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BIBLIOGRAPHY

OF

GENTIANA LUTEA LINNE

BY

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A Thesis Submitted for the Degree of

GRADUATE IN PHARMACY

University of Wisconsin

1934

(Gentian)
Enzyklopaedio, etc., p. ---; (Tschirch, Handbuch der Pharmakog-
nosie, 1 ed., v. 2, p. 610.)

(Introduced Gantijana as the name for gentian)

Cuba, J.

1485

Gentiana

Hortus Sanitatis, facsimile reproduction, no page.

Gives a history of Gentiana lutea.

Dioscorides, P.

1537

Gentiana

de Medica Materia. Libri Sex, p. 106; (Tschirch, Handbuch der
Pharmakognosie, 1 ed., v. 2, p. 561.)

Gives an historical account, description and general in-
formation on gentian.

Tragus, H. (Bock, H.)

1552

De Gentiana

De stirpivm, Maxime earvm qua in germaniae commentar, p. 173;
(Fluckiger, Pharmakognosie des Pflanzenreichs, 2 ed., p. 390;
Ibid; 3 ed., p. 421.)

Gives a description, illustrations, nomenclature and refer-
ences for 3 species of gentian.

Camerarius, J.

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1586

Gentiana

Epitome Matthioli, p. 415. (Willdenow, Linne's Sp. Plantarum, 4 ed., v. 1, p. 1331)

The original was not available.

Mattioli, P. A.

1586

Gentiana

De plantis epitome utilisima, p. 415.

Gives pre-Linnean name, illustration, description, habitat, qualities and uses of gentian.

Clusius, C. (L'Ecluse, C. de)

1601

Gentiana

Rariorvm plantarvm historia, p. 311; (Willdenow, Linne's Species Plantarum, 4 ed., v. 1, p. 1331.)

Discusses the various species of Gentiana, giving a description, pre-Linnean name and an illustrative plate of each.

Reneaulme, P.

1611

Asterias

Specimen historiae plantarum, p. 64, t. 63. (Willdenow, Linne's Sp. Plantarum, 4 ed., v. 1, p. 1331.)

The original was not available.

Bauhin, C.

1671

Gentiana

Pinax et Prodrromus, 2 ed., p. 187. (Willdenow, Linne's Sp. Plantarum, 4 ed., v. 1, p. 1331)

Gives pre-Linnean names with references for *Gentiana lutea*.

Barrelier, I.

1714

Gentiana Major vulgaris pallido et parvo flore. Botanic. Icones, 7, p. 2, ic. 63. (Willdenow Linne's Sp. Plantarum, 4 ed., v. 1, p. 1331.)

The original was not available.

Chomel, J. B.

1737

Gentianae

Abrege de l'histoire des plantes usuelles, new ed., v. 2., p. 134.

Gives pre-Linnean synonyms, habitat, method of collection, preparations and uses of *Gentian*.

Linne, C. A.

1737

Gentiana floribus lateralibus confertis pedunculatis, corollis rotatis. Hortus Cliffortianus, p. 80. (?) (Willdenow Linne's Sp. Plantarum, 4 ed., v. 1, p. 1331)

The original was not available.

Linne, C. A.

1738

Gentiana Major lutea. Flora Lapponica, p. 96. (Willdenow Linne's Sp. Plantarum, 4 ed., v. 1, p. 1331)

The original was not available.

Royen, A.

1740

Gentiana floribus lateralibus confertis pedunculatis, corollis rotatis. Flora Leydensis, p. 432. (Willdenow, Linne's Sp. Plantarum, 4 ed., v. 1, p. 1331.)

The original was not available.

Sauvages, F.

1751

Gentiana floribus lateralibus confertis pedunculatis, corollis rotatis. Flora Men (t) spel., ---p. 136. (Willdenow, Linne's Sp. Plantarum, 4 ed., v. 1, p. 1331.)

The original was not available.

Linne, C. A.

1753

Gentiana

Species Plantarum, 1 ed., p. 227; (Bentley & Trimen, Medicinal Plants, v. 3, p. 182; Tschirch, Handbuch der Pharmakognosie, 1 ed., v. 2, p. 1589; Good's Family Flora, p. ---; Fristedt, Organisk Pharmakologi, p. 117; Villiers & Thumen, Die Pflanzen des homöopathischen Arzneischatzes, v. 1, p. 203.)

Gives habitat, pre-Linnean names, with references for the various species of *Gentiana*.

Linne, C. A.

1755

Gentiana floribus lateralibus confertis pedunculatis, corollis rotatis. Flora Suecica, pp. 201 & 227. (Willdenow Linne's Sp. Plantarum, 4 ed., v. 1, p. 1331.)

The original was not available.

Lewis, W.

1761

Gentiana

Experimental History of the Materia Medica, p. 286. (Ziegler, German translation, p. 289.)

Gives synonyms, description, preparations & adulterations of the root of *Gentiana lutea*.

Triller, D. W.

1764

Gentianae majoris, luteae.

Triller, *Dispensatorium Pharmaceuticum*, p. 65.

Gives synonyms, habitat, constituents & uses of gentian root.

Haller, A.

1768

Gentiana caule foliis, foliis ovatis nervosis, floribus verticillatis, rotatis. Historia Stirpium indigenarum Helvetiae, v. 3, p. 637. (Willdenow, Linne's Sp. Plantarum, 4 ed., v. 1, p. 1331.)

The original was not available.

Miller, P.

1769-1776

Gentiana corollis subquinquefidis rotatis verticillatis, calycibus, spathaceis. Allgemeines Gartnerlexicon, v. 1. (Willdenow, Linne's Sp. Plantarum, 4 ed., v. 1, p. 1331.)

The original was not available.

Linne, C. A.

1772

Gentiana

Materia Medica, 2 ed., p. 75. (Willdenow, *Linne's Sp. Plantarum*, 4 ed., v. 1, p. 1331.)

Gives habitat, pharmacopoeial title, sensible qualities, therapeutic properties, medicinal uses, properties & references for *Gentiana lutea*.

Houttyn, W.

1777-1778

Gentiana Major vulgaris pallido et parvo flore. Linne's Pflanzlichen System, v. 5, p. 847. (Willdenow, Linne's Sp. Plantarum, 4 ed., v. 1, p. 1331.)

The original was not available.

Comfort, C. L.

1786

(*Gentiana lutea*)

Thompsonian & Botanical Preparations, no page.

In a table gives the official and common name of gentian.

Monro, D.

1788

Gentiana Radix

A Treatise on Medical & Pharmaceutical Chymistry & the Materia Medica, v. 3, p. 117.

Gives habitat, uses, & preparations of the root of *Gentiana lutea*.

Plenck, J. J.

(1788-1812)

(Gentian)

Icones plantarum medicinalum, 156, p. ---; (Tschirch, Handbuch der Pharmakoqnosie, 1 ed., v. 2, p. 1590.)

The original was not available.

Roth, A. W.

1788

Gentiana corollis subquinquefidis rotatis verticillatis, calycibus,

spathaceis Tentamen florae germanicae, v. 1, p. 284. (Willdenow, Linne's Sp. Plantarum, 4 ed., v. 1, p. 1331.)

The original was not available.

Woodville, W.

1790

Gentiana lutea

Med. Bot., 1 ed., p. 273, pt. 95. (U. S. Dispens., 2 ed., p. 321; Ibid; 3 ed., p. 318; Ibid; 4 ed., p. 328; Ibid; 5 ed., p. 346; Ibid; 6 ed., p. 346; Ibid; 7 ed; p. 346; Ibid; 8 ed., p. 346; Ibid; 9 ed; p. 358; Ibid; 10 ed., p. 363; Ibid, 11ed., p. 379; Ibid; 12 ed., p. 411; Ibid, 13 ed., p. 423; Ibid; 14 ed., p. 439; Ibid; 15 ed., p. 707; Ibid; 16 ed., p. 725; Ibid; 17 ed; p. 647; Ibid; 19 ed., p. 580; Tschirch, Handbuch der Pharmakognosie, 1 ed; v. 2, p. 1590; Griffith, Medical Botany, p. 460.)

Gives a full page colored plate illustrating *Gentiana lutea* synonyms, description, habitat, properties, uses, and medical application of the plant and derivation of the genus name.

Hoffmann, G. F.

1791

Gentiana corollis subquinquefidis rotatis verticillatis, calycibus, spathaceis. Willdenow, Deutschlands Flora oder botanisches Taschenbuch für das Jahr 1791.; p. ---. (Willdenow, Linne's Sp. Plantarum, 4 ed., v. 1, p. 1331.)

The original was not available.

Froelich, J. A.

1796

Gentiana corollis subquinquefidis rotatis verticillatis, verticillis subcymosis calycibus spathaceis De Gentiano dissertatio, p. 15, n. 1. (Willdenow, Linne's Sp. Plantarum, 4 ed., v. 1, p. 1331)

The original was not available.

Gentiana lutea

Linne's Specimen Plantarum, 4 ed., v. 1, p. 1331. (U. S. Dispens., 2 ed., p. 326; Ibid; 3 ed., p. 318; Ibid; 4 ed., p. 328; Ibid; 5 ed., p. 346; Ibid; 6 ed., p. 346; Ibid; 7 ed., p. 346; Ibid; 8 ed., p. 346; Ibid; 9 ed., p. 358; Ibid; 10 ed., p. 363; Ibid; 11 ed., p. 379; Ibid; 12 ed., p. 411; Ibid; 13 ed; p. 423; Ibid; 14 ed., p. 439; Ibid; 15 ed., p. 707; Ibid; 16 ed., p. 725; Ibid; 17 ed., p. 647; Ibid; 19 ed., p. 580; Coxe's Am. Dispens; 1 ed., p. 355, Ibid; 4 ed., p. 261; Wheeler, Catalogus Rationalis Plantarum Medicinalium p. 32; Good's Family Flora, p. ---)

Gives references to several synonyms of *Gentiana lutea* & the habitat.

Gmelin, J. F.

1803

Einfache und rohe Gegengifte aus dem Gewachsreich Geschichte der Pflanzengifte, p. 132.

Includes gentian in a list of poison antidotes.

Persoon, C. H.

1805

Gentiana

Synopsis Plantarum seu Enchiridium Botanicum, v. 1, p. 284; (Wheeler, Catalogus Rationalis Plantarum Medicinalum, p. 32.)

Discusses the various species of gentian, giving species name and description of each.

Coxe, J. R.

1806

Gentiana Lutea. Radix.

Am. Dispens., 1 ed., p. 355; Ibid. 4 ed., p. 261.

Gives the description, habitat, constituents, virtues; uses, & official preparations of gentian.

Morelot, S.

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1807

Gentiane

Dictionnaire des Drogues, v. 1, p. 636.

Gives a description, constituents, uses and dose of the root of *Gentiana lutea*.

Trommsdorff, J. B.

1807

Gentianae rubrae radix

Handbuch der pharmaceutischen Waarenkunde, 2 ed., p. 92; Ibid; 3 ed., p. 105.

Gives synonyms, description, habitat, and adulterations of the root of *Gentiana lutea*.

Thacher, J.

1810

Gentiana Lutea. Gentian. The Root.

Am. New Dispens., 1 ed., p. 127; Ibid; 2 ed., p. 223; Ibid; 4 ed., p. 229.

Gives habitat, a description, virtues, uses, and dose of gentian.

Thornton, R. J.

1814

Yellow Gentian

A. Family Herbal, 2 ed., p. 243.

Gives illustration, description, history, habitat, medical uses, properties and preparations of Gentian.

Gentiana lutea

System of Materia Medica & Pharmacy, v. 1., ed. 1., p. 200; Ibid; 2 ed; p. 200.

Give synonyms, habitat, description and official preparations of the root of *Gentiana lutea*.

Schrader, J. C. & Staberoh, H.

1815

Über eine im Handel vorgekommene rothe Enzianwurzel mit markotischen Eigenschaften. Berlin Jahrbuch für Pharmazie, 16, p. 69; (Am. Jour. Pharm., 48, p. 117; Pharm. Jour., 12, p. 371.)

Gives results of a complete analysis of the root of *Gentiana lutea* and parallel species, also giving some of the properties.

Braconnot, H.

1817

Memoire sur le principe extractif et sur le extraits en general. Jour. de phys., 84, p. 345; (Tschirch, Handbuch der Pharmakognosie, 1 ed., v. 2, p. 1594.)

The original was not available.

Ewell, J.

1817

Gentian

Med. Comp., 3 ed., p. 534; Ibid., 7 ed., p. 671.

Gives the habitat, a description, the qualities, uses and dose of gentian.

Guillemin, J. B. and Foecquemine, ---

1819

Eaia D'Analyse Chimique. De la racine de gentiane (*gentiana lutea*)

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Jour. de pharm. et de chim., s. 1, v. 5, p. 110. (Am. Jour. Pharm. 48, p. 117; Tschirch, Handbuch der Pharmakognosie, 2 ed., v. 2, p. 1597.)

Gives habitat, uses, properties and results analysis compared with that of several other species and related plants.

Henry, E. & Caventou, E.

1821

Sur le principe qui l'amertume dans la racine de gentiana (gentiana lutea.) Jour. de pharm. et de chim., s. 1, 7, p. 173. (Am. Jour. Pharm., 48, p. 117; Guilbourt, Histoire des Drogues Simples, 3 ed., v. 1, p. 494; Tschirch, Handbuch der Pharmakognosie, 1 ed; v. 2, p. 1597; Husemann, Die Pflanzstoffe, p. 873; Reil, Materia Medica der reinen chemischen Pflanzenstoffe, p. 179.)

Give results of extensive experiments in which they attempt to find tannin in gentian root.

Bigelow, J.

1822

Gentiana

Materia Medica, 1 ed., p. 194

Gives the habitat, a description, qualities, adulteration, uses, and dose of gentian.

Bardsley, J. L.

1825

(Gentian)

Froriep, Notiz, 27, p. 141. (Reil, Materia Medica der reinen chemischen Pflanzenstoffe, p. 180.)

The original was not available.

Coxe, J. R.

1825

Gentiana Lutea. The Root.

Am. Dispens., 6 ed., p. 303; Ibid., 7 ed., p. 313; Ibid., 8 ed., p. 316; Ibid., 9 ed., p. 344.

Gives synonyms, habitat, description, constituents, medical uses and properties of gentian.

(An American Physician)

1827

Gentiana

Eclec. & Gen. Dispens., 1 ed., p. 176

Gives synonyms, a description, the habitat, qualities, medical properties, uses, and official preparations of gentian.

Chevallier, A. & Richard, A.

1827

Gentiana Jaune

Dictionnaire des Drogues, v. 2, p. 641.

Gives a definition and the pharmacognosy of *Gentiana lutea*.

Stephenson, J. & Churchill, J. M.

1827-1830

(Gentian)

Med. Bot., plate 132. (Sulle & Maisch. Nat. Dispens., 1 ed., p. 665; Ibid., 2 ed., p. 677; Ibid., 3 ed., p. 729; Ibid; 5 ed., p. 771)

The original was not available.

Murray, J. A.

1828

Gentiana Lutea

System of Materia Medica & Pharmacy, 2, 1 ed., p. 183.

Gives synonyms, descriptions, constituents, uses, and official preparations of the root of *Gentiana lutea*.

Rafinesque, C. S. J.

1828

Gentiana Catesbei

Medical Flora of the U. S.; v. 2, p. 206; (Good's Family Flora, p. ---.)

Gives English, French, German, official and "vulgar" names, description, habitat, history, qualities, properties, substitutes and a short paragraph on each of the parallel species of *Gentiana Catesbei*.

De Candolle, A. P.

Prodromus naturalis regni vegetabilis, v. ., p. ; Tschirch, Handbuch der Pharmakognosie, 1 ed., v. 2, p. 1590.)

Gives a technical description of the several species of *Gentiana*, including *lutea*.

Carpenter, G. W.

1831

Gentianine

Essays on the Materia Medica, p. 133.

Give the properties, method of extraction from the root, and formulae for the tincture and syrup.

Trommsdorff, J. B.

(1833)

(Gentianin)

Répert. de chim. et de physique, p. 110; (Am. Jour. Pharm., 9, p. 333.)

The original was not available.

Wood, G. B. & Eache, F.

1834

Gentiana. U. S.

U. S. Dispens., 2 ed., p. 326; Ibid; 3 ed., p. 318; Ibid., 4 ed., p. 328; Ibid., 5 ed., p. 346; Ibid., 6 ed., p. 346; Ibid., 7 ed., p. 346; Ibid., 8 ed., p. 346; Ibid., 9 ed., p. 358; Ibid., 10 ed., p. 363; Ibid., 11 ed., p. 379; Ibid., 12 ed., p. 411., Ibid., 13 ed., p. 423; Ibid., 14 ed., p. 439.

Gives the official synonyms, general characteristics, description, habitat, properties, uses, dose, and official preparations of gentian.

 Soubeiran, L.

(1835)

Sur la lixiviation applique aux matieres d'origine vegetale et animale. Bull. gen. de Therap., 8, pp. 349-356 and 382-385; (Am. Jour. Pharm., 8, p. 226.)

Gentian is "to be slightly compressed for lixiviation."

 Denis, ---

1836

Lettre de M. Denis, eleve en pharmacie, a M. Bussy, sur la presence de l'acide pectique dans la gentiane. Jour. de pharm. et de chim., 22, p. 303. (Jour. Am. Pharm., 48, p. 117; Tschirch, Handbuch der Pharmakognosie, 1 ed; v. 2., p. 1597.)

Describes his process of obtaining the pectin of gentian which is similar to that which Braconnot obtained from carrots and gives his process.

 Guibourt, N. J. B. G.

1836

Racine de Gentiane. Radix Gentianae. Histoire des Drogues Simples, 3 ed., v. 1, p. 494; Ibid; 4 ed., v. 2, p. 502; (Pharm. Jour. 12, p. 371.)

Gives the habitat, description, constituents and uses of the root of *Gentiana lutea*.

1837

Leconte, C.

Faits pour servir a l'histoire chimique de la racine de gentiane. Jour. de pharm. et de chim., s. 1, v. 23, p. 465. (Am. Jour. Pharm., 9, p. 333; Ibid; 48, p. 117; Ann. der Pharm., 25, p. 200; Ibid; 62, p. 106; Tschirch, Handbuch der Pharmakognosie, 2 ed., v.1 p. 1597; Husemann, Die Pflanzenstoffe, p. 873; Reil, Materia Medica der reinen chemischen Pflanzenstoffe, p. 179; Meyer, Wissenschaftliche Drogenkunde, p. 275; Ann. der Pharm. und chim. 25 p. 200; Tschirch, Handbuch der Pharmakognosie, 1 ed., v. 2, p. 1597.)

Gives synonyms and history of gentian root. Records experiments whereby gentianin and gentisin are extracted, gives a short history and the medicinal value of these substances. Discusses the preparations of gentian and offers conclusions from his experiments as to their value.

Trommsdorff, H.

1837

Ueber den krystallinschen Bestandtheil der Enzianwurzel. Ann. der Chem., 21, p. 134. (Ibid; 25, p. 200; Ibid; 62, p. 106; Tschirch, Handbuch der Pharmakognosie, 1 ed; v. 2, p. 1597; Husemann, Die Pflanzenstoffe; Kromayer, Die Bieterstoffe und kratzenschmeckenden Substanzen des Pflanzenreichs, p. 104; Chem. Centralb., 8, pp. 343 & 837; Ibid, 9, p. 874; Reil, Materia Medica der reinen Chemischen Pflanzenstoffe, p. 179; Meyer, Wissenschaftliche Drogenkunde, p. 275.)

Gives the literature and the method of isolation of some of the crystalline constituents of gentian root, and his own experiments.

Wood, G. B.

1837

Gentina.--Gentiana. U. S.

Lectures on Materia Medica & Pharmacy, p. 12.

Gives a short monograph of Gentiana lutea.

Dulk, F. P.

1838

Sur la substance active de la gentiana. Jour. de pharm. et de chim., 24, p. 658. (King's Am. Dispens., 6 ed., p. 441; Ibid;

10 ed; p. 382; Ibid; 15 ed; p. 382; Ibid; 16 ed., p. 382; Ibid;
18 ed; 3 rev., v. 2, p. 382.]

Gives the physical and chemical properties of gentianin.

Dulk, F. P.

1838

Ueber den wirksamen Bestandtheil der Gentiana. Arch. der Pharm.,
15, p. 255. (Am. Jour. Pharm., 48, p. 117; Tschirch, Handbuch der
Pharmakognosie, 1 ed., v. 2, p. 1597.)

Gives results of a chemical investigation in which he unsuc-
cessfully tried to prove that gentian root contains tannin.

Winkler, E.

1840

Gentiana lutea

Winkler, Real-Lexikon, v. 1, p. 641.

Gives synonyms, an extensive description, constituents, and
common adulterants of the sort of *Gentiana lutea*.

Culpeper, N.

1843

Gentiana

The Complete Herbal, p. 222.

Gives common names and uses of gentian. On page 88 describes
several species of gentian indigenous to the British Isles, giving
the habitat, time of flowering and virtues of each.

Paris, J. A.

1844

Tonics

Pharmacologica, p. 114; (Drugg. Circ., 44, p. 242.)

Gives the physiological action of gentian and other tonics.

Good, P. P.

1845

No. 60. *Gentiana lutea*

Good's Family Flora, v. 2, no. page; Ibid; 2 rev. ed., no page.

Gives a full page colored illustration of the flowering plant, habitat, properties, use, history and description of *Gentiana lutea*.

Baumert, M.

1847

Über die Feisammensetzung des Gentianins. Ann. der Pharm. und Chem., 62, p. 106. (Chem. Gazette, 5, p. 446; Am. Jour. Pharm., 20, p. 45; Ibid; 48, p. 117; Tschirch, Handbuch der Pharmakognosie, 1 ed., v. 2, p. 1597; Husemann, Die Pflanzenstoffe, p. 873.)

Lives method of extracting gentianin from gentian root, its composition and reaction with metallic salts, giving procedure and data.

Carson, J.

1847

(*Gentiana lutea*)

Illust. of Med. Bot., 2 ed., 12, pl. 60. Wood and Bache, (U. S. Dispens., 8 ed., p. 346; Ibid; 9 ed., p. 358; Ibid., 10 ed., p. 363; Ibid; 11 ed., p. 379; Ibid; 12 ed., p. 411; Ibid; 13 ed., p. 423; Ibid; 14 ed., p. 439; Ibid; 15 ed., p. 707; Ibid; 16 ed., p. 725; Ibid; 17 ed., p. 647; Ibid; 19 ed., p. 580.)

The original was not available.

Griffith, R. E.

1847

Gentiana. Linn.

Medical Botany, p. 460; (Good's Family Flora, p. ---.)

Gives a description, common names, foreign names, habitat, history, adulteration with parallel drugs, constituents, medical properties and uses of gentian root and an illustration of *Gentiana lutea*.

Gray, A.

1848

Gentiana, L. Gentian.

Manual of the Botany of the Northern United States, 1 ed; p. 358. (Stille & Maisch, Nat. Dispens., 3 ed., p. 729; Ibid., 5 ed., p. 771.)

Gives a description of the flower of *Gentiana lutea* and the derivation of the name.

Neill, J.

1848

Gentian. (*Gentiana*, U. S.)

Handbook of Materia Medica and Therapeutics, p. 47.

Gives habitat, description, constituents, properties, uses, dose, preparations and an illustration, the root of *Gentiana lutea*.

Redwood, T.

1849

On Drug Grinding

Pharm. Jour., 8, p. 218. (Am. Jour. Pharm., 21, p. 19.)

Reports a maximum of 16 lbs. & a minimum of 4 lbs. loss per 100 pounds in the grinding of gentian root.

Kuchenmeister, J.

1851

Versuche mit Gentianin impurum et non crystallisatum Archiv. fur physiologische Heilkunde, 10, p. 106; (Reil, Materia Medica der

reinen chemischen Pflanzenstoffe, p. 180.)

Gives an account and results of an experiment in which impure gentianin was fed to a hog.

Lange, G. O.

1851

(Gentian)

Deutsche Klinik, 36, p. ---. (Reil, *Materia Medica der reinen chemischen Pflanzenstoffe*, p. 180.)

The original was not available.

Guibourt, N. J. B. G.

1852

Gentiana

Historia Natural de las Drogas Simples, 4 ed., v. 2, p. 356.

Gives the habitat, description, constituents and uses of the root of *Gentiana lutea*.

King, J. & Newton, R.

1852

Gentiana Lutea

U. S. Eclect. Dispens., 1 ed., p. 188.

Gives habitat, properties, uses, and official preparations of the root of gentian.

Wiggers, A.

1853

Gentiana lutea

Grundriss der Pharmakognosie, 3 ed., p. 278.

Gives habitat and constituents of *Gentiana lutea* and allied species.

De Candolle, A. P.

1853

Species exclusae Prodomus Naturalis regni vegetabilis, v. 9, p. 62;
(Tschirch, Handbuch der Pharmakognosie, 1 ed., v. 2, p. 1590.)

Gives a technical description of the several species of *Gentiana*, including *lutea*.

Martins, T. W. C.

1853

On Gentian Root and the Production of Gentian Spirit in South Bavaria. Pharm. Jour., 12, 371; (Fluckiger and Hanbury, Histoire des drogues d'origine vegetale, v. 2, p. 99; Fluckiger and Hanbury Pharmacographia, 1ed; p. 391; Ibid; 2 ed; p. 435.)

Gives an account of the manufacture and effects of "gentian spirit" mentioning the observations of others.

Campagne, F. J.

1854

Gentiana lutea

Handbook vor Droogisten en Apothekers-Leerlingen, v. 1, p. 339.

Gives a monograph of *Gentiana lutea* and differentiates between this root and that of other species of *Gentiana*.

Lindley, J.

1856

Gentiana

Medical and Economical Botany, p. 194; (Good's Family Flora, p.---)

Gives description, habitat, uses and parallel species of *Gentiana lutea*.

Berg, O.

1857

Radix Gentianae Rabrae

Pharmazentische Waarenkunde, 2 ed., v. 2, p. 53; Ibid; 4 ed., v. 1, p. 77; Ibid, 5 ed., v. 1, p. 77.

Lives a detailed monograph and the current literature on the root of *Gentiana lutea*.

Reil, W.

1857

Gentianin

Materia Medica der reinen chemischen Pflanzenstoffe, p. 179.

Gives synonyms, origin, history, physical and chemical properties, physiological and therapeutic properties and preparations of gentianin.

Stearns, F.

1858

Suggestions Offered to the Committee on a Revision of the Pharmacopoea. Proc. Am. Pharm. Assoc., 7, p. 198; (Pharm. Jour., 68, p. 275.)

Includes gentian in a list of drugs of which the manufacture of concentrated fluid preparations is recommended.

Lessing, M. B.

1859

Gentiana rubra

Materia Medica, p. 102.

Gives synonyms, habitat, description, constituents, preparations and uses of the root of *Gentiana lutea*.

Hlasiwetz, H. & Habermann, J.

1860

Über das Gentisin. Ann. der Chim. und Pharm., 114, p. 296; (Berichte der deutschen chemischen Gesellschaft, 5, p. 1027; Ibid; 175, p. 62; Ibid; 180, p. 343.)

Discuss gentisin and give a method of extraction from gentian root.

Jenkins, T. E.

1860

(On the Detection of Strychnia and Other Vegetable and Animal Proximate Principles). Chem. News, v. ---; p. ---. (Am. Jour. Pharm. 33, p. 527.)

Gives color reactions when gentian is treated with sulphuric acid and with potassium bichromate.

Ludwig, H.

1861

Versuche, aus Extractum. Gentianae luteae. Arch. der Pharm., 157, p. 132. (Am. Jour. Pharm., 48, p. 117.)

Gives results of experiments in which he tries to isolate and identify the bitter principle of gentian root.

Kromayer, A.

1862

Über das Enzianbitter. Arch. der Pharm., 15, p. 255. (Ibid; 160, p. 27; Pharm. Zentralhl; 54, p. 549; Ann. der Pharm. und Chem., 21, p. 134; Ibid; 23, p. 465; Am. Jour. Pharm., 48, p. 117; Felter and Lloyd, King's Am. Dispens., 18 ed., 3 rev., v. 2, p. 924; Dig. Com. U. S. P. and N. F., 1913, p. 296; Tschirch, Handbuch der Pharmakognosie, 1 ed., v. 2, p. 1597; Fluckiger, Pharmakognosie des Pflanzenreiches, 3 ed., p. 418.)

In discussing the works of others he records his own experiments on gentian and lists the constituents found, particularly gentiopicrin.

Ludwig, H. & Kromayer, A.

1862

Über Gentianin

Sitzungsber. d. Wessensch. Acad. Wien., 45, p. 149. (Chem. Centralb., 34, No. 1, p. 14; Drugg. Circ., 7, p. 91; Proc. Am. Pharm. Assoc., 11, p. 92; Am. Jour. Pharm., 35, p. 330; Wood & Bache U. S. Dispens., 13 ed., p. 423; Ibid; 14 ed., p. 439; Tschirch, Handbuch der Pharmakognosie, 1 ed., v. 2, p. 1597.)

Chemists were long unable to discover or isolate the body to which gentian owes its bitter taste, but the authors obtained it from the alcoholic extract of the fresh root. They describe their experiments and give the properties of this bitter substance, gentiopicun, which is a glucoside because it will form a fermentable sugar and gentiogenin when a mineral acid is added.

Warncke, T. S.

1862

Enzianrod, Radix Gentianae Laegemidlermes, p. 321.

Discusses the constituents and preparations of gentian root.

Wiggers, H. A. L.

1862

Gentianeae, Gentianeen

Jahresb. der Pharm., 12; p. 31; (Tschirch, Handbuch der Pharmakognosie, 1 ed; v. 2, p. 1599.)

Gives history, constituents, chemistry, preparations and parallel species of *Gentiana lutea*.

(Editor)

1863

The Bitter Principle of Gentian. Pharm. Jour. 23, p. 184.

"Chemists had long been unable to isolate the body to which gentian owes its bitter taste until Ludwig and Kromeyer obtained it from the alcoholic extract of the fresh root of *Gentiana lutea*." The properties of this bitter principle, gentiopicrin, are given.

Wigand, A.

1863

Radix Gentianae rubrae. Enzian. Lehrbuch der Pharmakognosie, 1 ed.

p. 41.

Gives habitat, description, constituents, properties, parallel drugs, and adulterations of gentian root.

King, J.

1864

Gentiana Lutea

Am. Dispens., 6 ed., p. 441; *Ibid*, 10 ed., p. 382; *Ibid*; 15 ed., p. 382; *Ibid*; 16 ed., p. 382; *Ibid*; 18 ed., 1 rev., p. 382.

Gives description, habitat, constituents, properties, uses, and dose of gentian.

Berg, O.

1865

Radix Lentianae

Anatomischer Atlas zur Pharmazeutischen Waarenkunde, 1 ed; 1865.

Lives a detailed monograph on *Gentiana lutea*.

Carson, J.

1867

Gentiana lutea

Synopsis of *Materia Medica and Pharmacy*, v. 1, p. 122.

Gives official name, synonyms, description, properties, constituents, medical properties, dose and preparations of the root of *Gentiana lutea*.

Covell, T. J.

1867

A Contribution to the Statistics of Drug Powdering. *Am. Jour. Pharm.*, 39, p. 114.

In a table records show that an average loss of 11% is incurred in powdering gentian.

Henkel, J. B.

1867

Radix Gentianae rubrae. Enzianwurzel. Handbuch der Pharmakognosie, p. 26.

Gives the history, description, histology, constituents, adulterations and substitutions, and use of the root of *Gentiana lutea*.

Winckel, F.

1867

(Gentian)

Deutsche Klinik, p. ---. (All Med. C. Ztg., p. ---. Pharm. Jour., 28, p. 28; Am. Jour. Pharm. 40, p. 312.)

Due to its power of dilation, gentian root has been successfully substituted for ordinary tampons in strictures of the vulva, vagina, and uterus; for tamponing the uterus in small hemorrhages, for the induction of abortion, and for dilation after operations of the genital organs.

Magnes, L.

1868

(On glucose in gentian root)

A French journal, ---, ---. (Am. Jour. Pharm. Assoc. 40, p. 333; Proc. Am. Pharm. Assoc., 16, p. 191; Wood and Bache U. S. Dispens. 13 ed., p. 423; Ibid., 14 ed., p. 439; Ibid; 15 ed., p. 707; Ibid. 16 ed; p. 725; Ibid; 17 ed; p. 647; Ibid; 19 ed; p. 580.)

Reports that gentian root contains 15% of glucose when dried at 212° C.

Guibourt, N. J. B. G.

1869

Gentiane jaune

Histoire Naturelle des Drogues Simples, 6 ed., v. 2, p. 544; (Arch. der Pharm., 189, p. 229.)

Gives a description and the constituents of the root of *Gentiana lutea*, mentioning the work of Henry, Caventon and others.

Brown, O. P.

1870

Gentian. *Gentiana lutea*.

The Complete Herbalist., p. 78.

Gives description, history, habitat, constituents, properties, and dose of gentian root. Says that "uncrystallized Gentianin is a most valuable substitute for quinia" (quinine).

Husemann, A. & Husemann, T.

1871

Gentianaceae

Die Pflanzenstoffe, p. 873.

Discusses gentisic acid and gentiopicrin, with references.

Hoadley & Leckler

1872

Gentian

Catalogue of Medicinal Plants, p. 10.

Gives price, botanical name and properties of gentian.

Focklington, H.

1872

The Microscope in Pharmacy. Pharm. Jour., 32, p. 42. (Wood & Bache U. S. Dispens., 15 ed., p. 707; *Ibid*; 16 ed; p. 725; *Ibid*; 17 ed; p. 647; *Ibid*; 19 ed; p. 580.)

Gives a detailed description of gentian root as seen under the microscope and suggests the study of this root in advanced microscopy.

Schubeler, A.

-27-
1873

(Gentian)

Pflanzenwelt Norwegens, p. 259; Fluckiger, Pharmakognosie des Pflanzenreichs, 2 ed., p. 389; Ibid; 3 ed; p. 421; Fluckiger and Hanbury, Pharmacographia, 2 ed; p. 436.)

The original was not available.

Scudder, J. M.

1873

Gentiana lutea

Specific Medication and Specific Medicines, 4 ed; p. 145; Felter and Lloyd, King's Am. Dispens., 18 ed., 3 rev., v. 2, p. 926.)

Gives specific uses and a preparation of *Gentiana lutea*.

Fluckiger, F. A. & Hanbury, D.

1874

Radix Gentianae

Pharmacographia, 1 ed; p. 389; Ibid., 2 ed., p. 434. (Am. Jour. Pharm., 48, p. 117.)

Gives synonyms, botanical origin, habitat, history, description, microscopic structure, chemical composition, commerce, uses, substitutes and parallel plants of *Gentiana lutea*.

Hasiwetz, H. & Habermann, J.

1874

Über das Gentianin

Berichte der deutschen. Chem. Ges., 7, p. 652. (Chem. Centrabl., 5, pp. 375 & 568; Jahresb. der Pharm., 9, p. 309; Felter & Lloyd, King's Am. Dispens., 18 ed., 3 rev., v. 2, p. 924, Buchner, Neues Repert. für Pharmazie, 23, p. 631; Am. Jour. Pharm. 48, p. 118; Ibid; 47; p. 207; Meyer, Wissenschaftliche Drogenkunde, p. 275.)

Gives the structure of gentianin and lists a few of the substances that will cause it to precipitate from solution.

Allen, T. F.

1876

Gentiana lutea

The Encyclopedia of the Pure Materia Medica, v. 4, p. 407.

Gives name, synonym, preparation and extensive experiments in which daily results are recorded on all parts of the body when the tincture is taken in increasing doses for 5 successive days.

Hager, H.

1876

Angeblicher Gerbstoffgehalt der Enzianwurzel. Pharm. Centralhl., 17, p. 243. (Proc. Am. Pharm. Assoc., 25, p. 147.)

In referring to Maisch's experiments, states and offers proof that gentian contains no tannin, quoting from his Pharmazeutische Praxis in substantiation of his claims.

Maisch, J. M.

1876

Gentian Root Said to Contain Tannin. Am. Jour. Pharm., 48, p. 486. (Proc. Am. Pharm. Assoc., 25, p. 147; Felter & Lloyd, King's Am. Dispens., 18 ed., 3 rev., 2, p. 924; Fluckiger, Pharmakognosie des Pflanzenreiches, 2 ed., p. 388.)

In reply to Dr. Hager's criticism of Maisch's original communication, insists that gentian contains no tannin.

Patch, E. L.

1876

The Asserted Presence of Tannin in Gentian Root. Am. Jour. Pharm., 48, p. 188. (Wood & Bache U. S. Dispens., 15 ed., p. 707; Ibid., 16 ed., p. 725; Ibid., 17 ed., p. 647; Ibid., 19 ed., p. 580; Ibid., 20 ed., p. 514; Chem. & Drugg, 23, p. 390; Tschirch, Handbuch der Pharmakognosie, 1 ed., v. 2, p. 1597.)

Lists experimental evidence disproving the presence of tannin in gentian root.

Maisch, J. M.

1876

On the Asserted Presence of Tannin in Gentian Root. Am. Jour. Pharm., 48, pp. 117, 140 & 188. (Proc. N. C. Pharm. Assoc. 12, p. 53; Drugg Circ; 36; p. 55; Am. Jour. Pharm. 63, pp. 1 & 56; Pharm. Jour. 37, p. 182; Pharm. Jour. 35, p. 775; Pharm. Jour. 39, pp. 230 & 602; U. S. Dispens. 15 ed; p. 707; Ibid; 16 ed; p. 725; Ibid; 17 ed; p. 647; Ibid; 19 ed; p. 580; Ibid; 20 ed; p. 614; New Rem. 6, p. 305; Fluckiger, Pharmacognosie des Pflanzenreiches, 2 ed., p. 388.)

Lists numerous experimenters who could not find tannin in gentian & adds his own experiments which lead him to conclude that gentian contains no tannin.

Gelder, H. van

(1877)

(Tannin in Gentian)

Der Farmaceut, ---, p. ---; (New Rem., 6, p. 305.)

(Refers to the recent discussions on the presence or absence of tannin in gentian root.)

Itallie, L. Van

1877

Bijdragen tot de chemische der gentianwoortels. Nieuw Tijdschrift voor de Pharm. in Nederland, 20, p. 9; (Pharm. ztg., 32, p. 726; Meyer, Wissenschaftliche Drogenkunde, p. 275.)

Discusses the constituents and mentions the work of Maisch and others on gentian root.

Souberan, L.

1877

Recherches pour servir a l'histoire chimique de la racine de gentiane. ---. Presence d'un tannin. Jour. de pharm. et de chim. s. 4, v. 26, p. 61; (Jahresber. der Pharmakog., 12, p. 118.)

Gives a brief history of gentian root and mentions the work of Ville, Maisch, Patch and others who have tried to establish the presence or absence of tannin in the root.

Ville, J.

1877

Gentianae

Jahresber. der Pharm., 12, p. 118; (Am. Journ. Pharm. 49, p. 424; Proc. N. C. Pharm. Assoc. 12, p. 53; Am. Journ. Pharm. 52, p. 1, V. B. Pharm. 14, 217; Pharm. Jour., 39, p. 230; Tschirch, Handbuch der Pharmakognosie, 1 ed., v. 2, p. 1597; Wood & Bache, U. S. Dispens., 15 ed., p. 707; Ibid; 16 ed., p. 725; Ibid., 17 ed., p. 647; Ibid; 18 ed., p. 580; Ibid., 20 ed., p. 514; Fluckiger, Pharmakognosie des Pflanzenreiches, 2 ed., 389; Ibid; 3ed., p. 419.)

Discusses the presence of tannin in gentian root and gives the work and literature of others.

Fluckiger, F. A. and Hanbury, D.

1878

Racine de Gentiane. Histoire des drogues d'origine vegetale, v. 2, p. 97.

Gives synonyms, botanical origin, history, description, microscopic structure, chemical composition, commerce, uses, adulterations and parallel drugs of Gentian root.

Sayre, L. E.

1879

Gentiana

Organic Materia Medica, p. 65.

Gives habitat, description and adulterations of the root of *Gentiana lutea*, mentioning that the yellow color of the root is due to gentisic acid and its bitter taste due to gentiopicrin.

Corder, O.

1879

Note On Gentian Root

Pharm. Jour., 39, p. 221.

During a jaunt through Switzerland Corder found that large quantities of *Gentiana lutea* and *G. punctata* were indiscriminately collected for pharmaceutical purposes. When in the growing state the two plants are similar, but they may be distinguished by their flowers.

Davies, E.

1879

The presence of Tannin in Gentian Root. Chem. & Drugg., 21, p. 378; (Pharm. Jour., 39, p. 230; Wood & Bache U. S. Dispens., 15 ed., p. 707; Ibid., 16 ed., p. 725; Ibid.; 17 ed., p. 647; Ibid., 19 ed., p. 580; Ibid., 20 ed., p. 514; Proc. N. C. Pharm. Assoc., 12, p. 53; Drug. Circ., 36, p. 55; Am. Jour. Pharm., 52, p. 2, Tschirch, Handbuch der Pharmakognosie, 1 ed., v. 2, p. 1597; Fluorkiger, Pharmakognosie des Pflanzenreichs, 2 ed., p. 388.)

Gives the results of experiments in which he finds small quantities of tannin, which he suspects to be gallotannic acid, in gentian root.

Haddock, A. G.

1879

Volumetric Estimation of Sulphuric Acid Tannin, etc. Chem. News., 39, p. 156. (Pharm. Jour., 39, p. 230.)

Gives a volumetric method for the estimation of tannin in gentian.

Stille, A. & Maisch, J.

1879

Gentiana

Nat. Dispens., 1 ed., p. 665; Ibid. 2 ed., p. 667.

Gives synonyms, habitat, description, constituents, official preparations, medical action, uses, and dose of gentian.

Bentley, R. & Trinen, H.

1880

Gentiana lutea

Medicinal Plants, v. 3, p. 182; (Luerksen, Die Pflanzen der Pharmacopoea germanica, p. 570; Stille & Maisch, Nat. Dispens., 3 ed. p. 729; Ibid., 5 ed., p. 771; Felter & Lloyd, King's Am. Dispens., 18 ed., 3 rev., v. 1, p. 924; Tschirch, Handbuch der Pharmakognosie, 1 ed., v. 2, p. 1950; Fluckiger, Pharmakognosie des Pflanzenreichs, 3 ed., p. 436.)

Gives synonyms, description, habitat, official part and names general characteristics and composition, adulterations and substitutions, parallel species, medicinal properties, uses and a full page colored illustration of gentian root.

Campbell, M. & Crawford, J.

1880

Arrangement of Animal & Vegetable Drugs of the Pharmacopoeia, 1880. Synopsis of Natural Orders, 1, ed., p. 6.

Gives common name, official name, botanical origin, part used, medical properties, dose, and habitat of *Gentiana lutea*.

Wilson, B. O. & Wilson, C. C.

1880

Gentian Root

Catalogue of Roots, Herbs, Barks, Leaves, etc., p. 13.

In a list of drugs gives common and botanical names and properties of gentian.

(Editor)

1881

Market Report

Chem. & Drugg., 23, p. 506.

"Gentian root is rather dear this season, owing to the strict

prohibition on the part of the Italian Government, to dig the root up, to prevent landslips, which have been rather frequent of late."

Fluckiger, F. A.

1881

Radix Gentianae

Pharmakognosie des Pflanzenreiches, 2 ed., p. 386; Ibid., 3 ed., p. 417. (Felter & Lloyd, Am. Dispens., 18 ed., 3 rev., v. 20, p. 924; Tschirch, Handbuch der Pharmakognosie, 1 ed., v. 2, p. 1590.)

Gives synonyms, habitat, description, constituents, preparations, parallel drugs and uses of the root of *Gentiana lutea*. Gives literature and mentions the work of others.

Kennedy, G. W.

1881

Constituents of *Frasera Walteri*. Am. Jour. Pharm., 53, p. 280. (Felter & Lloyd King's Am. Dispens., 18 ed., 3 rev., v. 2, p. 924; Proc. Am. Pharm. Assoc., p. 636; Am. Jour. Pharm., 52, p. 1, Tschirch, Handbuch der Pharmakognosie, 1 ed., v. 2, p. 1597; Fluckiger, Pharmakognosie des Pflanzenreiches, 1 ed., p. 388.)

Believes that the constituents of American colombo and *Gentiana lutea* are almost identical and gives results of his experiments.

Meyer, A.

1881

Über Gentianose

Ptschr. physiol. Chem., 6, p. 135. (Pharm. Zentralbl., 53, p. 219; Wood & Bache, U. S. Dispens., 16 ed., p. 725; Ibid; 17 ed., p. 647; Ibid; 19 ed., p. 580; Ibid; 20 ed., p. 514; Ibid; 21 ed., p. 516; Tschirch, Handbuch der Pharmakognosie, 1 ed., v. 2, p. 1597; Husemann, Die Pflanzenstoffe, 2 ed., v. 2, p. 1278.)

Mentions that this crystalline body was extracted from the body and root of *Gentiana lutea*, and gives $C_{36}H_{66}O_{33}$ as its formula.

Patch, E. L.

1881

Reaction Between Tinctura Ferri Chloridi and Tinctura Gentianae Composita Proc. Am. Pharm. Assoc., 29, p. 457. (Wood & Bache's U. S. Dispens., 16 ed., p. 725; Ibid; 17 ed., p. 647; Ibid; 19 ed., p. 580; Ibid; 20 ed., p. 514; Ibid; 21 ed., p. 516; Ibid; Am. Jour. Pharm., 53, p. 508; Proc. Am. Pharm. Assoc., 29, p. 504; Drug. Circ., 20, p. 48; Am. Jour. Pharm., 48, p. 117.)

In reply to Query 13--"The presence or absence of tannin in the root of *Gentiana lutea*"---discusses the absence of tannin in the root of *Gentiana lutea*, since the statements on this subject are conflicting. The results of his experiments prove that a black color, resulting when tincture of ferric chloride is added to tincture of gentian, is not the result of the presence of tannin. He concludes that the brown coloring matter produced is partly due to gentisic acid and gentiopicroin. He also lists the experiments of others and extensive literature to prove his contentions. He finds an iron-greening body, but insists that it is not tannin.

Patch, E. L.

1882

A Paper on Gentiopicroin Am. Jour. Pharm., 54, p. 526.

Details his experiments for obtaining gentiopicroin in the crystalline state from the dried root of gentian. He was unsuccessful, thus corroborating Kromayer's observations.

(Editor)

1883

Notes and Queries

Drug. Circ., 27, p. 88.

In reply to G. F. (Baltimore, Md.) says, "Gentian contains no tannin and therefore requires no detannating process when it is to be combined with iron salts. One of its chemical constituents, however, strikes a dark color with ferric salts, but strange enough is not affected by ferrous salts, even on being stored a long time."

(Editor)

1883

Review of Markets for 1882. Chem. & Drugg., 25, p. 42.

"Gentian root is scarce owing to difficulties placed in the way of obtaining it by the French Government. Good quality is not obtainable under 40s. per cwt."

Flint, J. M.

1883

Series III.--Bicarpellatae. Classification of the Materia Medica Collection of the U. S. National Museum, p. 434.

Classifies Gentianaceae under Bicarpellatae.

Luerssen, G.

1883

Gentiana lutea.

Die pflanzen der Pharmacopoea germanica, p. 568.

Gives illustrations, habitat, descriptions, constituents, adulterations, and allied plants of *Gentiana lutea*.

Merrell, A.

1883

Gentiana Lutea. Gentian

A Digest of Materia Medica and Pharmacy, p. 231.

Gives the constituents, preparations, uses and dose of the root of *Gentiana lutea*.

Meyer, A.

1883

Ueber *Gentiana lutea* und ihre nachsten Verwandten. Arch. der Pharm., 221, pp. 488 & 561. (Proc. Am. Pharm. Assoc., 32, p. 14-2; Tschirch, Handbuch der Pharmakognosie, 1 ed., v. 2, p. 1597;

Meyer, Wissenschaftliche Drogenkunde, p. 275.)

Gives a long description of *Gentiana lutea* and parallel species, illustrated with 30 woodcuts.

Wood, G. B. & Bache, F.

1883

Gentiana. U. S.

U. S. Dispens., 15 ed., p. 707; Ibid; 16 ed., p. 725; Ibid; 17 ed., p. 647; Ibid; 19 ed., p. 580; Ibid; 20 ed., p. 514; Ibid; 21 ed., p. 516.

Gives in addition to the general information of previous editions, a drawing of the transverse section, formulae, names & properties of acids and glucosides of gentian.

(Editor)

1884

Notes & Queries

Drug. Circ., 28, p. 74.

In reply to G. (Norwich, N. Y.) says, "As to the attempted removal of the tannin, it would be quite a useless procedure since gentian contains none, and the coloration of the iron salt is due to a different principle of the root."

(Editor)

1884

Queries and Answers

Am. Drugg. 13, p. 238.

"Fresh gentian root is yellowish-gray externally and white or nearly so internally. As it dries with age it becomes darker in old roots to a deep reddish-brown."

Fluckiger, F. A.

1884

Radix Gentiane--Enzianwurzel Grundriss der Pharmakognosie, p. 171.

Gives the pharmacognosy of *Gentiana lutea*, and mentions that gentian root was used extensively in ancient times.

Hedges, H. T.

1884

Gentian root

Hedges' Polyglot Index, p. 60.

Gives various foreign names of Gentian root.

Stille, A. & Maisch, J.

1884

Gentiana

Nat. Dispens., 3 ed., p. 729; Ibid; 5 ed., p. 771.

In addition to the data on *Gentiana lutea* a general paragraph on American gentiana has been added.

Watzke, P. A.

1884

(Gentian)

Oesterreich Feitschrift der homoopathischen Aerzte, p. 140; (Williers and Thumen, Die Pflanzen des homoopathischen Arzneischatzes, v. 1, p. 204.)

The original was not available.

Gehe & Co.

1885

(Gentian)

Handelsbericht, 1885, p. 22; (Meyer, Wissenschaftliche Drogenkunde, p. 275.)

The original was not available.

Kreuz, C.

1886

Gentiana

Pharmakognosie, p. 96.

Gives synonyms, habitat, description, constituents, adulterations and uses of the root of *Gentiana lutea*.

Marne, W.

1886

Radix Gentianae

Lehrbuch der Pharmakognosie, p. 43.

Gives the history, habitat, description, anatomical structure, preparations, constituents, adulterations, and uses of the root of *Gentiana lutea*.

Andrews, E.

1887

The Action of Iron on Gentian, catecher, etc. in Presence of Dilute Phosphoric Acid. Pharm. Jour., 47, p. 188.

Proved by experiments that the inky color, produced by the mixing of liquor ferri perchloridi and the fresh infusion of the root of *Gentiana lutea*, is discharged when a small quantity of dilute phosphoric acid is added.

Jackson, J. R.

1887

The Cultivation of Medicinal Plants as a Home Industry. Chem. & Drugg., 30, p. 420.

Gives uses and habitat of *Gentiana lutea*.

Maisch, J. M.

1887

Gentiana.--Gentian

Manual of Organic Materia Medica, 3 ed., p. 57; Ibid; 5 ed., p. 58; Ibid; 6 ed., p. 57.

Gives botanical origin, habitat, description, structure, constituents, properties, dose, and an illustration of the root of *Gentiana lutea*.

Wigand, A.

1887

Radix *Gentianae Albae*. Weisser Enzian. Lehrbuch der Pharmakognosie, 4 ed., p. 58.

Gives a description, taste of gentian and parallel drugs.

Huxley, T. H.

1888

The Gentians. Notes & Queries. Jour. of the Linnean Soc., 24, p. 101; (Fluckiger, Pharmakognosie des Pflanzenreichs, p. 420; Tschirch, Handbuch der Pharmakognosie, 1 ed, v. 2, p. 1590.)

Classifies the gentians, gives descriptions and habitats.

Itallie, L. von

1888

Über den Gerbsäuregehalt der Enzianwurzel. Arch. der Pharm., 226, p. 311; (Fluckiger, Pharmakognosie des Pflanzenreichs, 3 ed., p.

419; Tschuch, Handbuch der Pharmakognosie, 1 ed., v. 2, p. 1597.

Discusses the presence of tannic acid in gentian root.

Thompson, G. J.

1888

Note on the Presence of Tannin in Gentian Root. Pharm. Jour., 47, p. 500. (Drugg. Circ., 32, p. 29; Tschirch, Handbuch der Pharmakognosie, 1 ed., v. 2, p. 1597; Pluckiger, Pharmakognosie des Pflanzenreichs, v. 3, p. 419.)

After giving the results of the experiments of others, gives his own experiments which indicate that tannin in some form is present in gentian root.

Gregory, J. R.

1889

Answer to Query No. 4

Proc. Ga. Pharm. Assoc., 14, p. 53. (Am. Jour. Pharm., 61, p. 552; Proc. Am. Pharm. Assoc., 38, p. 394.)

Lists *Gentiana lutea* among the "Exotic" plants which may be profitably collected in Georgia.

Parke Davis & Co.

1890

Gentian

Organic Materia Medica, 2 ed., p. 85.

Gives properties and preparations, together with their individual doses, of gentian.

Kostanecki, St. Von

1891

Über das Gentisin

Monatsch fur Chemie, 12, p. 205; (Tschirch, Handbuch der Pharmakognosie, 1 ed., v. 2, p. 1597.)

Gives physical properties, and method of preparation of gentisin, and also gives the preparation of triacetyl-gentisin. Discusses the work of others and gives literature.

Kostanecki, St. von & Schmidt, E.

1891

Uber das Gentisin

Monatsch fur Chemie, 12, p. 318; (Tschirch, Handbuch der Pharmakognosie, 1 ed., v. 2, p. 1597.)

Discusses gentisin dimethyl ether and acetyl gentisin monomethyl ether, giving the chemistry and the results of their experiments with these compounds.

Kostanecki, St. von

1891

Uber das Gentisin

Schweiz. Wochensch. fur Pharm., 29, p. 59; (Ber. der Deutsch. Chem. Ges. Ref., 20, v. 1, p. 190; Felter & Lloyd, King's Am. Dispens., 18 ed., 3 rev., v. 1, p. 924; Wood & Bache, U. S. Dispens., 17 ed., p. 647; Ibid; 19 ed; p. 580; Ibid; 20 ed., p. 514; Ibid, 21 ed., p. 516; Am. Jour. Pharm., 63, p. 192.)

Gives physical properties, composition, and formula of gentisin.

Meyer, A.

1891

Radix Gentianae

Wissenschaftliche Drogenkunde, pt. 1, pp. 17, 32, 67, 69, 83, 87, and 275.

Gives collection, preparation for commerce, morphology and anatomy, chemistry, botanical origin, habitat, literature and illustrations of gentian root.

Wearn, W. H.

1891

Tannin Present & Removable from Gentian Without Its Associated Principles. Proc. N. C. Pharm. Assoc., 12, p. 53. (Drug. Circ., 36, p. 55; Am. Jour. Pharm., 52, p. 2.)

In an attempt to reconcile conflicting opinions, gives a detailed description of his experiments to prove that the root of *Gentiana lutea* contains tannin which may be extracted without injury to the drug.

(Editor)

1893

Notes & Queries

Drug. Circ., 37, p. 206.

Refers to Maisch's experiments on the presence of tannin in gentian and notes conflicting ideas on this subject. Gives method of preparing a tincture of gentian which will not be incompatible with iron salts.

Villers, A. von & Thumen, F. von

1893

Gentiana lutea Lin. Die Pflanzen des homöopathischen Arzneischatzes, v.1, p. 203.

Gives synonyms, literature, description, preparations, chief constituent and uses of gentian. In volume 2, plate 83, gives a colored illustration of the flowering plant.

Howell, E. V.

1894

The Yellow Coloring Matter of Gentian Proc. N. C. Pharm. Assoc., 15, p. 127; (Drugg. Circ., 39, p. 127; Pharm. Jour., 54, p. 1196.)

In view of the indecision regarding the presence of tannin in gentian, records his personal experiments which lead him to believe that the coloring matter in gentian may be quercitrin and not tannins as is commonly believed.

Kostanecki, St. von & Tamber, J.

1894

Synthese des Gentisins

Monatsch. fur Chemie, 15, p. 1; (Tschirch, Handbuch der Pharmakognosie, 1 ed., v. 2, p. 1597.)

Gives results of experiments in which they synthesized gentisin.

Sayre, L. E.

1895

Gentiana.--Gentian.

A Manual of Organic Materia Medica & Pharmacognosy, p. 313.

Gives illustration of the flowering head of *Gentiana lutea*, description, habitat, constituents, action, uses and official preparations of the root.

Waggaman, S.

1895

Gentiana lutea

A Complete Compendium of Botanic Materia Medica, p. 52.

Gives habitat, derivation of name, description, constituents, properties, preparations and uses of gentian.

(Dietrich, Karl, Editor)

1897

Radix Gentiane

Helfenberger Annalen, 12, p. 359. (Helfenberger Annalen, 18, p. 124; Pharm. Jour., 73, p. 475.)

Gives the results of preparing aqueous extract of gentian and in a table shows the percentage of extractive obtained from each sample.

Dohme, A. R.

1897

Gentian Root

Drug. Circ., 41, p. 178; Tschirch, Handbuch der Pharmakognosie, 1 ed., v. 2, p. 1594.)

Gives derivation of name, habitat, description, constituents, and their chemistry, the use made of the root in the manufacture of gentian whiskey, and the harm resulting from its use.

Dohme, R. L.

1897

The Histology & Pharmacognosy of Dandelion, Gentian, Eucalyptus, Conium, True & False Gelsemium & Mandrake. Drugg. Circ., 41, p. 178. (Dig. Com. U. S. F. & N. F., 1898, part 2, p. 68.)

Gives histology & pharmacognosy of *Gentiana lutea*.

Hansen, A.

1897

Radix Gentianae Albae. Drogenkunde, p. 22.

Gives synonym, description, constituents and use of gentian root.

Jackson, J. R.

1897

The Gentians

Pharm. Era, 18, p. 285; Chem. & Drugg., 51, p. 198.

Gives a description and the habitat of *Gentiana lutea* and others.

Ferrot, E.

1897

Anatomie Comparee des Gentianees aquatiques (Meyanthees Griseb.)
Bull. soc. bot. de France, 44, p. 340; (Tschirch, Handbuch der
Pharmakognosie, 1 ed., v. 2, p. 1594).

Gives an anatomical description and compares the aquatic
species of gentian.

Perrot, E.

1897

Sur une particularite de structure de l'epiderme inferieur de la
feuille chez certaines gentianees aquatiques. Jour. de botanique,
---, p. 195; (Tschirch, Handbuch der Pharmakognosie, 1 ed., v. 2,
p. 1594.)

Discusses the structure of the epidermis of aquatic species
of the Gentianaceae and gives 4 plates of illustrations.

Perrot, E.

1897

Sur le tissu crible extra-liberien et le tissu vasculaire extra-
ligneux. Compt. rend., 125, p. 1115; (Tschirch, Handbuch der
Pharmakognosie, 1 ed., v. 2, p. 1594.)

Discusses the vascular and woody tissues found in various
species of Gentiana.

Sayre, L. E.

1897

Drug Extraction: A Problem in Percolation. Drugg. Circ., 41, p.
213. (Dig. Com. U. S. P. & N. F., 1898, part 2, p. 68.)

Gives experimental data on the extraction of gentian and other
drugs and the experiments in repercolation made by E. W. Kelly.

Squibb, E.

1897

Solid Extracts-Yield and Standardization. Proc. Am. Pharm. Assoc., 45, p. 415. (Drugg. Circ., 41, pp. 120 & 214; Dig. Com. U. S. P. & N. F., 1898, part 2, p. 68.)

In a table shows that 35% of solid extract was obtained from gentian root.

Wall, O.

1897

Notes on Pharmacognosy

Meyer Bros. Drugg., 18, p. 92.

Gives the pharmacognosy of gentian, and includes a large plate illustrating the root.

Bourquelot, E. & Nardin, L.

1898

Sur la preparation du gentianose. Compt. rend., 126, p. 280. (Zeitschr. f. physiol. Chem., 7, p. 135; Drug. Circ., 42, p. 87; Pharm. Jour., 68, p. 275; Tschirch, Handbuch der Pharmakognosie, 1 ed., v. 2, p. 1597; Jour. de pharm. et de chim., s. 6, v. 7, p. 289; *ibid*; s. 6, v. 13, p. 37.)

Comment on the work of Arthur Meyer, give an account of their own experiments, and give some of the properties of gentianose.

Bourquelot, E. & Herissey, H.

1898

Sur le hydrolyse de la pectine de gentiane. Jour. de pharm. et de chim., s. 6, v. 7, p. 49. (Repert. de pharm., s. 3, v. 10, p. 249; Remington & Wood U. S. Dispens., 19 ed., p. 580; *ibid.*, 20 ed., p. 514; *ibid*; 21 ed., p. 516; Pharm. Jour., 61, p. 217; Proc. Am. Pharm. Assoc., 47, p. 539; Chem. News, 78, p. 108; Tschirch, Handbuch der Pharmakognosie, 1 ed., v. 2, p. 1597.)

Gives an experiment in which they obtain the pectin of gentian, and list results of treating this pectin with nitric and sulphuric acids.

Bourquelot, E. & Herissey, H.

1898

Sur la Matière gélatineuse (pectin) de la racine de gentiane. Jour. de pharm. et de chim., s. 6, v. 7, p. 473; Ibid; s. 6, v. 8, p. 145; Ibid; s. 6, v. 9, p. 330; Repert. de pharm., s. 3, v. 10, p. 231; Compt. rend., 132, p. 571; Pharm. ztg., 43, p. 339; Pharm. Jour., 61, p. 26; Ibid; 66, p. 423; Am. Jour. Pharm. Assoc., 47, p. 530; Dig. Com. U. S. P. & N. F., 1901, p. 88; Drugg. Circ., 42, p. 164; Tschirch, Handbuch der Pharmakognosie, 1 ed., v. 2, p. 15-97.)

Confirm the statement of Fournede and Figuier (1847) that the gelatinous body of gentian root is pectin. They offer results of their own experiments and give a method of preparation and properties of this pectin.

Bourquelot, E.

1898

Sur la physiologie du gentianose; son de dedoublement par les ferments solubles. Jour. de pharm. et de chim., s. 6, v. 7, p. 369; (Tschirch, Handbuch der Pharmakognosie, 1 ed., v. 2, p. 1597.)

Gives the chemistry of gentianose based on the results of experiments.

Bourquelot, E. & Herissey, H.

1898

De l'action des ferments sur les produits pectiques de la racine de gentiane. Journal de pharmacie, 147, p. 145; (Chem. News, 79, p. 709; Tschirch, Handbuch der Pharmakognosie, 1 ed., v. 2, p. 15-97.)

Describe their investigation of the so-called pectous principle of gentian root, which, as the account of their experiments proves, was absent. The result of their experiments is the finding of crystals of arabinose.

(Editor)

1898

Economics at Kew. Chem. & Drugg., 52, p. 995.

"*Gentiana lutea*, or yellow Gentian is a handsome herbaceous perennial of Central & Southern Europe, well known on account of its bitter properties and bright yellow flowers."

Kraemer, H.

1898

Qualitative Examination of Powdered Vegetable Drugs. Proc. Am. Pharm. Assoc., 46, pp. 320 & 325. (Dig. Com. U. S. F. & N. F., 1901, pt. 3, p. 88; Tschirch, Handbuch der Pharmakognosie, 1 ed., v. 2, p. 1594.)

Gives the microscopical characteristics of powdered gentian root.

Ferrot, E.

1898

Etude Generale sur les Gentianees. Ann. des soc. nat. bot., s. 6, v. 7, p. 104; (Tschirch, Handbuch der Pharmakognosie, 1 ed., v. 2, p. 1594.)

Gives a detailed anatomical description with illustrative plates of the species of the Gentiannaceae.

Ferrot, E.

1898

Sur la structure anatomique de la tige des Gentianacees. Bull. de l'assoc. France p. avanc. sc., 1898, pt. 2, p. 353. (Tschirch, Handbuch der Pharmakognosie, 1 ed., v. 2, p. 1594.)

The original was not available.

Stedem, L. S. A.

1898

Some Cheaper Solvents for the Extraction of Active Drug Principles. Proc. Pa. Pharm. Assoc. 21, p. 116. (Dig. Com. U. S. P. & N. F., 1901, pt. 3, p. 88.)

Gives results of the extraction of gentian root with 40% acetic acid as in menstruum.

Bourquelot, E. & Herissey, H.

1899

Sur la membrane cellulaire de la racine de gentiane. Jour. de pharm. et de chim., s. 6, v. 9, p. 330. (Am. Jour. Pharm., 72, p. 346; Tschirch, Handbuch der Pharmakognosie, 1 ed., v. 2, p. 1597.)

Give results of an experiment in which they have isolated almost pure cellulose and a substance having all the characteristics of dextrose from gentian root.

(Editor)

1899

Answers to Queries. Pharm. Jour., 62, p. 138.

Gentian contains no tannin. "The bitter taste is due to a glucoside--gentiopicrin."

Peckolt, I.

1899

Heil-und Nutzpflanzen Brasiliens. Ber. der Pharm. Ges., 9, p. 222; (Tschirch, Handbuch der Pharmakognosie, 1 ed., v. 2, p. 1599.)

Includes the Gentianaceae among the useful and medicinal plants of Brazil.

Schelenz, H.

1899

Gentiana

Pharmakognostische Karte, no page.

On a map indicates that gentian is indigenous to central Europe.

Bourquelot, E. & Herissey, H.

1900

Sur la preparation de la gentiopicrine, glucoside de la racine fraiche de gentiane. Compt. rend., 131, p. 113. (Ibid; 131, p. 750; Ibid; 141, p. 207; Jour. de pharm. et de chim., s. 6, v. 13, p. 37; Ibid; s. 7, v. 21, p. 306; Pharm. Jour., 65, p. 261; Ibid, 68, p. 275; Dig. Com. U. S. P. & N. F., 1920, p. 267; Tschirch, Handbuch der Pharmakognosie, 1 ed; v. 2, p. 1597.

Report experiment in which they isolated gentiopicrin from the fresh, sliced root of *Gentiana lutea*.

Bourquelot, E. & Herissey, H.

1900

Sur la presence simultanee de saccharose et de gentianose das la racine fraiche de gentiane. Comp. rend., 131, p. 750; (Jour. de pharm. et de chim., 6, v. 13, p. 37; Tschirch, Handbuch der Pharmakognosie, 1 ed; v. 2, p. 1597.)

Prove that both saccharose and gentianose are found in fresh gentian root.

(Editor)

1900

The Materia Medica of the Pharmacopoea Pharm. Jour., 64, p. 637.

Gives the pharmacognosy of *Gentiana lutea* and includes seven drawings of the root in longitudinal and cross-section.

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

1900

Gentiana

King's Am. Dispens., 18 ed., 3 rev., v. 2, p. 924.

Gives common names, habitat, description, composition, action, medical uses, and specific indications and use of gentian. Also a paragraph on related species.

Moor, C. G. & Priest, M.

1900

The Ash of B. P. Drugs. Pharm. Jour., 65, p. 111. (Dig. Com. U. S. P. & N. F., 1901, pt. 3, p. 88; Tschirch, Handbuch der Pharmakognosie, 1 ed., v. 2, p. 1597.)

Records results of ash determination of gentian root.

Sterling, C. & Sayre, L. E.

1900

Gentian Root: Its Description in 1900. Drug. Circ., 44, p. 242. (Proc. Am. Pharm. Assoc., 49, p. 685)

The structure of gentian is described in detail together with several suggested changes in its monograph for the next revision of the U. S. Pharmacopoea. Three illustrations are included.

Bourquelot, E. & Herissey, H.

1901

Sur la constitution du gentianose. Compt. rend., 132, p. 571. (Pharm. Jour., 66, p. 423; Tschirch, Handbuch der Pharmakognosie, 1 ed., v. 2, p. 1597; Jour. de pharm. et de chim., s. 6, v. 13., p. 305; Ibid; v. 16, p. 417.)

Report the results of an experiment showing that gentianose, the polyglucose of gentian root, is a hexotriose and can be hydrolyzed to a new sugar, gentiobiase.

(Editor)

1901

A Bitter Freak

Chem. & Drugg., 59, p. 170.

Gives illustrations of two curious shaped roots of gentian.

Schimper, A. F. W.

1901

Gentianaceae

Repetitorium der pflanzlichen. Pharmakognosie und officinellen Botanik, 3 ed., p. 30.

Gives a description and the uses of gentian.

Alcock, F. H.

1903

Chips from a Pharmaceutical Workshop Gentian. Pharm. Jour., 70, p. 449. (Drug. Circ., 43, p. 262.)

States that the adulteration of ground gentian root by the addition of scammony root and Calamus acorus rhizome is the cause of the presence of starch in the powdered root.

Bourquelot, E. & Herissey, H.

1902

Sur le gentioliase cristallise. Jour. de pharm. et de chim., s. 6, v. 16, p. 417; (Tschirch, Handbuch der Pharmakognosie, 1 ed., v. 2, p. 1597.)

Crystallized gentiobiose from both ethyl and methyl alcohol.

Bourquelot, E. & Herissey, H.

1902

Recherches sur le gentianose. Ann. de chim. et de phys., s. 7, v. 27, p. 397; (Tschirch, Handbuch der Pharmakognosie, 1 ed., v. 2, p. 1597.)

Give results of a detailed investigation of gentianose including its preparation from the root.

Bourquelot, E. & Herissey, H.

1902

Les sucres de la poudre et de l'extrait de gentiane; preparation du gentiobiose en partant de ces medicaments. Jour. de pharm. et de chim., s. 6, v. 16, p. 513. (Proc. Am. Pharm. Assoc., 51, p. 754; Pharm. Jour., 70, p. 234; Remington & Wood, U. S. Dispens., 19 ed., p. 580; Ibid., 20 ed., p. 514; Tschirch, Handbuch der Pharmakognosie, 1 ed., v. 2, p. 1597.)

In an account of their experiments give the advantages of carefully drying gentian root, and describe how the root is artificially aged to acquire a desirable color. List the constituents of the root, aqueous extract, and powdered gentian.

Greenish, H. & Lenton, W. 1902

Extract of Gentian

Pharm. Jour., 68, p. 275.

Give results of their experiments with gentian root, listing constituents, their chemistry and properties, with numerous references.

Greenish, H. & Lenton, W. 1902

Extract of Gentian

Pharm. Jour., 68, p. 219. (Ibid., 68, p. 319; Yr. Bk. Brit. Pharm. Conf., 39, p. 233.)

States that the official method of treatment of gentian root in preparing Extract of Gentian does not exhaust all of the bitter principle. They offer a new method which they have perfected after many laborious experiments.

Greenish, H. & Lenton, W. 1902

Extract of Gentian

Brit. & Col. Drugg., 41, p. 230. (Am. Drugg., 41, p. 43.)

List a planned series of experiments and give their conclusions, as a result of which they offer a monograph for Extract of Gentian for inclusion in the next edition of the British Pharmacopoea.

Hartwich, C. & Uhlmann, W.

1902

Beobachtungen über den Nachweis des fetten Oeles und seine Bildung, besonders in der Olive. Archiv. der Pharm., 240, p. 474. (Proc. Am. Pharm. Assoc., 51, p. 928; Tschirch, Handbuch der Pharmakognosie, 1 ed; v. 2, p. 1597.)

States that a non-saponifiable but cholesterin-like fatty oil is found in gentian root. It is most abundant in the fall growth of the root. Gives the properties and various tests for the oil.

Kraemer, H.

(1902)

Gentiana.--Gentian

A Text-Book of Botany and Pharmacognosy, 2 ed., p. 483; Ibid., 3 ed., p. 483; Ibid., 4 ed., p. 483.

Gives parts official, habitat, description, constituents, inner structure, allied plants, and includes 3 large illustrations. Also on page 362 of the above editions includes the Gentianaceae in a classification of plants.

Kraemer, H.

1902

Gentiana (Gentian)

A Course in Botany & Pharmacognosy, p. 147.

Gives parts official, habitat, time of collection, commercial sources, description, constituents and allied plants of *Gentiana lutea*.

Mumbray, R.

1902

Extractum Gentianae

Pharm. Jour., 68, p. 262.

The author, an old pharmacist, gives his method for obtaining an aqueous extract of gentian root.

Tauret, G.

1902

Sur l'extraction des sucres reducteurs (Monoses.) Bull. Soc. Chim., s. 3, v. 33, p. 392. (Ibid; s. 3, v. 33, p. 1071.)

Gives his methods of extracting the various reducing sugars from gentian root.

Gadd, H. W.

1903

Suggested Standard to Tinct. Gentianae Co. Pharm. Jour., 70., p. 461.

Lists results of several experiments and suggests a new standard for Compound Tincture of Gentian.

Bartwich, C. & Uhlmann, W.

1903

(Oil of Gentian Root)

Archiv. fur Pharmazie, ---, pp. 240 & 474; (Am. Drugg., 43, p. 331; Tschirch, Handbuch der Pharmakognosie, 1 ed., v. 2, p. 1594.)

(Finds that the fatty material of gentian root is not saponifiable oil, but a substance analagous to cholesterin. Lists tests, for the oil, physical properties of the fat, the method by which it is extracted from the root and the method by which the bitter principle is removed from gentian root.)

Holmes, E. M.

1903

The Bitterness of Tincture of Gentian. Pharm. Jour., 70, p. 623.

The tincture made from "red" gentian root is less bitter than that made from the "white" root because the "red" root is dried in heaps with a little heat, and a sweet flavor is developed.

Moor, C. G.

1903

Suggested Standard for Tinct. Gentianae Co. Pharm. Jour., 70, p. 461.

Gives the results of his own experiments and those of others, and the author suggests a new standard for Compound Tincture of Gentian.

Perry, G.

1903

Compound Tincture of Gentian. B. P. Pharm. Jour., 70, pp. 420 & 450. (Proc. Am. Pharm. Assoc., 51, p. 679.)

Suggests his own method which he claims will result in a better Compound Tincture of Gentian.

Perry, G.

1903

The Suggested Standard for Tinct. Gentianae Co. Pharm., Jour., 70, p. 420.

Suggests a standard for Compound Tincture of Gentian based on the results of his own experiments with gentian root.

Vogl, A.

1903

Ueber einige aktuelle Drogen falschungen, nebst Beitragen zur Kenntnis des Vorkommens von Kalkoxalat bei Gentianaceen. Oester, Apoth Ztsch., 41, p. 141. (Proc. Am. Pharm. Assoc., 51., p. 755; Pharm. Jour., 70, p. 418; Remington & Wood U. S. Dispens., 19 ed., p. 580; Ibid., 20 ed., p. 514; Ibid., 21 ed., p. 516. Tschirch, Handbuch der Pharmakognosie, 1 ed., v. 2, p. 1594.)

Calls attention to the admixture of the rhizome of *Gentiana asclepiadea* with that of *Gentiana lutea* in the sliced and powdered state. Offers methods by which this adulteration may be detected.

Collins, H. S.

1904

Powdered Gentian

Chem. & Drugg., 64, p. 403. (Am. Jour. Pharm., 76, p. 288; Drug Circ., 48, p. 72; Pharm. Jour., 88, p. 201; Dig. Com. U. S. P. & M. F., 1912, p. 292; Tschirch, Handbuch der Pharmakognosie, 1 ed; v. 2, p. 1598.)

Inspects samples of powdered gentian and finds them adulterated with almond shells, pine wood and woody tissue. Recommends the microscope to detect these adulterations and gives a cut illustrating the deposit of powdered almond shell in gentian sample.

Gadd, H. W.

1904

Underground Stems: Rhizomes, Bulb and Corn. Gadd's Drugs, p. 27.

Gives part used, habitat, description, taste, properties and the official preparations of Gentian root.

Greenish, H. G. & Collin, E.

1904

Diagnostic Characters of Powdered Rhizomes & Roots. Pharm. Jour. 72, p. 283.

State that the commercial Gentian consists of rhizome as well as root; give the root structure and the diagnostic characters of powdered gentian root.

Abel Scholar

1905

Powdered Liquorice & Gentian. Chem. & Drugg., 66, p. 974.

In a letter to the editor mentions that samples of powdered gentian root were adulterated with scammony root.

Alcock, F. H.

1905

Compound Tincture of Gentian. Pharm. Jour., 75, p. 128. (Brit. & Col. Drugg., 48, p. 87; Pharm. Jour., 75, p. 165; Chem. & Drugg. 67, p. 213; Dig. Com. U. S. P. & N. F., 1905, p. 176.)

Explains that the varying percentage of solid matter in Compound Tincture of Gentian is due to the varying quality of the commercial root. Careful selection of gentian is advised. Recommends that powdered gentian should be used only if it is guaranteed.

Berlinger, G. M.

1905

Formulas for Extracts of Glycyrehiza & Gentian. Proc. N. J. Pharm. Assoc., 35, p. 74 (Pharm. Era, 34, p; 29; Dig. Com. U. S. P. & N. F., 1905, p. 176.)

Gives detailed directions for preparing a fluid extract of gentian by the infusion process.

Cowley, R. C.

1905

Adulterated Gentian

Chem. & Drugg., 66, p. 792.

Reports samples of powdered gentian adulterated with ground olive stones.

(Editor)

1905

The Forty-second

Chem. & Drugg., 67, p. 172.

The editor comments on Alcock's article on compound tincture of gentian.

(Editor)

1905

Scientific Progress--Adulterated Drugs. Chem. & Drugg., 67, p. 70.

Foreign ground gentian is reported adulterated with sclerenchymatous tissue believed to be olive pits.

(Editor)

1905

Sale of Food & Drug Acts--Gentian & Olive Stones. Chem. & Drugg., 67, pp. 685, 864, 898, 943, & 985.

Gives account of a legal case in which the defendant was found guilty of adulterating powdered gentian with olive-stones.

(Editor)

1905

The Rage for Cheapness. Chem. & Drugg., 66, p. 966.

In an editorial denounces the French drug grinders for so crudely adulterating gentian powder.

(Editor)

1905

Market Report. Spurious Gentian Pharm. Jour., 74, p. 463.

Reports that a bitter root resembling gentian in size is being offered for sale as gentian. Gives a complete description of the root and suspects it to be *Aristolochia longa*. Adulteration unbelievable, for the latter sells at 50 s. per cwt. while gentian root averages 17 to 18 s. per cwt.

Gadd, H. W. & Gadd, S. C.

1905

The Testing of Drugs, Chemicals, & Galenicals by Dispensing Chemists (1). Pharm. Jour., 75, p. 439. (Wood & Las Wall U. S. Dispens., 20 ed., p. 514; *Ibid.*, 21 ed., p. 516; Dig. Com. U. S. P. & N. F., 1905, p. 176.)

State that powdered gentian root is sometimes grossly adulterated. "This is best detected by a microscopical examination, but a good evidence of quality is the yield of extract, which should be about 40%."

(Paris Correspondent)

1905

French News

Chem. & Drugg., 67, p. 607.

Mentions G. Tanret's thesis for M. D. degree on Gentian.

Reclu, M.

1905

Gentiane

Guide de l'herboriste, p. 130.

Gives description, habitat and cultivation, part used, medicinal properties, preparations and on the opposite page a descriptive plate of gentian.

Roder, P.

1905

(Gentian)

Jahresbericht, 1905, p. 482. (Pharm. Zentralh., 47, p. 523; Dig. Com. U. S. P. & N. F., 1906, p. 296.)

(Outlines a qualitative test for tincture of gentian.)

Schmitthenner, F.

1905

Radix Gentianae--Enzianwurzel. Pharmakognosie des Pflanzen--und Tierreiches, p. 21.

Gives botanical origin, habitat, description and constituents of the root of *Gentiana lutea*.

Tanret, G.

1905

Sur la gentianine. Nouveaux remèdes, v. 21, p. 457; (Am. Drugg., 47, p. 297; Chem. & Drugg., 68, p. 872.)

Gives history, constituents, chemistry and the use of the root of gentian in the treatment of Malaria.

Tanret, G.

1905

Sur la gentiane. Compt. rend., 141, p. 263. (Dig. Com. U. S. P. & N. F., 1905, p. 176; Jahresber. der Pharm., 41, p. 325; Tschirch, Handbuch der Pharmakognosie, 1 ed., v. 2, p. 1597.)

Gives the composition and properties of gentiane.

Tanret, G.

1905

Sur la gentiane. Bull. de la Soc. Chim., s. 3, v. 33, p. 1073.

(Pharm. Jour., 76, p. 87; Tschirch, Handbuch der Pharmakognosie, 1 ed., v. 2, p. 1597.)

Gives the method of preparation, composition, chemistry and properties of gentiin.

Tanret, G.

1905

Sur la gentiopicine Compt. rend., 141, p. 207. (Dig. Com. U. S. P. & N. F., 1905, p. 176; Tschirch, Handbuch der Pharmakognosie, 1 ed., v. 2, p. 1597; Jahresber. der Pharm., 40, p. 386; Pharm. Jour., 21, p. 251; Ibid; 76, p. 429; Lancet, 170, p. 173.)

Gives the preparation, composition and properties of gentiopicin.

Tanret, G.

1905

Sur la gentiamarine. Bull. Soc. Chim., s. 3, v. 33, p. 1071. (Pharm. Jour., 76, p. 87; Remington & Wood, U. S. Dispens., 20 ed., p. 516; Ibid; 21 ed., p. 516.)

Gives the methods of preparation and properties of the constituents of gentian root. States that fresh gentian root contains gentianin and gentiopicin in almost equal amounts.

Tanret, G.

1905

(Gentian)

Bull. Gen. de Therap., p. 730; (Remington & Wood U. S. Dispens., 20 ed., p. 516; Ibid; 21 ed., p. 516; Pharm. Zentrabl., 54, p. 549; Dig. Com. U. S. P. & N. F.)

"In fresh roots the amount of gentiopicin is about 1.5%, but it is destroyed in the process of drying so that dried roots contain only 0.1%."

Tanret, G.

1905

Systematische Drogenuntersuchungen im Dienste der Defectur. Pharm. Ztg., 50, p. 836. (Proc. Am. Pharm. Assoc., 54, p. 745.)

Gives results of a detailed investigation of the proximate constituents of gentian root.

(Editor)

1906

Sumac & Gentian Monopoly. Chem. & Drugg., 68, p. 845.

"The 'Handels Museum' (Vienna) reports that the Turkish Government has granted to a syndicate known as the 'Societe anonyme pour l'Exportation du Sumac', the monopoly for 5 years of the export from Scutari and Janina of sumac and gentian."

(Editor)

1906

Administration of the Sale of Food & Drug Acts. Pharm. Jour., 77, p. 451. (Dig. Com. U. S. P. & N. F., 1906, p. 296.)

Notes that the chief county inspector reports 4 prosecutions on account of adulterated ground gentian root. In each case the adulterant was ground olive stones which were present from 25-40%. This substance, under the name of poivrete, is offered by a continental firm for mixing.

Evans, J.

1906

The Testing of Drugs for Purity. Chem. & Drugg., 68, p. 504.

States that foreign-ground gentian is commonly adulterated with olive pits and other sclerencymatous tissue. Gives test for detecting this adulteration.

Hankey, W. T.

1906

The Assay Processes of U. S. Pharmacopoea VIII. Am. Drugg., 49, p. 361. (Dig. Com. U. S. P. & N. F., 1906, p. 295.)

Suggests the grading of gentian by determining its identity and estimating the percentage of ash and of alcohol soluble matter. Reports on 10 samples.

Hemm, F.

1906

(Answer to a question during a meeting) Proc. Mo. Pharm. Assoc., 28, p. 59. (Dig. Com. U. S. P. & N. F., 1906, p. 296.)

Explains that when drug principles are dissolved by water as well as alcohol principles may be introduced into infusions which are contraindicated.

Llewellyn, J. F.

1906

(A Discussion during a meeting). Proc. Missouri Pharm. Assoc., 28, p. 59. (Dig. Com. U. S. P. & N. F., 1906, p. 296.)

Asks what is the objection to making an infusion out of the fluid extract of gentian.

Ferredes, P. E.

1906

London Botanic Gardens. Am. Jour. Pharm., 78, p. 116.

Gives a full-page plate showing a plant of *Gentiana lutea* growing in the London Botanical Gardens.

Schurhoff, P.

1906

Über einige Verfälschungen von Drogenpulvern. Pharm. Ztg., 51, p. 479. (Dig. Com. U. S. P. & N. F., 1906, p. 295.)

Reports finding powdered gentian adulterated with stone cells and points out that the frequency of the adulteration amply warrants the systematic inspection of powdered drugs on the part of

the pharmacists who are anxious not to be misled.

Stiles, M. H. 1906

Home-Made Galenicals. Pharm. Jour., 76, p. 468.

States that carefully prepared concentrated infusion of gentian, among others, is an excellent substitute for a fresh one.

Taylor, S. 1906

The Pharmacy of the Pharmacopoea. Pharm. Jour., 77, p. 669.
(Dig. Com. U. S. P. & N. F., 1906, p. 296.)

"Extract of gentian is, according to Greenish and Lenton, better prepared by cold infusion only."

Sornig, H. (1906)

Radix Gentianae

Tabellen fur das pharmakognostische Praktikum, 1 ed., p. 16; I-
bid; 2 ed., p. 11.

Gives synonyms, habitat, description, constituents, uses,
and adulterants of gentian root.

(Editor) 1907

Sale of Food & Drug Acts. Pharm. Jour., 78, p. 339; (Dig. Com.
U. S. P. & N. F., 1907, p. 256.)

Gives an account of a case against Joseph Hooper, and E.
Gane Inge, both chemists and druggists, who were tried and fined
for selling powdered gentian root adulterated with 20% of ground
olive stones. The testimony of witness at the trial reveals many
interesting uses of gentian.

Evans Sons Lescher & Webb

1907

Gentian Powder

Analytical Notes, 1907, p. 23. (Dig. Com. U. S. P. & N. F., 1907, p. 255.)

Report that 4 out of 5 samples of foreign ground gentian root were adulterated. Recommend the use of the microscope to detect these adulterations.

Koch, L. & Gilg., E.

1907

Radix Gentianae

Pharmakognostisches Praktikum, p. 107.

Give the preparation of the sample and the method used in the examination of gentian root.

Roder, P.

1907

(Gentian)

Jahresbericht, 1907, p. 102 (Dig. Com. U. S. P. & N. F., 1907, p. 255.)

Reports 2 samples of gentian root which exceeded the Pharmacopoea Austria VIII 5% ash limit. One sample contained as high as 8.97 and yielded only 23% of aqueous extract.

Stansfield, J. M.

1907

President's Address

Proc. Fla. Pharm. Assoc., 4, p. 9. (Dig. Com. U. S. P. & N. F., 1907, p. 256.)

Questions the need for retaining compound tincture of gentian in the U. S. P. He thinks a simple tincture of gentian may have some use, but the orange peel in the compound tincture he thinks objectionable on account of the tannic acid contained in the peel.

Stokvis, H.

1907

Radix Gentianae

Voordrachten over Geneesmiddelleer, v. 2, p. 38.

Gives botanical origin, habitat, description, constituents, uses and preparations of the root of *Gentiana lutea*.

"Abel Scholar"

1908

Powdered Drugs

Chem. & Drugg., 72, p. 948 (Dig. Com. U. S. F. & N. F., 1908, p. 282.)

Reports a sample of powd. gentian, of which less than 5% was soluble in either alcohol or water.

Alcock, F. H.

1908

Some Powdered Drugs

Yr. Bk. Brit. Pharm. Conf., 80, p. 426. Pharm. Jour., 80, p. 353. (Dig. Com. U. S. F. & N. F., 1908, p. 282; Pharm. Jour., 88, p. 201.)

Proposes a method for the valuation of powd. gentian and tabulates his results as to extractive and ash.

Alcock, F. H.

1908

Some Powdered Drugs

Chem. & Drugg., 73, p. 471.

Gives experiment and a table in which he lists the results after examining 5 samples of gentian for adulterants.

Barnard, H. E.

1908

(Gentian)

Rep. Ind. Bd. Health, 1908, p. 341. (Dig. Com. U. S. P. & N. F., 1908, p. 283.)

The original was not available.

Bell, E. W.

1908

Powdered Gentian

Pharm. Jour., 81, p. 255. (Proc. Am. Pharm. Assoc., 57, p. 177; Am. Jour. Pharm., 80, p. 595; Dig. Com. U. S. P. & N. F., 1908, p. 282.)

Gives a simple test based on the copious absorption of water by powdered gentian root whereby adulterants may easily be detected.

Berlinger, G. M.

1908

Fluid glycerates

Proc. Am. Ph. Assoc., 56, p. 994. (Dig. Com. U. S. P. & N. F., 1908, p. 283.)

Outlines a formula for fluid glycerate of gentian with procedure to be followed, and describes the properties of the product.

Berlinger, G. M.

1908

Some Minor Suggestions for Improvements in the United States Pharmacopoea. Am. Jour. Pharm., 80, p. 436; Proc. N. J. Pharm. Assoc., 38, p. 93. (Dig. Com. U. S. P. & N. F., 1908, p. 282.)

Points out that the new official compound tincture of gentian precipitates quite as much as that of the previous revision despite the change in menstruum.

Caesar, & Lorentz

1908

Radix Gentiane

Geschäfts--Bericht, 1908, p. 45. (Dig. Com. U. S. P. & N. F., 1908, p. 282.)

Point out that while Levantine gentian is usually much cheaper than the same drug of French origin, it is also inferior, particularly as far as odor, taste and extract content are concerned.

Evans Son Lescher & Webb,

1908

Gentian Powder

Analytical Notes, p. 17, (Dig. Com. U. S. P. & N. F., 1908, p. 282.)

Heavy adulteration, especially with exhausted powders, was again detected in foreign ground gentian.

Gane, E. H. & Webster, M. H.

1908

Alcohol Strength of Fluid Extracts & Tinctures. Drug Topics, 23, p. 149. (Dig. Com. U. S. P. & N. F. V., 1908, p. 283.)

Report a variation of from 55 to 56%, by volume, per cent of absolute alcohol in seven different lots of tincture gentian compound.

Hills, W.

(1908)

(Gentian)

Rep. Com. Ref. Genl. Med. Council, (to Oct. 29, 1908), Lond., 1908, p. 27. (Dig. Com. U. S. P. & N. F., 1908, p. 283.)

The original was not available.

Lothian, J.

1908

Report on Some Powdered Drugs. Pharm. Jour., 80, p. 566. (Dig. Com. U. S. P. & N. F., 1908, p. 282.)

Asserts that a powdered gentian which was sold for veterinary purposes, and was found to contain about 50% of stone cells. It had a slight taste and was devoid of any medicinal value.

Marris, G. W.

1908

Adulterated Gentian Powder. Chem. & Drugg., 72, p. 901. (Dig. Com. U. S. P. & N. F., 1908, p. 282; Drugg. Circ., 52, p. 375; Proc. Am. Pharm. Assoc., 56, p. 205.)

Reports an abnormal proportion of woody matter in 2 samples of gentian recently examined. In one case the mixture had the appearance of quassia.

Roder, F.

1908

(Gentian)

Jahresbericht, 1908, p. 116 (Dig. Com. U. S. P. & N. F., 1908, p. 282.)

The original was not available.

Rusby, H. H.

1908

Report of Committee on Drug Market for the year Ending Aug. 1, 1908. Proc. Am. Pharm. Assoc., 56, p. 769. (Drugg. Circ., 52, p. 370; Proc. Ass. Off. Agric. Chem., 25, p. 139; Bull. Bur. Chem. U. S. Dep't. Agric., 122, p. 96; Dig. Com. U. S. P. & N. F., 1908, p. 281.)

Found powdered gentian root adulterated with from 25 to 50% of ground fiber. Another lot contained ground olive stones.

Rusby, H. H.

1908

Adulteration of Powdered Drugs

Drug. Circ., 52, p. 370. Dig. Com. U. S. P. & N. F., 1908, p. 281; Tschirch, Handbuch der Pharmakognosie, 1 ed., v. 2, p. 1598.

Adulteration of gentian root, which contains no wood fiber, by as much as 50% of fiber-----perhaps old bags and ropes ground up-----is recorded.

Sayre, E. A.

1908

A Few Thoughts on Pharmacopoeae Preparations. Proc. N. J. Pharm. Assoc., 1908, p. 107. (Dig. Com. U. S. P. & N. F., 1908, p. 282.)

Says the U. S. P. VIII formula for compound tincture of gentian is unsatisfactory as a precipitate forms almost immediately.

Schneider, A.

1908

Quality and Purity of Crude and Powdered Vegetable Drugs in and About San Francisco. Pacif. Pharm., 2, p. 392. (Dig. Com. U. S. P. & N. F., 1908, p. 282.)

Reports on 4 samples of gentian: 1 poor, 1 deteriorated and 2 adulterated. One with 10% roasted cereal and the other with 50% asclepias or sorrel root.

Beringer, G. M.

1909

Gentian Elixir

Am. Jour. Pharm., 81, p. 539. (Pharm. Jour., 84, p. 62.)

Suggests the addition of sodium citrate to prevent blackening when Elixir of Gentiana is compounded with iron salts.

Bruder, O. E.

1909

Suggestions for Improvement of the National Formulary. Bull. Am. Pharm. Assoc., 4, p. 231. (Dig. Com. U. S. P. & N. F. V., 1909, p. 395.)

Thinks that the stronger compound infusion of gentian is no more an infusion than the compound tincture of gentian in the Pharmacopoea, of which it is practically a duplicate.

Caldwell, F.

1909

National Formulary

Bull. Pharm., 23, p. 115. (Dig. Com. U. S. P. & N. F., 1909, p. 395.)

Thinks that the fluid extract of gentian can be dropped for the reason that the tincture is used instead.

(Committee)

1909

British Pharmacopoea. Pharmacy Committee's Report. Chem. & Drugg., 74, p. 292. (Dig. Com. U. S. P. & N. F., 1909, p. 394.)

Asserts that no change is necessary in the process for Extract of Gentian.

Cook, E. F.

1909

Tincture's of the U. S. Pharmacopoea. Proc. Am. Pharm. Assoc., 57, p. 1002. (Dig. Com. U. S. P. & N. F., 1909, p. 394.)

Asserts that in compound tincture of gentian the drugs should not be ordered in the unground condition. There is no advantages in freshly grinding the gentian, and the simple tinctures of both bitter orange peel and cardamon are prepared from "ground drugs." There is a slight precipitate in the finished tincture.

(Editor)

1909

Sale of Food and Drug Acts. Chem. & Drugg., 74, p. 248.

"Returns of 1907 show that 9 samples of ground gentian contained olive stones, while 11 others contained various other adulterants."

(Editor)

1909

The Examination of Drug Samples in 1907. Pharm. Jour., 82, p. 182. (Dig. Com. U. S. P. & N. F., 1909, p. 394.)

The examination of drug samples in 1907 show that of 76 samples of gentian root examined, 20 were found adulterated or not up to standard.

Karsten, G. & Oltmanns, F.

1909

Rad. Gentianae

Lehrbuch der Pharmakognosie, 2 ed., p. 88, Ibid; 3 ed., p. 94.

Gives illustrations, habitat, parallel plants, botanical origin, history, description, preservation, microscopic details, description of powder, and constituents of gentian root.

Huebner, W. & Rider, K.

1909

Über die Wirkung der Bitterstoffe aus der Resorption. Therap. Monatschrift, 23, p. 310; (Dig. Com. U. S. P. & N. F., 1909, p. 395.)

State that gentian and other bitter tonics, although they stimulate appetite, hinder rather than promote digestive functions.

Hulick, B.

1909

Compound Tincture of Gentian. Proc. N. J. Pharm. Assoc., 39, p. 87. (Am. Jour. Pharm., 81, p. 542; Dig. Com. U. S. P. & N. F., 1909, p. 394.)

Advocates the addition of 12% of glycerin to the menstruum to prevent precipitation in preparing compound tincture of gentian.

Mitlacher, W.

1909

Ueber eine Verfälschung von Radix Gentiane mit dem Wurzelstocke von Rumex alpinus L. (Radix Rhie monachorum.) Ztsch. osterr. Apoth. Ver., 47, p. 457; Pharm. Post, 47, p. 457. (Apoth. Ztg., 24, p. 838; Pharm. Jour., 84, p. 237; Drugg. Circ., 54, p. 169; Proc. Am. Pharm. Assoc., 58, p. 184; Dig. Com. U. S. P. & N. F., 1909, p. 394.)

Reports on the adulteration of gentian root with the root stalks of Rumex alpinus L.

Peters, W.

1909

Gehalteiniger Drogen an Feuchtigkeit und asche. Apoth. Ztg., 24, p. 538. (Dig. Com. U. S. P. & N. F., 1909, p. 394; Schweiz. Wochenschr. für Pharm., 47, p. 663.)

Gives moisture and ash contents of gentian root and says that the color of the ash is a light gray.

Rosenthaler, L. & Meyer, R.

1909

Für Kenntnis glykosidhaltiger Extrakte. Arche. der Pharm., 247, p. 30. (Ztsch. osterr. Apoth. Ver., 47, pp. 258 & 265; Dig. Com. U. S. P. & N. F., 1909, p. 394; Tschirch, Handbuch der Pharmakognosie, 1 ed., v. 2, p. 1597.)

Discuss the extraction of gentian so as to avoid the decomposition of the glucosides. They conclude that in the preparation of extract of gentian preliminary treatment with alcohol will to a considerable extent prevent decomposition.

Wall, O.

1909

Gentiana

Notes on Pharmacognosy, 3 ed., p. 207; Ibid; 4 ed., p. 203; Ibid; 5 ed., p. 256.

Gives habitat, description, constituents, use, dose and parallel drugs of gentian.

Wiley, H. W.

1909

Investigation of Drugs on the Market. Ann. Rep. U. S. Dept. Agric., 1908, p. 430. (Dig. Com. U. S. P. & N. F., 1908, p. 281.)

Reports powdered gentian adulterated with powdered olive stones.

Beal, G. D., Chairman

1910

Report of Committee on Drug Adulterations. Proc. Ohio Pharm. Assoc., 32, p. 72. (Dig. Com. U. S. P. & N. F., 1910, p. 472.)

Reports 2 samples of powdered gentian as containing respectively 15% and 20% of ground olive pits.

(Beilstein, C., Chairman

1910

Report of Committee on Prevention of Adulteration. Proc. N. W. D. A., 36, p. 99. (Dig. Com. U. S. P. & N. F., 1910, p. 472.)

Reports powdered gentian containing starch.

Bourquelot, E. & Bridel, M.

1910

De l'influence du mode de dessiccation sur la composition de la racine de gentiane. Preparation de la gentiopicroine en partant de la racine seche. Jour. de pharm. et de chim., s. 7, v. 1, p. 156. (Proc. Am. Pharm. Assoc., 58, p. 184; Proc. Am. Pharm. Assoc., 59, p. 108; Jour. de pharm. et de chim., s. 7, v. 4, p. 385; Pharm.

Jour., 84, p. 397; Pharm. Ztg., 55, no. 18, p. 181; Dig. Com. U. S. F. & N. F., 1910, p. 471; Pharm. Jour., 88, p. 201; Pharmakognostische Rundschau, 1, p. 103; Tschirch, Handbuch der Pharmakognosie, 1 ed., v. 2, p. 1597.)

Prove that carefully dried gentian root is as desirable in the preparation of gentiopicrin as the fresh root. The action of ferments causes the difference between the fresh and commercial dried roots.

Burmann, J.

1910

La Racine fraiche de Gentiane et une de ses preparations le Dialyse Golaz. Schweiz. Wochenschrift fur Pharm., 48, p. 755. (Jahresber. der Pharm., 46, p. 40; Pharm. Post, 44, p. 334.)

Gives the preparation of Dialysatum Gentiane Golaz, and gives the percent of each of the active principles of gentian found in this preparation.

Committee of Reference in Pharmacy

1910

B. P. Revision. Brit. & Col. Drugg., 58, p. 13. (Dig. Com. U. S. F. & N. F., 1910, p. 471.)

Points out that gentian root is liable to considerable variation and sophistication and should be required to yield at least 33% of dry extract to cold water and not more than 6% of ash on incineration.

Dinand, A.

(1910)

Enzian, gelber, Gentiana lutea L. Handbuch der Heil-pflanzen, p. 42.

Gives description, habitat, time of flowering, uses, dose and preparations of gentian.

Dohme, A. L. & Engelhardt, H. 1910

The New Hungarian Pharmacopoeia. Proc. Am. Pharm. Assoc., 58, p. 1179. (Dig. Com. U. S. P. & N. F., 1910, p. 472.)

Outline the Ph. Hung. III method of making extract of gentian.

Evans, J. 1910

The Testing of Drugs for Purity. Brit. & Col. Drugg, 57, p. 133. (Dig. Com. U. S. P. & N. F., 1910, p. 472.)

Points out that powdered gentian root is sometimes grossly adulterated. Genuine gentian should be free from both starch and sclerenchymatous cells or fibers. Ground olive stones are mostly made up of sclerenchyma, so its presence in gentian is easily detected.

Evans Sons Lescer & Webb 1910

Gentian Powder

Analytical Notes, 1909, p. 30. (Dig. Com. U. S. P. & N. F., 1909, p. 394.)

Report 2 samples of powdered gentian adulterated with 15% to 20% of ground olive stones.

Fichtenholz, A. 1910

Quelques etymologies de noms de plantes medicinales et de drogues. Jour. de pharm. et de chim., s. 7, v. 2, p. 2. (Dig. Com. U. S. P. & N. F., 1910, p. 471.)

Quotes Tschirch as authority for the derivation of the word gentian from King Gentius or Genthius, who died 167 B. C.

Gilg, E. & Brandt, W. 1910

Radix Gentianae Enzianwurzel, Lehrbuch der Pharmakognosie, 2, 1 ed., p. 274; Ibid; 3 ed., p. 300; Ibid; 4 ed; p. 345.

Gives description, anatomical structure, constituents, preparations with an illustration of the root of *Gentiana lutea*.

Havenhill, L. D. 1910

Assay Processes for Organic Drugs. Proc. Am. Pharm. Assoc., 58, p. 788. (Dig. Com. U. S. P. & N. F., 1910, p. 472.)

Outlines a modified formula for the compound tincture of gentian.

Herzog, J. & Fosse, H. W. 1910

Über die Extraction von Drogen. Berichte der dent. pharm. Gesellschaft, 20, pp. 335. (Dig. Com. U. S. P. & N. F., 1910, p. 272.)

Report obtaining 43.69% of extract by percolation, while maceration and expression yielded but 33.16%.

La Wall, C. H. & Bradshaw, H. A. 1910

Ash Standards in Drugs--Are They Necessary? Proc. Am. Pharm. Assoc., 58, p. 753. (Dig. Com. U. S. P. & N. F., 1910, p. 472.)

Report finding from 2.3 to 3.7 per cent ash in gentian root.

Lochmann, R. 1910

Vergleichende Untersuchungen über kultivierte und wilde Enzianwurzeln. Pharm. Post, 43, p. 397; Pharm. Ztg., 55, p. 570. (Drugg. Circ., 54, p. 511; Ibid; 56, p. 135; Chem. & Drugg., 77, p. 14; Dig. Com. U. S. P. & N. F., 1910, p. 471; Pharmakognositsche Rundschau, 1, p. 103; Tschirch, Handbuch der Pharmakognosie, 1 ed., v. 2, p. 1591.)

Recommends the cultivation of gentian especially in soils where other plants cannot be grown. Gives results of experiments (in table form) on wild and cultivated gentian and reports the cultivated varieties to be of superior quality.

Hollard, J. W.

1910

(Compound Tincture of Gentian) Proc. Mass. Pharm. Assoc., 33, p. 160. (Dig. Com. U. S. P. & N. F., 1910, p. 472.)

Reports examining 10 samples of tincture of gentian compound. The extractive varies from 1.08 to 5.10% and the percentage of alcohol from 39.5 to 56.4.

Rusby, H. H.

1910

The "Raid" Occurred.

Prac. Drugg., 37, p. 423. (Dig. Com. U. S. P. & N. F., 1910, p. 472.)

States that he has met with powdered gentian consisting of 50% of fiber, apparently from gunny sacks; also powdered gentian consisting of nearly one-half exhausted birch bark; and powdered gentian heavily adulterated with damaged wheat flour.

Rusby, H. H.

1910

The Physical Standards of the United States Pharmacopoeia. Drugg. Circ., 54, p. 617. (Pharm. Era, 44, p. 95; Dig. Com. U. S. P. & N. F., 1910, p. 472; Ibid; 1911, p. 367.)

The acceptability of gentian depends on the percentage of extractive matter.

Sayre, L. E.

1910

"Do Pharmacists Properly Regard the Official Standards?" Proc. Am. Pharm. Assoc., 58, p. 1096. (Dig. Com. U. S. P. & N. F., 1910,

p. 472; Proc. Kansas Pharm. Assoc., 1910, p. 58; Bull Kansas Bd. Health, 1910, v. 6, p. 41.)

Reports on 44 samples of compound tincture of gentian: 18 passed; 26 illegal.

Schneider, Albert

1910

The Microscopical Examination of Drugs, Foods and Textile Fabrics. Merck's Report, 19, p. 191. (Dig. Com. U. S. P. & N. F., 1910, p. 471.)

Calls attention to the structural characteristics of gentian.

Tunmann, O.

1910

Wissenschaftliche Mittheilungen. Apoth. Ztg., 25, p. 453. (Dig. Com. U. S. P. & N. F., 1910, p. 471; Pharmakognositsche Rundschau, 1, p. 103.)

Discusses the collection of gentian and presents some figures showing the amount gathered in France, Spain, Turkey and other countries.

(1911)

(Gentian)

Notice of Judgment, No. 754, Food & Drug Acts; (Dig. Com. U. S. P. & N. F., 1911, p. 368.)

Deals with the adulteration and misbranding of gentian.

Am. Pharm. Assoc.
Committee on Drug Markets

1911

Report of Committee on Drug Market, A. Ph. A. Drug Topics, 26, p. 275. (Dig. Com. U. S. P. & N. F., 1911, p. 368.)

Am. Pharm. Assoc.
Committee on Drug Markets

Report of Committee on Drug Market, A. Ph. A.

Drug Topics, 26, p. 275 (Dig. Com. U. S. P. & N. F., 1911, p. 368.)

Reports finding 10 samples of tincture of gentian to give from 10.08 to 5.01% of extractive and 42.6 to 56.4% of alcohol.

Bridel, M.

1911

Variations dans la composition de la racine de Gentiane au cours de la vegetation d'une annee. Jour. de pharm. et de chim; s. 7, v. 3, p. 294. Ibid; s. 7, v. 4, p. 455; (Pharm. Ztg., 56, p. 295; Am. Drugg., 58, p. 314; Proc. Am. Pharm. Assoc., 59, p. 198; Pharm. Jour., 86, p. 621; Dig. Com. U. S. P. & N. F., 1911, p. 367; Pharmakognostische Rundschau, p. 106; Tschirch, Handbuch der Pharm., 1 ed., v. 2, p. 1597.)

Gives information on the occurrence of the principles in the root of gentian at different times of the year. Explains in detail the hydrolysis of gentianose and the subsequent hydrolysis of gentiobiose, a disaccharide. Gives results of experiments augmented by tables concerning data obtained.

Brunker, J. E.

1911

Irish Poor Law Drug Supplies. Brit. & Col. Drugg., 60, p. 229. (Dig. Com. U. S. P. & N. F., 1911, p. 368.)

Reports that, of 208 samples of compound tincture of gentian examined, the average extractive was 5.5 gm. in 100 mils; alcohol by volume, 42.54%; 1 was defective as to extractive, 2 as to alcohol.

"D. B."

1911

l'Inspection des Pharmacies en Autriche. Bull. des sciences pharmacologiques, 18, p. 10; (Dig. Com. U. S. P. & N. F., 1911, p. 368)

Reports of the Austrian inspection of pharmacies show that for several years gentian has been mixed with the roots of *Rumex alpinus*.

(Editor)

1911

Eighteenth Century Materia Medica. Jour. Am. Med. Assoc., 56, p. 1211. (Dig. Com. U. S. P. & N. F., 1911, p. 369.)

Quotes some of the therapy of Herman Boerhaave with reference to gentian.

Egan, A.

1911

Laboratory Notes

Proc. Pa. Pharm. Assoc., 1911, p. 291. (Dig. Com. U. S. P. & N. F., 1911, p. 368.)

Recommends the addition of glycerin to compound tincture of gentian to prevent precipitation.

Evans Sons Lescher & Webb,---

1911

Gentian Powder

Analytical Notes, 1911, p. 33. (Dig. Com. U. S. P. & N. F., 1911, p. 368.)

Report that 2 samples of gentian root yielded 33.4 to 33.8% extractive and contained 8.0 to 10.8% of moisture.

Gehe & Co.

1911

Radix Gentiane

Handelsbericht, 1911, p. 100. (Dig. Com. U. S. P. & N. F., 1911, p. 367.)

State that Lochmann, in a comparative examination of natural and of cultivated gentian, concludes that the 2 are practically identical.

Gould, M. P.

1911

Fined for Adulteration

Drugg. Circ., 55, p. 45.

Gives an account of J. L. Hopkins & Co. of N. Y. City being fined \$400.00 by the U. S. Supreme Court for adulterating gentian root with a ground fiber, and adulterating also other drugs in a shipment.

Hartwich, C.

1911

Darstellung des Alkohols. Die Menschlichen Genussmittel, p. 597.

Says that gentianose is formed by the inversion of glucose, fructose and galactose in the root of *Gentiana lutea*.

Hartwich, C.

1911

Die Rohstoffe des neuen Arzneibuchs Apoth.--Ztg., 26, p. 57.
(Dig. Com. U. S. P. & N. F., 1911, p. 367.)

Points out that the Ph. Germ. V. now mentions *Gentiana lutea* as the chief source of the drug, though other species are permitted.

Howard, C. D.

(1911)

(Gentian)

New Hamp. San. Bull., v. 3, p. 254, 13. (Dig. Com. U. S. P. & N. F., 1911, p. 368.)

Reports that 11 samples of gentian root were examined, the ash content of which was found to range from 2.97 to 9.2%. More than two-thirds of the samples examined showed an ash content well under 5%.

Lloyd, J. U.

1911

Gentian

Bull. Lloyd Libr., 18, p. 42. (Dig. Com. U. S. F. & N. F., 1911, p. 367.)

Notes that gentian was mentioned by both Fliny & Dioscorides and was used throughout the Middle Ages as a domestic medicine.

Lloyd Bros. (C. G. & G. U.)

1911

Gentian

Vegetable Remedies Known as Specific Medicines, p. 60.

Says that only 1 physician mentioned gentian as a specific medicine.

Schneider, A.

1911

The Quality & Purity of Vegetable Drugs on the Pacific Coast. Pacif. Pharm., 5, p. 177. (Dig. Com. U. S. F. & N. F., 1911, p. 368.)

Reports on 2 samples of gentian, one of which was adulterated with rumex root.

Schroter, F.

(1911)

Enzian

Schatzkastlein der Pflanzen-heilkunde, 2 ed., p. 57.

Gives synonyms, habitat, description, time of collection, uses and dose of gentian root.

Thurston, A. & Thurston, A. N.

1911

(Ash and Moisture Constants for Powdered Vegetable Drugs.)
Proc. Ohio Pharm. Assoc., 33, p. 70. (Jour. Am. Pharm. Assoc., 2, p. 475; Midland Drugg., 45, p. 438; Dig. Com. U. S. F. & N. F., 1911, p. 368; Pharmakognostische Rundschau, 2, p. 29.)

(In discussing the requirements of powdered drugs reports for gentian: Water content, 10.89%; ash content, 3.47%; alkalinity of water-soluble ash, 0.53%; total alkalinity of ash, 3.04%.)

Tunmann, O.

1911

Beitrage zur angewandten Pflanzenmikrochemie. Die mikrochemische Nachweiss der Enzianwurzel. Gehe & Co., Handelsbericht, 1911, p. 155. (Dig. Com. U. S. F. & N. F., 1911, p. 367; Pharmakognostische Rundschau, 2, p. 106.)

Discusses the microchemical detection of gentian root and presents an illustration showing a microphotograph of gentisin crystals obtained by direct micro-sublimation.

Wiley, H. W.

1911

New York Laboratory

Ann. Rep. U. S. Dept. Agric., 1910, p. 470. (Dig. Com. U. S. F. & N. F., 1910, p. 471.)

Reports that, with one exception, gentian root continues to be of excellent quality.

Zornig, H.

1911

Radix Gentianae Albae

Arzeneidrogen, v. 2, p. 457.

Gives synonyms, botanical origin, history, description and uses of gentian root.

Berger, F.

1912

Über Kaumittel. Schweiz. Wochenschr. für Chemie und Pharm., 50, p. 389; (Dig. Com. U. S. F. & N. F., 1912, p. 282.)

Discusses the use of masticatories and gives a list of drugs, including gentian, which have been used as such for various reasons.

Bourquelot, E. & Bridel, M.

1912

Action de l'emulsine sur la gentiopicroine en solution dans divers liquides organiques neutres. Compt. rend., 154, p. 1259. (Dig. Com. U. S. F. & N. F., 1912, p. 292.)

Reports on the action of emulsin on gentio-picric acid in solution in divers neutral organic liquids.

Bridel, M.

1912

Sur la présence de la gentiopicroine, du gentianose et du saccharose dans les racines fraîches de la Gentiane à feuille d'Asclepiade. Compt. Rend., 155, p. 1164. (Jour. de Pharm. Chim., s. 7, v. 6, p. 372; Pharm. Jour., 89, p. 581; Pharmakognostische Rundschau, 3, p. 175.)

Gives experimental evidence proving the presence of gentiopicroic acid, gentianose, and saccharose in the fresh root of *Gentiana asclepiadea*.

Bruchhausen, F. von

1912

Ueber verfälschtes Enzianpulver Apoth. ztg., 27, p. 754. (Jour. Am. Pharm. Assoc., 2, p. 1094; Pharm. Era., 45, p. 689; Chem. & Drugg., 81, p. 46; Drugg. Circ., 57, pp. 19 & 738; Merck's Report, 21, p. 308; Pharm. Jour., 90, p. 169; Pharmakognostische Rundschau, 3, p. 127; Tschirch, Handbuch der Pharmakognosie, 1 ed., v. 2, p. 1599; Jour. Am. Pharm. Assoc., 2, p. 1094; Dig. Com. U. S. P. & N. F., 1912, p. 292.)

Gives the results of examining powdered gentian for adulteration. Finds that 10 out of 33 samples were adulterated with peanut cells, stone cells, starch, ground olive pits, hair, leaf fragments, pollen and dirt. Gentian should yield from 30% to 40% of hot water extractive, but the adulterated samples yielded an average of only 19.8%.

Caesar, & Loretz

1912

Tabellarische Zusammenstellung einer Anzahl bei uns erhaltener Untersuchungsergebnisse. Jahres.-Ber., 1912, p. 104. (Dig. Com. U. S. P. & N. F., 1912, p. 292.)

Found that gentian root yielded an ash content of 4.3%.

Greenish, H. L. & Bartlett, D. J.

1912

Powdered Gentian nux vomica & Specacuanka of Commerce. Pharm. Jour., 88, p. 201. (Dig. Com. U. S. P. & N. F., 1912, p. 292; Pharmakognostische Rundschau, 3, p. 20.)

Tabulated results, with comments on the examination of 33 samples of powdered gentian, varying from 10.6 to 47.9% of aqueous extract and from 2.0 to 7.0% of ash.

Greenish, H. & Bartlett, D.

1912

The Powdered Gentian, Nux Vomica, & Ipecacuanha of Commerce. Brit. & Col. Drugg., 61, p. 132. (Chem. & Drugg., 80, p. 268.)

After examining 33 samples of powdered gentian the authors conclude that the drug is still being grossly adulterated. They express their thorough dissatisfaction with the official tests for the purity of this root.

Heraul, J.

1912

Racine de Gentiane

Traite de Matiere Medicale, 2 ed., p. 538; Ibid; 3 ed., p. 524.

Gives the habitat, chemical composition and uses of the root of *Gentiana lutea* with illustrations.

Henkel, A.

1912

The Cultivation of Medicinal Plants

Drugg. Circ., 56, p. 135. (Dig. Com. U. S. P. & N. F., 1912, p. 392.)

Gentian has apparently never been cultivated in the United States. The method of Lochmann is outlined.

Mann, E. W.

1912

Crude Drugs, Fixed Oils, Waxes, etc. Ann. Rep. Southall Bros. & Barclay, 1912, 1913, p. 12. (Dig. Com. U. S. P. & N. F., 1912, p. 292.)

Six samples of powdered gentian ranged from 3.2 to 4.73% in ash content.

Mitlacher, W.

1912

Ueber Kulturversuche mit Arzneipflanzen in Korneuburg im Jahre 1912. Ztschr. osterr. Apoth.--Ver., 50, p. 399. (Dig. Com. U. S. F. & N. F., 1912, p. 292; Pharmakognostische Rundschau, 2, p. 15.)

Gives observations on the cultivation of *Gentiana lutea*.

Mitlacher, W.

1912

Gentiana lutea

Die officinellen Pflanzen und Drogen, p. 84.

Gives habitat of gentian and mentions its cultivation.

Osborne, O. T.

1912

The Drugs We Need

Jour. Am. Med. Assoc., v. 59, p. 116. (Dig. Com. U. S. F. & N. F. 1912, p. 292.)

"It is necessary to give a bitter alcoholic cocktail before a meal; the compound tincture of gentian of the Pharmacopoea is efficient."

Patch, E. L.

1912

The Ash Standard

Jour. Am. Pharm. Assoc., 1, p. 1121. (Dig. Com. U. S. F. & N. F., 1912, p. 292.)

Reports that gentian root yielded 3% of ash.

J. D. Riedel, A-L.

1912

(Gentian)

Riedel's Berichte, 1912, p. 50. (Dig. Com. U. S. P. & N. F., 1912, p. 292.)

The ash content of gentian was found to vary from 2.5 to 4.8 %; amount of insoluble ash to 2.1%.

Rippetoe, J. R. & Minor, R.

1912

The Examination of Some Drugs With Special Reference to the Anhydrous Alcohol & Ether Extracts & Ash.

Am. Jour. Pharm., 84, p. 439. (Dig. Com. U. S. P. & N. F., 1912, p. 292; Pharmakognostische Rundschau, 3, p. 107; Tschirch, Handbuch der Pharmakognosie, 1 ed., v. 2, p. 1597.)

Two samples of gentian contained 3.40 & 3.42% of ash, respectively.

Rusby, H. H.

1912

The Pharmacopoeia and the Law.

Jour. Am. Pharm. Assoc. 1, p. 951. (Dig. Com. U. S. P. & N. F., 1912, p. 292.)

The slight odor of scorching in connection with gentian means serious damage.

Senft, E.

1912

Ueber Kueturversuche mit Arznei-pflanzen in Bohmen in Jahre, 1912. Zeitschrift fur das landw. Versuchungswesen in Oesterreich, ---, p. 489-565. (Pharmakognostische Rundschau, 4, p. 5.)

The original was not available.

1912

Siegfried, K.

Über Arzneipflanzen--kulturen.

Schweiz Wehensch. für Chemie und Pharmazie, 50, p. 689. (Pharmakognostische Rundschau, 3, p. 163.)

Discusses some European plants, and, among others, suggests a method for the cultivation of gentian.

Southall Bros. & Barclay

1912

Crude Drugs, Fixed Oils, Waxes, etc. Southall Bros. & Barclay Lab. Rep., 1912, p. 12. (Dig. Com. U. S. P. & N. F., 1911, p. 368)

Report that the ash was determined on 7 batches of powdered gentian root, the figures obtained ranging from 3.68 to 5.63% and averaging 4.68%.

Tschirch, A.

1912

Kleine Beträge zur Pharmako-botanik und Pharmakochemie Schweiz. Woch. Chem. Pharm., 50, p. 581. (Drug. Circ., 57, p. 141; Am. Jour. Pharm., 85, p. 263; Pharm. Jour., 90, p. 169; Dig. Com. U. S. P. & N. F., 1912, p. 292; Pharmakognostische Rundschau, 3, p. 128; Tschirch, Handbuch der Pharmakognosie, 1 ed., v. 2, p. 1594)

Examination of powdered gentian revealed numerous sclereids of a typical shape in one sample. Other samples were found to be adulterated with yellow and blunt-leaved dock, mountain rhubarb, almond shells and barley bran.

Turmann, O.

1912

Bemerkungen über Radix Gentianae. Apoth.-Ztg., 27, p. 918. (Dig. Com. U. S. P. & N. F., 1912, p. 292; Pharmakognostische Rundschau, 3, p. 128; Tschirch, Handbuch der Pharmakognosie, 1 ed., v. 2, p. 1598.)

Reports the occurrence of adulterated powdered gentian and describes the microchemistry of gentian.

Watson, G. N.

1912

(Compound Tincture of Gentian)

Proc. Kansas Pharm. Assoc., p. 87. (Dig. Com. U. S. P. & N. F., 1912, p. 292.)

Samples of compound tincture of gentian contained but 25% of the amount of extractive of a standard tincture.

Wilbert, M. I.

1912

The Ash Content of Drugs

Jour. Am. Pharm. Assoc., 1, p. 457. (Ibid, 2, p. 475.)

In a table shows that maximum ash content of gentian allowed is 7% in the pharmacopoea Belgium III.

Wiley, H. W.

1912

Domestic Drugs

Ann. Rep. U. S. Dept. Agric., 1911, p. 424. (Dig. Com. U. S. P. & N. F., 1911, p. 368.)

Reports powdered gentian containing foreign powdered material.

Anselmino, M.

1913

Tinctura Gentianae

Berichte d. pharm. Gesellsch., 23, p. 297. (Dig. Com. U. S. F. & M. F., 1913, p. 296.)

Gives results of the examination of tincture of gentian and the relation and nature of the drug to the specific gravity and extract content of the resulting preparation.

Boa, F.

1913

The Bitterness of Tincture of Gentian Pharm. Jour., 70, p. 652.

In reply to the criticism of Holmes, affirms that the bitterness of his tincture was not caused by using white gentian root.

Bohrisch, F. & Kurschner, F.

1913

Zur Herstellung der Tinkturen nach dem Deutschen Arzneibuch V. Pharm. Zentralhl., 54, p. 29. (Dig. Com. U. S. F. & M. F., 1913, p. 296.)

Give results of their ash determinations on gentian root and also give the percent of extractive obtained.

Bridel, M.

1913

Sur la presence de la gentiopicroine dans les tiges foliees de la Gentiane jaune, de la Gentiane a feuille d'Asclepiade et de la Gentiane Croisette. Jour. de Pharm. Chim. s.7, v.7, p. 486. (Pharm. Jour., 90, p. 839; Yrbk. Am. Pharm. Assoc., 2, p. 443; Pharmakognostische Rundschau, 4, p. 162; Tschirch, Handbuch der Pharmakognosie, 1 ed., v. 2, p. 1597.)

Gives results of experiments showing that leaf-bearing stems of the above mentioned gentians contain as much as 0.3 to 0.4% of gentiopecrin.

Bridel, M.

1913

Sur la presence de la gentiopecrine du gentianose et du saccharose dans les racines fraiches de la Gentiane punctuee. *Compt. rend.*, 156, p. 627; *Jour. de pharm. et de chim.*, s. 7, v. 7, pp. 241, 289, 392, 486, and 217. (*Dig. Com. U. S. P. & N. F.*, 1913, p. 296.)

Reports presence of gentiopecrin, gentianose and sucrose in the fresh roots of *Gentiana punctata* Linne.

Caesar & Loretz.

1913

Radix Gentianae rubrae

Jahres-Ber., 1913, p. 74. (*Dig. Com. U. S. P. & N. F.*, 1913, p. 296.)

The gentian root used in Germany is usually supplied from Spain or the south of France, and seldom, if ever, contains *rumex* rhizomes.

Gane, E. H.

1913

Report of Committee on Drug Market, August, 1912.

Jour. Am. Pharm. Assoc., 2, p. 680. (*Dig. Com. U. S. P. & N. F.*, 1913, p. 296.)

Gentian root should yield not over 6% of ash and at least 33% of water-soluble matter.

Hankey, W. T.

1913

Report of the Committee on Adulterations & Sophistications of O. S. P. A. *Proc. Ohio Pharm. Assoc.*, 25, p. 58; (*Midland Drugg.*, 47, p. 321; *Dig. Com. U. S. P. & N. F.*, 1913, p. 296.)

(Reports a sample of powdered gentian adulterated with a species of rhubarb of poor grade.)

Kebler, L. F.

1913

Report of the Committee on Drug Market.

Jour. Am. Pharm. Assoc., 2, p. 1094. (Dig. Com. U. S. P. & N. F., 1913, p. 296.)

Of 53 lots of gentian root 43 were satisfactory; 4 were of fair quality, and one was adulterated with peanut shells.

(Patch, E. L., Chairman)

1913

Report of Committee on Drug Market, August, 1912.

Jour. Am. Pharm. Assoc., 2, p. 677. (Dig. Com. U. S. P. & N. F., 1913, p. 296.)

"State boards report that tincture of gentian compound ranged from 1.08% to 5.01% of extractive, a fair average limit being 5 to 6 percent.

(Patch, E. L., Chairman)

1913

Report of the Committee on Drug Market, August, 1912

Jour. Am. Pharm. Assoc., 2, p. 685.

"There is a tendency to dry gentian root by excessive artificial heat, thus causing the constituents to suffer considerably."

J. D. Riedel, A.-G.

1913

(Gentian)

Riedel's Berichte, 1913, p. 32. (Dig. Com. U. S. P. & N. F., 1913, p. 296.)

Gives the results of his ash determinations of gentian root.

Rusby, H. H.

1913

Report of Committee on Drug Market, August, 1912.

Jour. Am. Pharm. Assoc., 2, p. 685. (Dig. Com. U. S. P. & N. F., 1913, p. 296.)

State that there is a tendency for gentian to be dried by an excessive degree of artificial heat, so as to develop a distinct odor of scorching.

Wasicky, R.

1913

Das Fluoreszenz-Mikroskop in der Pharmakognosie. Pharm. Post, 46, p. 877. (Pharmakognostische Rundschau, 4, p. 25; Tschirch, Handbuch der Pharmakognosie, 1 ed., v. 2, p. 1598.)

The original was not available.

Weber, G.

1913

(Gentian)

Pharm. Post, 46, p. 784, (Dig. Com. U. S. P. & N. F., 1913, p. 295; Tschirch, Handbuch der Pharmakognosie, 1 ed., v. 2, p. 1594.)

(Gives an illustrated description of some of the structural characteristics of gentian.)

Anselmino, O.

1914

(Gentian)

Arb. Pharm. Inst. Univ. Berlin, 1914, p. 29. (Dig. Com. U. S. I. & N. F., 1914, p. 290.)

Reports on a number of experiments to determine the relative specific gravity and extract content of tincture of gentian made from the drug containing varying amounts of moisture.

Bridel, M.

1914

Sur la presence de la gentiopecrine et du gentianose dans les racines fraiches de la Gentiane pourpree (*Gentiana purpurea* Linne.)

Jour. de Pharm. Chim., s. 7, v. 10, p. 62. (Pharm. Era, 47, p. 418; Dig. Com. U. S. I. & N. F., 1914, p. 289; Tschirch, Handbuch der Pharmakognosie, 1 ed., v. 2, p. 1597.)

Gives his own experimental proof that *Gentiana purpurea* Linne contains the same constituents, in about the same proportions, as *Gentiana lutea* Linne and may be substituted for the latter.

Carlson, A. J.; van de Erve, J.
Lewis, J. H. & Orr, S. J.

1914

The Action of the So-Called Stomachics or Bitters on the Hunger Mechanism

Jour. Pharmacol. & Exper. Therap., 6, p. 209. (Dig. Com. U. S. I. & N. F., 1914, p. 290).

In therapeutic quantities the bitters including gentian have no effect on the gastro tonus and the gastric hunger contractions, or on the parallel sensation of hunger.

Doerschik, A. N.

1914

Acetic Tincture. Gentian Compound; A True Bitter Tonic

Western Drugg; 36, p. 213. Pharm. Era., 47, p. 311. (Dig. Com. U. S. I. & N. F., 1914, p. 290.)

Says that the acetic tincture of gentian is a true bitter tonic.

(Editor)

1914

Commerce of Drugs and Oils

Chem. & Drugg., 85, p. 791.

Prohibition of the export of gentian and its preparations successfully raised the price of the drug in England.

Hankey, W. T.

1914

(Adulteration of Gentian Root)

Proc. Ohio Pharm. Assoc., 36, p. 54. (Dig. Com. U. S. F. & N. F., 1914, p. 290.)

Reports that 5 lots of 5 barrels of powdered gentian varied from 10 to 20% in ash, while good gentian usually varied from 3.34 to 4.85%.

Jensen, H. R.

1914

(Powdered Gentian)

Evans' Anal. Notes, 1914, p. 34. (Dig. Com. U. S. F. & N. F., 1914, p. 290.)

Reports a sample of powdered gentian to be adulterated with woody fiber and having 7% of ash present.

Linke, H.

1914

Ergebnisse, Beobachtungen und Betrachtungen bei der Untersuchung unserer Arzneimittel

Apoth.--Ztg., 29, p. 567. (Dig. Com. U. S. F. & N. F., 1914, p. 290.)

Suggests the pharmacopoeia should include an ash content for gentian not exceeding 5%.

Maines, E. L.

1914

Ash Content of Crude Drugs

Jour. Am. Pharm. Assoc., 3, p. 425. (Dig. Com. U. S. P. & N. F., 1914, p. 290.)

Reports the results of ash determination of gentian root.

Mann, E. W.

1914

(Ash of *Gentiana lutea*)

Ann. Rep. Southall Bros. & Barclay, 22, 1914, p. 15. (Dig. Com. U. S. P. & N. F., 1914, p. 290.)

Gives results of ash determinations on 9 different samples of gentian.

(Remington, J. P., Chairman)

1914

Changes in the New Pharmacopoea--Third Installment--Standards for Drugs

Pharm. Era., 47, p. 260.

A condensed abstract of the proposed monograph of Gentian for incorporation into the next edition of the United States Pharmacopoea is given.

J. D. Riedel, A.-G.

1914

(Gentian)

Riedel's Berichte, 1914, p. 32. (Dig. Com. U. S. P. & N. F., 1914, p. 290.)

Gives percent of water-soluble extract, diluted alcohol extract, and ash obtained from a sample of gentian root.

Rippetoe, J. R.

1914

The Examination of some Drugs with Special Reference to the Anhydrous Alcohol and Ether Extracts and Ash

Am. Jour. Pharm., 86, p. 439. (Dig. Com. U. S. F. & N. F., 1914, p. 290.)

Gives results of experiments in which he determines the percentage of alcohol extract, water extract, and total ash in samples of gentian root.

Baker, W. L.

1915

Report of the Chemists' Sub-Committee on Standardization and Drug Testing.

Jour. Am. Pharm. Assoc., 4, p. 225. (Dig. Com. U. S. F. & N. F., 1914, p. 263.)

Found a sample of powdered gentian adulterated with foreign material.

Kraemer, H.

1915

Gentiana-Gentian

Scientific and Applied Pharmacognosy, 2 ed., p. 627; Ibid: 3 ed., p. 534; Ibid., 4 ed., p. 616.

Gives habitat, description, structure, test for powder, constituents, allied plants and plates illustrating *Gentian lutea*.

Moorhead, L. D.

1915

Further Studies on the action of Bitter Tonics on the Secretion of Gastric Juice

Jour. Pharm. & Expt. Therap., 7, p. 577. (Remington & Wood, U. S. Dispens., 20 ed., p. 514; Ibid: 21 ed., p. 516; Blair, Botanic Drugs, p. 178.)

Describes experiment in which effect of bitter tonics on the secretion of gastric juice was determined by feeding tincture of gentian to a dog.

(Editor)

1916

The Cultivation of Medicinal Plants

N. A. R. D. Jour., 21, p. 702.

Discusses the possibility of growing gentian in this country and gives the current retail price.

(Editor)

1916

The Cultivation of Medicinal Plants

N. A. R. D. Jour., 21, p. 702. (Dig. Com. U. S. P. & N. F., 1916, p. 193.)

A short note giving information relative to the cultivation of gentian in America.

Tunmann, O.

1916

Zur Mikrochemie des Gentisins und der gelben Farbstoffe in *Frasera Carolinensis*

Apoth.--Ztg., 31, p. 181. (Jour. Chem. Soc. Lond., 110, p. 874; Dig. Com. U. S. P. & N. F., 1916, p. 193.)

Gives the microchemistry of gentisin and the yellow coloring matter of *Frasera Carolinensis*.

Blair, T. S.

1917

Gentian

Botanic Drugs, p. 177.

Gives allied species, pharmacology of the simple bitters, therapeutics, administration and dose of gentian root.

Tschirch, A.

1917

Radix Gentiane

Tschirch, Handbuch der Pharmakognosie, 2 ed., v. 2, p. 1589.

Gives etymology of the name, botanical origin, pathology, collection and commercial aspects, morphology, description, constituents and their chemistry, uses, adulterations, parallel drugs, and history of *Gentiana lutea*. Also an extensive bibliography.

Tunmann, O.

1917

Ergebnisse einiger Drogenuntersuchungen.

Apoth.--Ztg., 32, p. 181. (Pharm. Zentralhl., 59, p. 269; Dig. Com. U. S. P. & N. F., 1918, p. 226; Pharm. Weekblad., 54, p. 1427.)

A sample of powdered gentian consisted entirely of the broken needles of *Picea excelsa*.

Bruntz, L. & Jaloux, M.

1918

Gentiana lutea L.

Plantes Officinales, p. 170.

Gives the official parts used and lists all pharmacopoeias in which these parts are recognized.

Guyot, H.

1918

La *Gentiana lutea* L. et sa fermentation

Bull. soc. botan. Geneva, s. 2, v. 8, p. 283. (Physiol. Abstr., 2, p. 286; Dig. Com. U. S. P. & N. F., 1918, p. 226.)

Notes on the geographical distribution of *Gentiana lutea* Linne, the chemical composition of the root, and the enzymes which it contains.

Hoyer, O. & Wasicky, R.

1918

(Gentian)

Pharm. Post, 51, p. 145. (Chem. Abstracts, 13, p. 247; Chem. Zentralbl., 89, part 1, p. 941; Yr. Bk. Am. Pharm. Assoc., 8, p. 231; Am. Jour. Pharm., 91, p. 554; Dig. Com. U. S. P. & N. F., 1918, p. 226.)

(Compares the therapeutic value of the root of *Gentiana lutea* and *Gentiana asclepiadae*. The latter contains only one-half as much gentiopicrin as the former. Tests also showed that the latter was twice as bitter as the former.)

Kofler, L.

1918

Die pharmakognostische Analyse eines verfälschten Enzianpulvers. Ein Beitrag zur Anwendung Mikrochemischer Untersuchungsmethoden.

Arch. der Pharm., 256, p. 249. (Chem. Abstracts, 13, p. 1364; Yr. Bk. Am. Pharm. Assoc., 8, p. 321; Dig. Com. U. S. P. & N. F., 1918, p. 226.)

Finds numerous adulterations of powdered gentian with olive pits, warmseed, and tartar emetic, the last being detected when a concentrated aqueous solution was treated with a drop of 10% silver nitrate solution. Suggests the use of the microscope to detect the other adulterants.

Molisch, Hans

1918

Beitrage zur Mikrochemie der Pflanze Uber organische krystallierende Stoffe in *Gentiana germanica* Willden.

Berlin bot. Gesellsch., 35, p. 653. (Chem. Abstr., 12, p. 2344: Dig. Com. U. S. F. & N. F., 1918, p. 226.)

Describes 2 new crystalline organic substances obtained from *Gentiana germanica*. Gives description and properties on one of them, "gentiolutein" and states that they are not identical with gentiopecrin or gentianin.

(Editor)

1919

Drogen--und Warenkunde

Pharm. Zentralhl., 60, p. 393. (Dig. Com. U. S. F. & N. F., 1919, p. 240.)

A review and comment of an inaugural dissertation by Rene Osterwalden entitled Betrage zur Kenntnis pharmazeutisch wichtiger *Gentiana* Wurzeln.

Leroux,---, Lucien,---, & Desire,---.

1919

(Gentian)

An. chim. anal. chim. applicata, 1, p. 208. (Dig. Com. U. S. F. & N. F., 1919, p. 240.)

Gives ash total of air-dried *Gentiana lutea*, and gives the constituents of the ash with their percentages.

Nathan, Edward I.

1919

Production of Spanish Gentian Root.

Com. Rep., 1919, No. 86, p. 298. (Dig. Com. U. S. F. & N. F., 1919, p. 240.)

In a consular report, states that the 1918 production of gentian root in Spain was only 200 tons against 500 tons in 1917 and 1000 in 1916.

Anon

1920

Gentian

Tariff Commission Series, No. 19, p. 27. (Dig. Com. U. S. F. & N. F., 1920, p. 267.)

Statistics are given on the sources of supply and on the importation in the U. S. of gentian for the years 1909-1919.

Bridel, M.

1920

Sur la presence simultanee du gentianose et du saccharose dans les especes du genre Gentiana

Jour. de pharm. et de chim., s. 7, v. 21, p. 306. (Pharm. Jour. 68, p. 275.)

Reports the simultaneous occurrence of both gentianose and saccharose in the roots of plants of the genus Gentiana.

Bridel, M.

1920

Sur la conservation des preparations galeniques de Gentiane obtenues avec une racine de Gentiane sechee a l'air, sans fermentation.

Jour. de pharm. et de chim., s. 7, v. 22, p. 411. (Wood and La Wall U. S. Dispens., 21 ed., p. 516; Yr. Bk. Am. Pharm. Assoc., 9, p. 284; Dig. Com. U. S. F. & N. F., 1920, p. 267.)

Tests various preparations of gentian he had made nine years previous for alcohols, glucosides, sugars, and alkaloidal content.

Compain, M.

1920

Gentiane

Guide de l'herboriste droguiste, p. 81.

Gives common names, properties and preparations of gentian.

Coupin, H.

1920

Gentiane jaune

Les plantes medicinales, p. 180

Gives common names, general characteristics, habitat, part used, action, preparations and uses of gentian root. On page 309 includes gentian in a list of general tonics.

(Editor)

1920

Crop of Gentian Root

Pharm. Era, 53, p. 66.

Gives the production and selling price of gentian root in Spain from 1916 to 1920. The crop ranged from 1000 tons in 1916 to an estimated 400 tons in 1920, caused by the low price of the root.

Ewe, G. E.

1920

Report of the Committee on Drug Market

Proc. Pa. Pharm. Assoc., 1920, p. 112. (Dig. Com. U. S. I. & N. F., 1920, p. 267.)

One lot of gentian examined was very old and decayed.

Fischer, E.

1920

Zur Frage der Regeneration von *Gentiana lutea* durch Adventivknospenbildung an den Wurzeln.

Schweiz. Apoth. Ztg., 57, p. 715. Pharm. Jour., 104, p. 72; Yr. Bk. Am. Pharm. Assoc., 9, p. 285; Dig. Com. U. S. F. & N. F., 1919, p. 240.)

States that collectors of gentian root maintain that pieces left in the ground develop stems and new plants. Mentions experiments conducted at the Bern Botanical Gardens which, however, contradict this belief.

Linde, O.

1920

Fur Neuausgabe des Deutschen Arzneibuches

Apoth.--Ztg., 35, p. 465. (Dig. Com. U. S. F. & N. F., 1920, p. 267.)

Suggests a standard for gentian root in the German Pharmacopoea based on the percent of aqueous extract the drug should yield.

Osterwalder, R.

1920

Beitrage zur Kenntnis pharmazeutisch wichtiger *Gentiana*--Wurzeln.

Schweiz. Apoth.--Ztg., 58, p. 201. (Dig. Com. U. S. F. & N. F., 1920, p. 267; Yr. Bk. Am. Pharm. Assoc., 9, p. 284.)

Gives a pharmacognostical study of *Gentiana lutea* L., *G. purpurea* L., *G. punctata* L., *G. Pannonica* Scop., and *G. asclepiades* L.

Berendes, I.

1921

Enzian, *Gentiana lutea* L. Paulus' von Aegina des besten Artztes sieben Bucher, p. 632.

Gives uses of the root of *Gentiana lutea* and says that both gentiopicrin and gentisic acid are obtained from it.

Farrington, F.

1921

Letters of a Delivery Clerk

Am. Drugg., 69, p. 21.

"Gentian, the most important bitter medicinal, is a wild product of the mountainous regions of southern Europe. Neither there or in America has its commercial cultivation proved successful. Gentian and other bitters are widely used in tonic proprietary medicines, which chiefly owe their tonic effect to the alcohol contained."

Humphrey, J.

1921

Gentian Root

Humphrey. Drugs in Commerce, p. 59.

Gives part used, habitat, collection, description, and uses of the root of *Gentiana lutea*.

Lloyd, J. U.

(1921)

Gentiana (Gentian)

Origin and History of all the Pharmacopoeial Vegetable Drugs with Bibliography, p. 152.

Gives habitat, history, derivation of genus name, uses as a tobacco antidote in 1865, used by Tragus in 1650 for dilating wounds, and the present uses of the root of *Gentiana lutea*.

Marzell, H.

1921

Gelber Enzian

Neues illustriertes Krauterbuch, pp. 504, 566, 572 and 580.

Gives illustration, description, habitat, time of flowering, medicinal use and preparations of gentian root. Also includes it in a table of medicinal plants, giving the uses, and in a price list of drugs.

Ottersbach, G. & Dorstevitz, R.

1921

Enzianwurzel

Drogenkunde, p. 7.

Gives synonyms, habitat, preparation for commerce, uses of the root of *Gentiana lutea*, mentioning also the preparation of "gentian whiskey."

Smythe, C. E. & Newcomb, E.

1921

Ash Yield of Gentian

Jour. Am. Pharm. Assoc., 10, p. 457; (Yrbk. Am. Pharm. Assoc. 10, p. 238.)

Report the "Normal ash, i.e., the ash of the thoroughly cleaned drug," from 2 to 2.5%. Commercial samples yielded from 0.5 to 3% of ash insoluble in 5% HCl.

Gehe & Co.

(1922)

Gentiana lutea

Arzneipflanzen--Taschenbuch, p. 180.

Gives synonyms, description, time of flowering, parts official, time of collection, physical properties, constituents, preparations and uses of gentian root.

Lehaman, P. J. L.

1922

Gentiane jaune

Plantes remèdes et maladies, p. 158.

Gives description, synonyms, parts used, properties, dose, use and derivation of the genus name of *Gentiana lutea*.

Reutter, L.

1923

Radix Gentianae, Racine, de Gentiane, de Gentiana lutea, L.

Traite de Matière Medicale, p. 187.

Gives botanical origin, description, habitat, adulterants, constituents, uses, physiological action, preparations and history of the root of *Gentiana lutea*.

Wren, R. C.

1923

Gentian

Potter's Cyclopaedia of Botanical Drugs & Preparations, 3 ed., p. 134.

Gives part used, action, preparations and description of gentian root.

(Editor)

1924

(Gentian)

The Sheffield Independent, ---, p. ---. (Chem. & Drugg., 102, p. 74)

Gives an account of the experiences of 2 men after drinking a home-made infusion believed to be gentian.

Schlickum, R.

1924

Radix Gentianae. Enzianwurzel. Pharmakognosie, 3 ed., v. 2, p. 26.

Gives botanical origin, habitat, description, constituents, uses and preparations of the root of *Gentiana lutea*.

Binaghi, R., & Falgui, F.

1925

(Researches on the Root of *Gentiana Lutea*)

Ann. chim. applicata, 15, pp. 386-396. (Y. B. Am. Pharm. Assoc., 14, p. 106; Chem. Abstracts, 20, p. 644; Klein, Handbuch der Pflanzenanalyse, 3 ed., v. 2, pt. 2, p. 897.)

Lists the results on gentian root and show how methods of extraction have proven the economic value of this root in medicine.

Wallis, T. E.

1925

Gentian Root

Practical Pharmacognosy, p. 61.

Names official parts and gives a description of them.

(Editor)

1926

Observations and Reflections. The Derivation

Chem. & Drugg., 105, p. 481.

Gives a derivation of the name gentian.

(Editor)

1926

Gentian

Chem. & Drugg., 105, p. 192.

In the C. & D. Commercial Compendium gives the pharmacognosy of *Gentiana lutea* and others.

Leyel, Mrs. C. F.

1926

Herbs in Medicine B. C.

The Magic of Herbs, pp. 12, 124, 185, 265, 273, & 274.

Gives the early history of gentian, its use in preparations, and gives uses of these preparations.

Youngken, H. W.

1926

Gentiana U. S. F. (Gentian)

A Text Book of Pharmacognosy, p. 481.

Gives synonyms, botanical origin, part used, purity rubric, habitat, production and commerce, description, histology, powdered drug, constituents, use, and adulterants of gentian root. One page 480 gives 2 large illustrations of the root in transverse and longitudinal-radial section.

Heraud, A.

1927

Gentiana jaune

Nouveaux dictionnaire des plantes medicinales, 6 ed., p. 319.

Gives synonyms, description, habitat, cultivation, parts used, chemical composition, preparations and their doses, physiological action and uses of gentian root.

Buchner, J. A.

1928

(Gentian)

Hygeia, v. 6, p. --- (Villers & Thumen, Die Pflanzen des homöopathischen Arzneischatzes, v. 1, p. 204.)

The original was not available.

Chamings, A. R. G.

(1928)

(Pharmacognosy Map)

Pharmacognosy Map for Students of Pharmacy, p. 1.

Indicates that gentian is indigenous to Germany.

Falck, A.

1928

Rhizoma et Radix Gentianae:

Die officinellen Drogen und ihre Ersatzstoffe, p. 68.

Gives the meaning of the word gentian in all the European languages and states that the root is official in all current pharmacopoeias.

(Editor)

1929

Miscellaneous Inquiries. Brazilian Drugs

Chem. & Drugg., 110, p. 80.

In reply to an inquiry, states that Lisianthus vendulus is used in Brazil as a substitute for European gentian.

Greenish, H. G.

1929

Gentian Root

Materia Medica, 5 ed., p. 337: Ibid: 6 ed., p. 338.

Gives habitat, description, microscopical characteristics constituents, uses, and illustrations of the root of *Gentiana lutea*.

Ulsamer, J. A.

1929

Enzean. gelber

Haus-Apotheke. p. 56.

Gives synonyms, habitat, description, constituents, preparations, uses and an illustration of *Gentiana lutea*.

Wasicky, R.

1929

Gentiana

Lehrbuch der Pharmakognosie. v. 1. p. 168.

Gives habitat, parallel drugs, description, constituents, adulterations, the ash limit and percentage of aqueous extractive of gentian root.

Rusby, H., Bliss, R. & Ballard, C.

1930

Gentiana. *Gentian*. *Gentian Root*. U. S. P. *Yellow Gentian*.

Rusby, Bliss & Ballard. *The Properties & Uses of Drugs*, p. 192.

Gives habitat, description, constituents, adulterations and preparations of the root of *Gentiana lutea*.

Himnebaur, W.

1930

Radix Gentianae

Sammelkalender für einige Mitteleuropäische Arzneipflanzen, no page. (Tschirch, Handbuch der Pharmakognosie, 2 ed., v. 1, pt. 1, appendix.)

In a table indicates that gentian root should be collected in April.

(Editor)

1931

Legal Reports--Powdered Gentian

Chem. & Drugg., 114, p. 534. (Ibid., 114, p. 573.)

Gives an account of a case in which the defendant was fined 40s. and costs for selling adulterated powdered gentian.

Gessner, O.

1931

Gentiana lutea

Die Gift--und Arzneipflanzen von Mitteleuropa, p. 162.

Gives synonyms, origin of the name, description, habitat, time of flowering, parallel plants, constituents, preparations and uses of gentian root.

Jones, A. O.

1931

Letters to the Editor

Pharm. Jour., 126, p. 456.

Discusses a case in which a druggist was convicted for selling adulterated root. Disagrees with "Criticus," (Pharm. Jour., Apr. 4, p. 327) who contends that since crude gentian is no longer used, it should not have been inspected.

Klein, G.

1931

(*Gentiana lutea*)

Handbuch der Pflanzenanalyse, 2 ed., v. 1, pp. 755, 761, 853, 854, 862, 863 and 865.

States that gentiosterin, galactose, a pentoside, hexosan, gentiobiose, and gentianose are obtained from gentian root. Also says that an unknown sterol is present in the fatty oil extracted from the overground portion of *Gentiana lutea*.

Coulter, S.

1932

Gentian

Pharmacology of the Medicinal Agents, p. 104.

Gives a definition, dose, standard of strength, constituents, and physiological action of Gentian root.

Klein, G.

1932

Xanthone

Handbuch der Pflanzenanalyse, 3 ed., v. 2, pt. 2, p. 941.

"Gentisin (1, 7--Dioxy-3 methoxyxanthon, Gentianin), $C_{14}H_{10}O_5$."

Klein, G.

1932

Gentiacaulin (Gentiacaulosid)

Handbuch der Pflanzenanalyse, 3 ed., v. 2, pt. 2, p. 1200.

Gives the work of Tanret, the properties and chemistry of gentiacaulin, and on the next page discusses gentiin, gentionicrin and gentiogenin. On page 1230 gives the sources of gentionicrin.

Bohn, W.

no date

Enzian. (*Gentiana lutea*)

Die Heilwerte heimischer Pflanzen, p. 41.

Gives habitat, properties, physiological action, constituents, uses and dose of gentian root.

Spatula Publishing Co.

Gentian Root

Spatula Herb Book, p. 23.

Includes gentian in a list of herbs, giving its Latin name and use.

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- Am(eric)an) Drugg(ist) & Pharm(aceutical) Rec(ord) - v. 22-72:
1892-1924.
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1857-1932.
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1-6: 1906-1911.
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- Brit(ish) & Col(onial) Drugg(ist) - v. 12-84: 1887-1931.
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18-54: 1914-1932.

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1902-1913.
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- Nat(ional) Drug Clerk - v. 1-19; 1913-1931.
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1889-1911.
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- Pacif(ic) Phar(macist) - v. 1-13; 1907-1909.
- Perf(umery) & Essent(ial) Oil Rec(ord) - v. 1-22; 1910-1932.
- Pharm(acal) Notes - v. 1-11; 1894-1904.
- Pharm(aceutical) Era - v. 1-67; 1887-1930.
- Pharm(aceutical) Arch(ives) - v. 1-6; 1898-1903.
- Pharm(aceutical) Jour(nal & Transactions) - v. 1-129; 1841-1932.
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UNITED STATES PHARMACOPOEIA (O-X)

(1820-1920)

and

NATIONAL FORMULARY (I-V)

(1888-1926)

HISTORY

OF

GENTIANA LUTEA LINNE

U. S. P. 1820 P. p. 36.

Gentiana.

Gentiana lutea W. i. 1331.

Gentian.

Radix, The root.

U. S. P. 1830 (Phil.) p. p. 33.

Gentiana

Gentiana lutea W. i. 1331.

Gentian

Radix. The root.

U. S. P. 1830 (N. Y.) p. 36

Gentianae Radix.

Gentiana Lutea.

Gentian Root.

Prop. In wrinkled pieces, varying in length and thickness; exter- / nally, brown, internally, yellow; nearly inodorous; taste intensely / bitter; virtues extracted by alcohol and water.

Med. Oper. Astringent. Dose

U. S. P. 1840 P. p. 22.

Gentiana

Gentian.

The root of Gentiana lutea.

U. S. P. 1850 P. p. 25.

Gentiana.

Gentian.

The root of Gentiana lutea.

U. S. P. 1860 P. p. 30.

Gentiana.

Gentian.

The root of *Gentiana lutea*.

U. S. P. 1880.

Gentiana.

Gentian.

The root of *Gentiana lutea* Linne (Nat. Ord., Gentianaceae).

In nearly cylindrical pieces or longitudinal slices, about one inch (25 millimeters) / thick, the upper portion closely annulate, the lower portion longitudinally / wrinkled; externally deep yellowish-brown; internally lighter; somewhat flexible / and tough when damp; rather brittle when dry; fracture uneven; the bark rather / thick, separated from the somewhat spongy medullium by a black cambium / line; odor peculiar, faint, more prominent, when moistened; taste sweetish and / persistently bitter.

Preparations--Extractum Gentianae. Extractum Gentianae Fluidum. Tinctura / Gentianae Composita.

U. S. P. 1890. p. 197.

Gentiana.

Gentian.

The root of *Gentiana lutea* Linne (nat. ord. Gentianaceae).

In nearly cylindrical pieces or longitudinal slices, about 25 Mm. thick, the / upper portion closely annulate, the lower portion longitudinally wrinkled; / externally deep yellowish-brown; internally lighter; somewhat flexible and / tough when damp; rather brittle when dry; fracture uneven; the bark / rather thick, separated from the somewhat spongy medullium by a black / cambium line; odor peculiar, faint more prominent when moistened; taste / sweetish and persistently bitter.

Preparations: Extractum Gentianae Extractum Gentianae Fluidum. Tinctura / Gentianae Composita.

U. S. P. 1900 p. 222.

Gentiana.

Gentian.

The dried rhizome and roots of *Gentiana lutea* Linne (Fam. Gen / tianaceae).

In nearly cylindrical pieces or longitudinal slices, of variable length and from / 5 to 35 mm. thick; externally yellowish-brown, the rhizome annulate, the / roots longitudinally wrinkled; fracture short but uneven, the bark rather thick, / separated from the somewhat spongy, reddish-yellow or brownish inner portion / by a dark brown cambium zone; odor strong, characteristic; taste slightly / sweetish, strongly and persistently bitter.

The powder is free from starch grains and sclerenchymatic tissues.

Average dose--1 Gm. (15 grains).

U. S. P. 1910. p. 201.

Gentiana.

Gentian.

Gentian,

Yellow Gentian Root.

The dried rhizome and roots of *Gentiana lutea* Linne (Fam. Ginti- / anaceae).

In nearly cylindrical, sometimes branching pieces, of variable length, from 5 / to 35 mm. in thickness; externally yellowish-brown, the rhizome portion annulate, / the roots longitudinally wrinkled; fracture short and uneven when dry, but / tough and flexible when damp; internally yellowish-brown, the bark from 0.5 / to 2 mm. in thickness, separated from the somewhat spongy woody portion by / a dark brown cambium zone; odor strong, characteristic; taste slightly sweetish, / then strongly and persistently bitter. /

The powder is light brown or yellowish-brown, consisting chiefly of paren- / chymatous cells with fragments of scalariform or reticulate tracheae; starch / grains few or none. Stone cells and sclerenchymatous fibers are absent.

Gentian yields not more than 6 percent. of ash.

Preparations--Extractum Gentianae Fluidextractum Gentianae. Tinctura Gen - / tianae Composita.

Average dose--Metric, 1 Gm.--Apothecary, 15 grains.

U. S. P. 1920 p. 177.

Gentiana.

Gentian.

Gentian.

Gentian Root.

Gentian is the dried rhizome and roots of *Gentiana lutea* Linne (Fam. Gentianaceae). /

Gentian yields not less than 30 percent of water-soluble extractive. /

Description and physical properties. /

Underground Gentian.--In pieces nearly cylindrical, sometimes branched, from 5 to / 40 mm. in thickness; the rhizome portions annulate and the roots longitudin - / ally wrinkled; externally yellowish-brown; brittle when dry, tough and flexible / when damp; internally yellowish brown, with a cortex from 0.5 to 2 mm. in / thickness, separated from a spongy wood by a dark brown cambium zone and / distinctly radiate in appearance, especially in the region of the cambium; / odor strong and characteristic; taste slightly sweetish at first, then strongly / and persistently bitter. /

Structure--Cork of 4 to 6 rows of thin-walled cells; secondary cortex of several rows / of thick-walled cells; inner bark of many layers of more or less tangentially / collapsed parenchyma and numerous sieve bundles and separate from the / wood by a distinct cambium ring; medullary rays indistinct; wood rays consisting of a few large tracheae scattered through an abundance of brown thin - / walled parenchyma. /

Powdered Gentian--Light brown or yellowish brown and consists chiefly of par - / enchymatous cells with fragments of scalariform or reticulate tracheae. Starch / grains and calcium oxalate crystals are few or absent. Stone cells and bast - or / wood-fibers are absent. /

Assay--Proceed as directed under water-soluble extractive, page 466. /

Preparation--Tinctura Gentianae Composita. /

Average dose--Metric, 1 Gm.--Apothecaries, 15 grains. /

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

Gentiana lutea

Official in U. S. P. 1820, '30 (N. Y.), '30 (Phil), '40, '50,
'60, '70, '80, '90, 1900, '10, '20.

Official Latin Title:

Gentiana--U. S. P. 1820, '30 (Phil.), '40, '50, '60, '70,
'80, '90, 1900, (10, '20.

Gentianae Radix--U. S. P. 1830 (N. Y.).

Official English Title:

Gentian--U. S. P. 1820, '30 (Phil), '40, '50, '60, '70, '80,
'90, 1900, (10, '20.

Gentian Root--U. S. P. 1830 (N. Y.).

Official Abbreviations:

Gentian.--U. S. P. 1910, 1920.

Official Synonym:

Yellow Gentian Root--U. S. P. 1910.

Gentian Root--U. S. P. 1920.

Official Family:

Gentianaceae--U. S. P. 1890 (Nat. Order)--U. S. P. 1880, 1900,
'10, '20.

Scientific Name:

Gentiana lutea--U. S. P. 1820, '30 (Phil.), '30 (N. Y.), '40,
'50, '60, '70.

Gentiana lutea Linne--U. S. P. 1880, '90, 1900, '10, '20.

Parts Used:

Radix. The root--U. S. P. 1820, '30, (Phil.).

Root.--U. S. P. 1830 (N. Y.), '40, '50, '60, '70, '80, '90.

Dried rhizome and roots--U. S. P. 1900, '10, '20.

Properties:

U. S. P. 1830 (N.Y.).

Description:

U. S. P. 1830 (N. Y.), '80, '90, 1900, '10, '20.

Official Preparations:

Extractum Gentiane--U. S. P. 1880, '90, '10;

Extractum Gentiane Fluidum--U. S. P. 1880, '90.

Fluidextractum Gentianae--U. S. P. 1910.

Tinctura Gentianae Composita--U. S. P. 1880, '90, '10, '20.

Med. Oper.:

U. S. P. 1830 (N. Y.).

Dose:

i to ii--U. S. P. 1830 (N.Y.)

1 Gm. (15 grains).--U. S. P. 1900.

Metric, 1 Gm.-----Apothecaries, 15 grains.

Approved by W. Richtmann.
Assoc. Prof. of Pharmacology.