cent of stems or other foreign matter.

Cylindrical, somewhat branched, of varying length, from 3 to 10 mm. in thickness; externally reddish-brown to grayish-brown, longitudinally wrinkled and occasionally with transverse fissures having vertical sides extending through the bark; fracture short; internally, bark light brown, from 1.5 to 3 mm. in thickness, wood faintly radiate and with large tracheae, a small pith occurring in pieces of the rhizome. / Almost inodorous; taste starchy, afterwards becoming bitter and somewhat acrid.

Under the microscope sections of Apocynum show numerous laticiferous vessels in both the bark and pith.

The stems of Apocynum have a comparatively thin fibrous bark, a light brown porous wood and a large, hollow pith.

The powder is light brown, starch grain numerous, from .003 to .015 mm. in diameter, spherical, ellipsoidal, orate, pyriform, or more or less irregular, sometimes more or less altered, swollen, and with a hyaline central left; numerous fragments of strongly lignified wood fibers, associated with tracheae mostly having bordered pores, occasionally with spiral thickenings; fragment of cork layer few, the walls being of a reddish-brown color; an occasional fragment with laticiferous tissues; stone cells few or

absent (*Apocynum androsaemifolium* Linne) *Apocynum* holds not more than 5 per cent of ash.

Average Dose - metric .75 Gm. - Apothecaries, / 12 grains.

Caution - It has been stated that the absorption of *Apocynum* in/the gastro-intestinal tract is uncertain and irregular. To avoid an accu/mulation of the drug or toxic action, the physician should carefully guard/ the dosage and determine in each case the tolerance of the patient.

- - - - -

N. F. V 1926

P. 284

*Apocynum*

*Apocynum*

*Apocyn*

Canadian Hemp

*Apocynum* consists of the dried rhizome and roots of *Apocynum/cannabinum* Linne (Fam. *Apocynaceae*)

*Apocynum* contains not more than 5 per cent of its stems or other foreign organic matter.

#### Description and physical properties

Unground *Apocynum*: Cylindrical, somewhat branched, of varying length, 3/to 10 mm. thick, externally reddish brown; longitudinally/wrinkled, occasionally with transverse fissures having vertical sides extending/through the bark; fracture short; internal bark light brown, 1.5 to 3 mm. thick;/wood radiate and with large tracheae; pith small, in

rhizome pieces only. Almost inodorous; taste starchy, afterwards becoming bitter and somewhat acrid.

Structure: Numerous latex cells in the bark and pith; cortex chiefly parenchyma cells, the latter filled with starch grains; wood with medullary ray, 1 to 2 cells in width and separating numerous narrow wedges to tracheae and wood fibers; pith of thin-walled parenchyma, absent in the root. Stem portion with thin fibrous bark, a light brown porous wood and a large pith.

Powdered Apocynum: Light brown, numerous starch grains 0.003 to 0.020 mm. in diameter, spherical ellipsoidal, orate, pyriform or irregular, sometimes altered, swollen and with a hyaline central left; numerous fragments of strongly lignified wood fibers, the latter associated tracheae having bordered pores or spiral thickenings; few fragments of cork cells with reddish brown walls; occasional fragments with latex cells; stone cells few or absent.

Preparation: Fluidextractum Apocyni.

Average Dose: Metric, 0.75 Gm. - Apothecaries, 12 grains.

Caution: It has been stated that the absorption of Apocynum in the gastro-intestinal tract is uncertain and irregular. To avoid possible toxic or cumulative action of the drug the physician should determine in each case the tolerance of the patient and regulate

the/dosage accordingly.

Summary of Data of

-----  
 Apocynum Cannabinum

Summary of Data - U.S.P. 1820 - 1920, and N.F. 1888-1926

Official In:- Apocynum Cannabinum

U.S.P. '30 (Phil); '40, '50, '60, '70, '80, '90,  
 '00; N.F. IV, N.F. V.

Official Latin Titles:-

Apocynum cannabi U.S.P. '30 (Phil)  
 Apocynum cannabinum U.S.P. '40, '50, '60, '70.  
 Apocynum U.S.P. '80, '90, '00, N.F. IV; N.F. V.

Official English Titles:-

Indian Hemp U.S.P. '30 (Phil); '40, '50, '60, '70.  
 Apocynum U.S.P. '80, '90, '00, N.F. IV, N.F.V.

Official Abbreviations:-

Apocyn. N.F. IV, N.F. V

Official Synonyms:-

Canadian Hemp U.S.P. '80, '90, N.F. IV, N.F. V.

Scientific Names:-

Apocynum cannabinum U.S.P. '30 (Phil); '40, '50, '60,  
 '70, '80, '90, '00, N.F. IV, N.F. V.

Family:-

Apocynaceae U.S.P. '80, '90, '00, N.F. IV N.F. V.

Part Used:-

Roots U.S.P. '30 (Phil), '40, '50, '60, '70, '80,  
 '90.  
 Fluidextractum Apocyni N.F. V.

Properties:-

inodorous, disagreeable bitter taste. U.S.P. '80, '90.  
 Almost inodorous, taste starchy, afterwards be-  
 coming bitter and somewhat astringent. U.S.P. '00, N.F.  
 IV, N.F. V.

Summary of Data of  
Apocynum Cannabinum

Official In:-

U.S.P. '30 (Phil); '40, '50, '60, '70, '80, '90, '00; N.F. IV, N.F. V.

Official Latin Titles:-

Apocynum cannabi U.S.P. '30 (Phil)  
Apocynum cannabinum U.S.P. '40, '50, '60, '70.  
Apocynum U.S.P. '80, '90, '00, N.F. IV; N.F. V.

Official English Titles:-

Indian Hemp U.S.P. '30 (Phil); '40, '50, '60, '70.  
Apocynum U.S.P. '80, '90, '00, N.F. IV, N.F.V.

Official Abbreviations:-

Apocyn. N.F. IV, N.F. V

Official Synonyms:-

Canadian Hemp U.S.P. '80, '90, N.F. IV, N.F. V.

Scientific Names:-

Apocynum cannabinum U.S.P. '30 (Phil); '40, '50, '60, '70, '80, '90, '00, N.F. IV, N.F. V.

Family:-

Apocynaceae U.S.P. '80, '90, '00, N.F. IV N.F. V.

Part Used:-

Roots U.S.P. '30 (Phil), '40, '50, '60, '70, '80, '90.  
Fluidextractum Apocyni N.F. V.

Properties:-

inodorous, disagreeable bitter taste. U.S.P. '80, '90.  
Almost inodorous, taste starchy, afterwards becoming bitter and somewhat acrid. U.S.P. '00, N.F. IV. N.F. V.

Average Dose:-

1 Gm. or 15 grains U.S.P. '00.  
.75 Gm. or 12 grains N.F. IV, N.F. V.

Impurity Limit:-

Not more than 5 % of stems or other foreign matter N.F. IV, N.F. V.

Ash Content:-

Not more than 5% of ash N.F. IV.

Caution As to Uses:-

N.F. IV, N.F. V.

... taste extremely bitter and when/long kept, becomes inert.  
... Emetic in doses of ... from F i to F ii of the powdered root; in smaller quantities tonic and stomachic.

U.S.P. (Ph 11) 1830 S. p. 39  
Apocynum Androsæmifolium Apocynum androsæmifolium.  
W. i 1830. Sw. ii. 143  
Dog's bone. Radix. The root.

U.S.P. 1840 S. p. 41  
Apocynum Androsæmifolium. Dog's bone  
The root of Apocynum androsæmifolium.

U.S.P. 1850 S. p. 47  
Apocynum Androsæmifolium. Dog's bone.  
The root of Apocynum androsæmifolium.

U.S.P. 1860 S. p. 56  
Apocynum Androsæmifolium. Dog's Bone  
The root of Apocynum androsæmifolium

U.S.P. 1870 S. p. 56  
Apocynum Androsæmifolium. Dog's Bone  
The root of Apocynum androsæmifolium.

- U.S.P. 1820 S. p. 51  
 Apocynum Apocynum androsaemifolium.  
 Dog's Bone W. I. 1259 Bw. 11, 148  
 Radix. The root.
- 
- U.S.P. N. Y. 1830 p. 18  
 Apocyni androsae-Apocynum Androsaemifolium.  
 mifolii Radix.  
 Dog's bone. The Root.
- Prop. Odour slight; taste extremely bitter and disagreeable; when/long kept, becomes inert.
- Med. Oper. Emetic in doses of, from F i to F ii of the powdered/root; in smaller quantities tonic and stomachic.
- Official Synonyms: - - - - -
- U.S.P. (Phil) 1830 S.p. 29  
 Apocynum Androsaemifolium Apocynum androsaemifolium.  
 Dog's bone. W. i 1259. Bw. ii. 148  
 Radix. The root.
- Part Used: - - - - -
- U.S.P. 1840 S. p. 41  
 Apocynum Androsaemifolium. Dog's bone  
 The root of Apocynum androsaemifolium.
- Properties: - - - - -
- U.S.P. 1850 S.p. 47  
 Apocynum Androsaemifolium. Dog's bone.  
 The root of Apocynum androsaemifolium.
- U.S.P. 1860 S. p. 56  
 Apocynum Androsaemifolium. Dog's-Bone  
 The root of Aocynum androsaemifolium
- Impurity Limit: - - - - -
- U.S. P. 1870 S. p. 56  
 Apocynum Androsaemifolium. Dog's Bone  
 The root of Apocynum androsaemifolium.

## Summary of Data of

## Apocynum Androsaemifolium

## Official In:-

U.S.P. '20, '30 (N.Y.); '30 (Phil); '40, '50, '60, '70, '00.

## Official Latin Titles:-

Apocynum U.S.P. '20, '00  
 Apocyni androsae U.S.P. '30 (N.Y.)  
 Apocynum androsaemifolium U.S.P. '30 (Phil);  
 '40, '50, '60, '70.

## Official English Titles:-

Dog's Bone U.S.P. '20, '30 (N.Y.); '30 (Phil);  
 '40, '50, '60, '70.  
 Apocynum U.S.P. '00.

## Official Abbreviations:- (None)

## Official Synonyms:- (None)

## Scientific Names:-

Apocynum androsaemifolium U.S.P. '20, '30 (N.Y.);  
 '30 (Phil); '40, '50, '50, '60, '70.

## Family:- (None)

## Part Used:-

Root U.S.P. '20, '30 (N.Y.); '30 (Phil.); '40, '50,  
 '60, '70.  
 Rhizome and roots U.S.P. '00.

## Preparations:- (None)

## Properties:-

Odour slight; taste extremely bitter and disagreeable; when long kept becomes inert.  
 U.S.P. '30 (N.Y.)

## Medicinal Operations:-

Emetic in doses of F i to F ii of the powdered root; in similar quantities tonic and stomachic. U.S.P. '30 (N.Y.).

## Average Dose:- (None given)

## Impurity Limit:- (None given)

## Journals Consulted

Am. Drugg.	1884 - 1890
Am. Drugg. & Pharm. Rec.	1891 - 1926
Am. Jour. Pharm.	1825 - 1920
Bulletin Pharm.	1893 - 1926
Drugg. Circ.	1857 - 1926
Dig. of Com. on U.S.P.	1905 - 1920
New Rem.	1885 - 1914
Proc. Am. Pharm. Assoc.	1851 - 1911
Sing. Gen. Lib. Index	S. 1. 2. & 3.
Year Book of the Am. Pharm. Assoc.	1912-1925

## Books Consulted

- American Physician; Ecler. & Gen'l. Dispens. 1827.
- Army, H.V. Principles of Pharm., 2 ed; 1923
- Bigelow, J. Am. Med. Bot; V. 2;
- Boyer, F. & Co. Pharm. Zeitz; 58; 1913
- Bigelow, J. Treat. On Mat. Medica 1822.
- Coxe, J. R. Am. Dispens; 1 ed; 1806; 4 ed; 1818; 7 ed;  
1827.
- Coleman, D.E.S. Ecler. Med. Gleaner; 7, 1911.
- Cavers, F. Life Histories of Common Plants; 1909
- Dabney, T. S. Therap. Gaz; 22; 1898
- Editor; Ecler. Med. Gleaner; 4; 1908.
- Farwell, O. A. Merck's Rept; 16, 1907.
- Felter, H.W. Ecler. Med. Jour; 66; 1906

- Frye, F. C. & Blodgett, E.B. Bat. Gaz; 40; 1905
- Finnemore, H. Jour. Chem. Soc; 93; 1908
- Finnemore, H. Proc. Chem. Soc; 25; 1909
- Fyfe, J. W. Ecler. Med. Jour; 66; 1906.
- Geke & Co. Handels. Buichts; 1910
- Gray, R. B. N.Y. Med. Jour; 60; 1894
- Glinski, A. G. Pharm. Cntrlh; 1895
- Gray, A. New Manual Bot; 7 ed; 1908
- Gave, E. H. & Webster, M. H. Drug Topics, 24; 1909
- Goebel, K. Out of Class and Special Morphology; 1887
- Gager, C. S. General Bot. 1926
- Henkle, Alice, Bull. Plant Ind. Bull. No. 89; 1906
- Henkle, Alice, Bull. Plant Ind; Bull. No. 107; 1907
- Heeve, W. H. Ecler. Med. Jour; 66; 1906.
- Holm. T. Merck's Rept; 19; 1910
- Haberlandt, G. Physiological Plant Anat; 1914.
- Hutchinson, J. Families of the Flowering Plants; 1926
- Hitchcock, A. S. Descriptive Systematic Bot; 1925
- King, J. Am. Dispens; 6 ed; 1864; 8 ed; 1872; 10 ed; 1875; 18 ed; 1898.
- Kraemer, D. F. Munch Med. Woch; 56; 1909.
- Kraemer, H. Applied & Econ. Bot; 1914
- Kimball, J. P. N.Y. Med. Jour; 67; 1897.
- Lang, A. Thesis U.W. 1919.
- Lowery, J. H. N.Y. Med. Jour; 60; 1894.
- Leming, W. Ecler. Med. Jour; 70; 1910.
- Lloyd, J. U. Ecler. Med. Jour; 69; 1909

- Lloyd, J. U. Bull. Lloyd Libr; No. 18, 1911.
- Lehr, W. T. Ecler. Med. Jour; 67; 1907
- Linne's Species Plantarum; 1 ed; 1797
- Moore, C. W. Jour. Chem. Soc; 95; 1909
- Murray, G. R. Therap. Gaz; 13; 1889.
- Mayhugh, G. H. Therap. Gaz; 15; 1899
- O'Connor, J. T. Am. Homoeop. Pharm; 4 ed; 1890.
- O'Shanghnessy, W. B. The Gengal Dispens; 1842
- Oefele, F. F. Jour. Pharm. Elaass - Lothr; 18; 1891
- Olberg, O. Unofficial Pharmacop; 1881
- Osterhout, W.J.V. Experiments With Plants; 1910
- Rusby, H.H. Bull. Am. Pharm. Assoc; 4; 1909
- Rusby, H.H. Merck's Rept; 14, 1905
- Ruble, W.R. Ecler. Med. Jour; 72; 1912.
- Robin, A. Munch Med. Woch; 51; 1904
- Stille, A. & Maisch, J.M. Nat'l Dispens; 2 ed; 1879;  
3 ed; 1884; 5 ed; 1894;
- Sayre, L.E. Merck's Rept; 17; 1908
- Swingle, D. B. Text on Systematic Bot. 1928
- Scharff, R. F. Distribution & Orgin of Plants in Am.  
1912
- Standley, P. C. Flora of Glacier Nat'l Park; 1921
- Stevens, W. C. Plant Anatomy, 1911
- Smith, A. H. Med. Record; 29; 1886
- Shaller, J. M. Wis. Med. Rec; 8, 1905
- Tunmann, O. Pharm. Zentralh; 49; 1908
- Thacker, J. New Dispens; 2 ed; 1813; 4 ed. 1821

Turner, H.C. Floral Kingdom; 1877

Turner, W. D. Therap. Gaz; 22; 1898

Woodhull, A. A. N.Y. Med. Jour; 67; 1897

Woode, G. B. & Bache, F. U.S. Dispens; 2 ed; 1834;

3 ed; 1836; 4 ed; 1839; 5 ed; 1843; 9 ed; 1851

10 ed; 1854; 12 ed; 1865; 13 ed; 1870; 14 ed;

1879; 15 ed; 1883; 18 ed; 1894; 19 ed; 1907;

20 ed; 1918; 21 ed; 1926.

approved by:

Professor W. R. H. W. M. M. M.

with Grace B. M. J. Pharm. Cogn.

Approved by:

Professor Worichtmann

Date Assoc. Prof. of Pharmacognosy