A HISTORY OF NUX VOMICA AND IGNATIA

In

THE UNITED STATES PHARMACOPOEIA

by

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A Thesis Submitted For The Degree

of

Graduate of Pharmacy

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Nux Vomica.

United States Pharmacopoeial History.

Official:-

'20 p. '30 a,p. '30 b, p '40p. '50p. '60p. '70p. '80, '90, '00, '10

'20

Nux Vomica	Strychnos Nux Vomica W.I.44
Vomic Nut	Semina. The seeds.

'30a

Nux Vomica	Strychnos Nux Vomica W.1.1052
Nux Vomica	Semina. The seeds.

'30b

Nux Vomica	Strychnos Nux Vomica.
Vomic Nut.	

Prop. Odor, scarcely perceptible; taste, intensely bitter; nauseous; active principle, and alkaline substance termed strychnia.

Med. Oper. Narcotic, acting powerfully on the nervous system.

Dose. grs. II to grs. V of the powdered nut.

'40

Nux Vomica	Nux Vomica
The seeds of Strychnos Nux Vomica.	

'50

Nux Vomica	Nux Vomica
The seeds of Strychnos Nux Vomica.	

'60

Nux Vomica.	Nux Vomica
The seed of Strychnos Nux Vomica.	

'70

Nux Vomica Nux Vomica

The seed of Strychnos Nux Vomica.

'80

Nux Vomica.

Nux Vomica.

The seed of Strychnos Nux Vomica Linne(Nat.Ord.Logania-ceae).

About one inch(25millimeters)in diameter,orbicular,gray-ish or greenidh hray;soft-hairy,of a silky lustre,with a slight ridge extending from the center of one side to the edge;intern-ally horny,somewhat translucent,very tough,with a large, circul-ar cavity,into which the heart shaped,nerved cotyledons project. It is inodorous and persistently bitter.

Preparation: Abstractum Nucis Vomicae.Extractum Nucis Vomica.Extractum Nucis Vomicae Fluidum.Tinctura Nucis Vomicae.

'90

Nux Vomica.

Nux Vomica.

The seed of Strychnos Nux Vomica Linne(Nat.Ord.Loganiac-eae).

About 25 Mm.in diameter,orbicular,grayish or greenish gray;soft-hairy,of a silky lustre,with a slight ridge extending from the center of one side to the sdge;internally horny,some-what translucent,very tough,with large,circular cavity,into which the heart shaped,nerved cotyledons project. It is inodorous and persistently bitter.

Preparations: Extractum Nucis Vomicae. Extractum Nucis Vomicae Fluidum.

Nux Vomica.

Nux Vomica.

The dried ripe seed of Strychnos Nux-vomica Linne (Fam. Loganiaseae), yielding, when assayed by the process given below not less than 1.25 percent of strychnine.

Orbicular, nearly flat, sometimes irregularly bent, 15 to 30 Mm. in diameter, 3 to 5 Mm. thick; externally grayish or greenish-gray, the surface covered with short, closely appressed, satiny hairs; rounded or somewhat acute at the margin, with a slight ridge extending from the center of one side to the edge; internally whitish-gray, horny, very tough, the endosperm in two more or less regular concavo-convex halves, between which, at one end, lie the heart shaped palmately nerved cotyledons; inodorous; taste intensely and persistently bitter.

Powder light gray, the epidermal cells modified to strongly lignified hairs; endosperm cells thick-walled, containing a fixed oil and aleurone grains, and giving a blue or violet color with potassium bichromate and sulphuric acid; in the tissues of adhering fruit pulp occur a few small, nearly spherical starch grains.

Assay of Nux Vomica.

Nux Vomica in No.60 powder, twenty grams - - - -20gm.

Ammonia Water,

Ether,

Chloroform,

Alcohol,

Normal Sulphuric Acid V.S.,

Fiftieth Normal Potassium hydroxide V.S.,

Nitric Acid (Sp.gr. 1.40),

Sodium Hydroxide Solution (1 in 10),

Tenth-normal Sulphuric Acid V.S.,

Sulphuric Acid Soultion (3 percent H_2SO_4),

Iodeosin T.S., each a sufficient quantity.

Introduce the Nux Vomica into a 250 Cc. Erlenmeyer flask and add to it 200 Cc. of a mixture of 137.5 Cc. of ether, 44 Cc. of chloroform, 13.5 Cc. of alcohol and 5 Cc. of ammonia water; insert the stopper securely and macerate with frequent shaking during one hour and allow it to stand in a cool place for twelve hours. Decant into a measuring cylinder 100 Cc. of the liquid (representing 10 gm. of Nux Vomica), and pour this into a separator, preferably of a globular shape. Rinse the cylinder with a little chloroform add this to the separator, and then add 15 Cc. of normal sulphuric acid V.S.; shake the mixture moderately during one minute, being careful to avoid emulsification; when the liquids have separated completely draw off the acid liquid into a beaker. Repeat the shaking out with successive portions of 5 and 3 Cc. of normal sulphuric acid V.S.; collect the acid solutions and pour them into a separator. If a drop of the last acid solution yields a precipitate with mercuric potassium iodide T.S., repeat the shaking out of the ether solution with 5 Cc. of normal sulphuric acid V.S. To the combined acid solutions in the separator, add a small piece of red litmus paper, 25 Cc. of chloroform and then sufficient amonia water to render the liquid alkaline, and shake the separatory thoroughly. When the liquids have separated draw off the chloroform into a flask of 100 Cc. capacity and repeat the

shaking out of the alkaline liquid with two successive portions of 15 Cc. each of chloroform, adding the latter to that already in the flask. Evaporate the combined chloroformic solutions in the flask until the alkaloidal residue is dry, then dissolve it in 15 Cc. of sulphuric acid (3 percent) warming it on a water-bath. When the solution has cooled, add 3 Cc. of a cooled mixture of equal volumes of nitric acid(specific gravity 1.420 and distilled water, and after rotating the liquid a few times, set it aside for exactly ten minutes, shaking it gently three times during this interval. Transfer the resulting red liquid to a separator containing 25 Cc. of an aqueous solution of sodium hydroxide (1 in 10) and wash the flask three times with very small amounts of distilled water and add the washings to the separator. If the liquid is not turbid add 2 Cc. more of the solution of sodium hydroxide. Now add 20 Cc. of chloroform to the separator, and shake it well by a rotating motion for a few minutes, allow the liquids to separate, and draw off the chloroform through a small filter wetted with chloroform, into a flask . Repeat this twice,using 10 Cc. of chloroform, each time, and draw off both portions into the flask using the same filter. Finally, wash the filter and funnel with 5 Cc. of chloroform, and then evaporate all the chloroform by means of a water bath, very carefully, to avoid decrepitation. To the alkaloidal residue add 6 Cc. of tenth-normal sulphuric acid V.S., 5 drops of iodeosin T.S., about 80 Cc. of distilled water, and 20 Cc. of ether. When all the alkaloid is dissolved, titrate the excess of acid with fiftieth normal potassium hydroxide V.S. until the aqueous liquid just turns pink. Divide the number of cubic centimeters of fiftieth normal potassium hydroxide V.S.

used by 5, subtract this number from 6 (the 6 Cc. of tenth normal sulphuric acid taken) multiply the remainder by 0.0332, and this product by 10, which will give the percentage of strychnine in the Nux Vomica.

Average dose.- 0.065 gm.= 65 milligrammes (1 grain).

'10

Nux Vomica.

Nux Vomica.

Nux Vom.- Strychni semen P.I.

The dried, ripe seeds of Strychnos Nux-vomica Linne (Fam. Loganiaceae), yielding not less than 2.5 per cent. of the alkaloids of Nux Vomica.

Orbicular, nearly flat, occassionally irregularly bent, from 10 to 30 mm. in diameter and from 4 to 5 mm. in thickness, very hard when dry; externally grayish or greenish-gray, covered with appressed hairs giving it a silky luster, hilum indicated by a circular star at the center of one of the flattened sides and connected with the micropyle at the edge, by a ridge; internally showing a thin, hairy seed-coat and a large grayish white indosperm at one end of which is embedded a small embryo with two broadly ovate, 5- to 7- nerved cotyledons; inodorous; taste intensely and persistently bitter.

The powder is light gray; consisting chiefly of thick walled endosperm cells containing globules of a fixed oil and a few aleurone grains , and fragments of strongly lignified, non-glandular hairs, the walls of the latter possessing large, circular, or long, slit-like pores. In the tissues of the adhering pulp occur a few small, nearly spherical starch grains.

Nux Vomica yields not more than 3.5 per cent. of ash.

ASSAY:- Introduce 15 Gm. of Nux Vomica, in No. 40 powder, into a 250 mil flask and add 150 mils of a mixture of chloroform, 1 volume, and ether, 2 volumes. Stopper the flask, shake it well and allow it to stand ten minutes, then add 10 mils of ammonia water, and, after shaking the flask vigorously every ten minutes during two hours, allow it to stand ten hours. Now add 25 mils of distilled water, again shake the flask well, and, when the drug has settled, decant 100 mils of the solution, representing 10 Gms. of Nux Vomica, filter the solution through a pledget of purified cotton into a separator, and rinse the graduate and cotton with a little ether. Completely extract the alkaloids from the solutions by shaking out repeatedly with weak sulphuric acid. Collect the acid washings in a separator, and add ammonia water until the solution is decidedly alkaline to litmus, and completely extract the alkaloids by shaking out repeatedly with chloroform. Evaporate the combined chloroform washings to dryness, dissolve the alkaloids from the residue in exactly 10 mils of tenth-normal sulphuric acid V.S. and titrate the excess of acid with fiftieth-normal potassium hydroxide V.S., using chochineal T.S. as indicator. Each mil tenth-normal sulphuric acid V.S. consumed corresponds to 36.4 millograms of the total alkaloids of Nux Vomica.

Preparations:- Extractum Nucis Vomicae Fluidextractum Nucis Vomicae Tinctura Nucis Vomicae.

AVERAGE DOSE:- Metric, 0.06 Gm.-- Apothecaries, 1 grain.

Nux Vomica.

United States Pharmacopoeial History.

p = Primary list.

a = Philadelphia.

b = New York.

Official:-

'20 p. '30 a.p. '30 b. '40 p. '50 p. '60 p. '70 p. '80 '90 '00 '10

Official Latin Title:-

Nux Vomica '20 '30 a. '40 '50 '60 '70 '80 '90 '00 '10

Official English Title:-

Vomic Nut '20 '30 b.

Nux Vomica '30 a. '40 '50 '60 '70 '80 '90 '00 '10

Abreviation:-

Nux Vom. '10.

Synonym:-

Strychni Semen. '10

Botanical Name:-

Strychnos Nux Vomica. W.i. 44 '20

Strychnos Nux Vomica '30 a.

Strychnos Nux Vomica W.i. 1052 '30 b.

Strychnos Nux Vomica '40 '50 '60 '70

Strychnos Nux Vomica Linne '80 '90 '00

Strychnos Nux-vomica Linne '10

Family:-

(Nat. Ord.,Loganiaceae) '80 '90

Fam. Loganiaceae) '00 '10

Part Used.

Semina. The seeds '20 '30a. '40

The seeds of --- '50

The seed of --- '60 '70 '80 '90

The dried ripe seed of --- '00

The dried rip seeds of --- '10

Assay:-

Yielding when assayed by the process given below not less than 1.25 percent of strychnine. '00.

Yielding not less than 2.5 percent of the alkaloids of Nux Vomica. '10.

Description:-

About one inch (25 Millimeters) in a diameter, orbicular, grayish or greenish gray;soft hairy, of a silky luster, with a slight ridge extending from the center of one side to the edge; externally horny, somewhat translucent, very tough, with large, circular cavity, into which the heart shaped, nerved cotyledons project. It is inoforous and persistently bitter. '80.

About 25 Mm. in a diameter, orbicular, grayish or greenish gray;soft hairy, of a silky luster, with a slight ridge extending from the center on one side to the edge; internally horny, somewhat translucent, very tough, with large, circular cavity, into which the heart shaped, nerved cotyledons project. It is inodorous and persistently bitter. '90.

Orbicular, nearly flat, sometimes irregularly bent; 15 to 30 Mm. in diameter, 3 to 5 Mm. thick; externally grayish or greenish-gray, the surface covered with short, closely appressed, satiny hairs; rounded or somewhat acute at the margin,with a slight ridge extending from the center of one side to the edge; internally whitish-gray,horny, very tough, the endosperm in two more or less regular concavo-convex halves,between which

at one end, lie the heart shaped palmately, nerved cotyledons; inodorous;taste intensely and persistently bitter.

Powder light gray, the epidermal cells modified to strongly lignified hairs; endosperm cells thick walled, containing a fixed oil and aleurone grains, and giving a blue or violet color with potassium bichromate and sulphuric acid; in the tissues of adhering fruit pulp occur a few small, nearly spherical starch grains. '00.

Orbicular, nearly flat, occasionally irregularly bent, from 10 to 30 Mm. in diameter, and from 4 to 5 Mm. in thickness, very hard when dry; externally grayish or greenish gray, covered with appressed hairs giving it a silky luster, hilum indicated by a circular scar at the center of one of the flattened sides, and connected with the micropyle at the edge by a ridge; internally showing a thin, hairy seed coat and a large grayish white endosperm at one end of which is embedded a small embryo with two broadly ovate, 5- to 7- nerved cotyledons; inodorous; taste intensely and persistently bitter.

The powder is light gray;consisting chiefly of thick-walled endosperm cells containing globules of a fixed oil and a few small aleurone grains, and fragments of strongly liquified, non glandular hairs, the walls of the latter possessing large, circular, or long, slit-like pores, In the tissues of the adhering pulp occur a few small, nearly spherical starch grains. '10.

Assay:-

Nux Vomica in No. 60 powder, twenty grains----20 gm.

Ammonia Water,

Ether,

Chloroform,

Alcohol,

Normal Sulphuric Acid V.S.,

Fiftieth Normal Potassium Hydroxide V.S.,

Nitric Acid (sp. gr.1.40),

Sodium Hydroxide Solution (1 in 10),

Tenth-normal Sulphuric Acid V.S.,

Sulphuric acid solution (3 percent H_2SO_4),

Iodeosin T.S., each a sufficient quantity.

Introduce the Nux Vomica into a 250 Cc. Erlenmeyer flask and add to it 200 Cc. of a mixture of 137.5 Cc. of ether, 44 Cc. of alcohol and 5 Cc. of ammonia water; insert the stopper securely and macerate with frequent shaking during one hour and allow it to stand in a cool place for twelve hours. Decant into a measuring cylinder 100 Cc. of the liquid (representing 10 Gm. of Nux Vomica), and pour this into a separator, preferably of a globular shape. Rinse the cylinder with a little chloroform, add this to the separator, and then add 15 Cc. of normal sulphuric acid V.S.; shake the mixture moderately during one minute being careful to avoid emulsification; when the liquids have separated completely, draw off the acid liquid into a beaker. Repeat the shaking out with successive portions of 5 and 3 Cc. of normal sulphuric acid V.S.; collect the acid solutions and pour them into a separator. If a drop of the last acid yields a precipitate with mercuric potassium iodide T.S., repeat the shaking out of the ether solution with 5 Cc. of normal sulphuric acid V.S. To the combined acid solutions in the separator, add a small piece of red litmus paper, 25 Cc.of

chloroform and then sufficient ammonia water to render the liquid alkaline, and shake the separator thoroughly. When the liquids have separated draw off the chloroform into a flask of 100 Cc. capacity, and repeat the shaking out of the alkaline liquid with two successive portions of 15 Cc. each of chloroform, adding the latter to that already in the flask. Evaporate the combined chloroformic solutions in the flask until the alkaloidal residue is dry, then dissolve it in 15 Cc. of sulphuric acid (3 percent) warming it on a water bath. When the solution has cooled add 3 Cc. of a cooled mixture of equal volumes of nitric acid (specific gravity 1.42) and distilled water, and after rotating the liquid a few times, set it aside for exactly ten minutes, shaking it gently three times during this interval. Transfer the resulting red liquid to a separator containing 25 Cc. of an aqueous solution of sodium hydroxide (1 in 10) and wash the flask three times with very small amounts of distilled water and add the washings to the separator. If the liquid is not turbid add 2 Cc. more of the solution of sodium hydroxide. Now add 20 Cc. of chloroform to the separator, and shake it well by a rotating motion for a few minutes, allow the liquids to separate, and draw off the chloroform through a small filter wetted with chlorofrom into a flask. Repeat this twice using 10Cc. of chloroform and then eveporate all the chloroform by means of a water bath very carefully, to avoid decrepitation. To the alkaloidal residue add 6 Cc. of tenth-normal sulphuric acid V.S., 5 drops of iodeosin T.S., about 80 Cc. of distilled water and 20 Cc. of ether. When all the alkaloid is dissolved titrate the excess with fiftieth-normal potassium hydroxide

solution V.S. until the aqueous liquid just turns pink. Divide the number of cubic centimeters of fiftieth normal potassium hydroxide V.S. used, by 5, subtract this number from 6(The 6 Cc. of tenth normal sulphuric acid V.S. taken) multiply the remainder by 0.0332 and this product by 10, which will give the percentage of strychnine in the Nux Vomica . '00.

Introduce 15 gm. of Nux Vomica, in No.40 powder, into a 250 mil flask and add 150 mils of a mixture of chloroform,1 volume and ether, 2 volumes. Stopper the flask, shake it well and allow it to stand ten minutes, then add 10 mils of ammonia water, and, after shaking the flask vigorously every ten minutes during two hours allow it to stand ten hours. Now add 25 mils of distilled water, again shake the flask well, and when the drug has settled, decant 100 mils of the solution, representing 10 gm. of Nux Vomica. Filter the solution through a pledget of cotton into a separator, and rinse the graduate and cotton with a little ether. Completely extract the alkaloids from the solution by shaking out repeatedly with weak sulphuric acid. Collect the acid washings in a separator, add ammonia water until the solution is decidedly alkaline to litmus, and completely extract the alkaloids by shaking out repeatedly with chloroform. Evaporate the combined chloroform washings to dryness, dissolve the alkaloids from the residue in exactly 10 mils of tenth-normal sulphuric acid V.S., and titrate the excess of acid with fiftieth-normal potassium.hudroxide V.S., using cochineal T.S. as indicator. Each mil of tenth-normal sulphuric acid consumed corresponds to 36.4 milligrammes of the total alkaloids of Nux Vomica. '10.

Preparations:-

Abstractum Nucis Vomicae; Extractum Nucis Vomicas; Extractum Nucis Vomicas; Fluidum. Tinctura Nucis Vomicae. Extractum Nucis Vomicas. Extractum Nucis Vomicae Fluidum. '90.

Extractum Nucis Vomicae. Fluid extractum Nucis Vomicae. Tinctura Nucis Vomicae. '00 '10

Dose:-

Average dose.-.65 gm.= 65 milligrammes (1 grain). '00

Average dose- Metric 0.06 gm.-apothecaries 1 grain. '10

U.S.P. Assay of Nux Vomica.

1910		1900
	Quantity.	
15 Gm.		20 Gm.
	Fineness.	
No. 40		No.60
	Size Flask.	
250 Mil		250 Cc.
	Extractive.	
150 Mils		200 Cc.
	Nature.	
Chloroform, 1 part Ether, 2 parts Ammonia Water 10 Mils		Chloroform 44 Cc. Ether 137 Cc. Ammonia 5 Cc. Alcohol 13.5 Cc.
	Procedure.	
Stopper Shake every 10 minutes for 2 hours.		Stopper Shake frequently for one hour.
Let stand for 10 hours.		Let stand in cool place, for 12 hours.
Add 25 Mils of water. Shake and allow to settle.		
Decant 100 Mils representing 10 Gm. of Nux Vomica.		Decant into a measuring cylinder 100 Cc. representing 10 Gm. of Nux Vomica.
Filter through Cotton into a separator.		Pour into separator, preferably globular.
Rinse graduate and cotton with ether.		Rinse cylinder with chloroform.
		Add washings to separator.
Completely extract the alkaloids from the solution by shaking out repeatedly with weak		Add 15 Cc. normal sulphuric acid, shake moderately during one minute, being careful

sulphuric acid.	to avoid emulsification.
	Allow liquids to separate completely, draw off the entire acid liquid into another separator or beaker, Repeat this treatment with 5 and 3 Cc. more of sulphuric acid.
Collect the acid washings in a separator.	After mixing all acid solutions pour them into a separator.
	If a drop of the last acid solution yields a precipitate with mercuric potassium iodide test solution repeat the washing of the ethereal liquid with 5 Cc.more of normal sulphuric acid.
Add ammonia water until the solution is decidedly alkaline to litmus.	To the combined acid solutions, in the separator, add a piece of red litmus-paper. 25 Cc. of chloroform and then an excess of ammonia water.
Completely extract the alkaloids by shaking out repeatedly with chloroform.	Shake till all the alkaloids have been dissolved in the chloroform Draw off the latter into a 100 Cc.flask and repeat the shaking out process with two additional portions of 15 Cc. each of chloroform adding the latter to that already in the flask.
Evaporate the combined chloroform washings to dryness.	Evaporate the combined chloroformic solutions in the flask until the alkaloidal residue is dry.
	Dissolve the residue in 15 Cc. of 3 percent. sulphuric acid

by aid of the water bath.

Cool the solution to ordinary temperature.

To this solution add 3 Cc. of a previously cooled mixture of equal volumes of Nitric acid(Specific gravity 1.42)and distilled water.

After rotating a few times, set the liquid aside for exactly ten minutes shaking it gently three times during this interval.

The resulting red liquid is transferred to a separator containing 25 Cc. of a 10 percent. solution of sodium hydroxide, the flask being washed three times with very small quantities of distilled water which is then added to the separator.

If the liquid is not quite turbid, add 2 Cc. more of the 10 percent. sodium hydroxide solution.

Now add 20 Cc. of Chloroform. Shake well by a rotating motion for a few minutes, let separate, draw off the chloroform through a small filter wetted with chloroform into a beaker.

Repeat this treatment twice using 10 Cc. of chloroform each time. Draw off both portions into the beaker through the same filter.

Finally, wash both filter and funnel with 5 Cc. of chloroform, evaporate all the chloroform on a water bath very carefully to avoid decrepitation.

Dissolve the alkaloids in exactly 10 Mils of tenth-normal sulphuric acid V.S.,

To the alkaloidal residue add 6 Cc. of n/10 sulphuric acid 5 drops of iodeosin test solution about 80 Cc. of ether.

and titrate the excess acid with fiftieth-normal potassium hydroxide V.S. using cochineal T.S. as an indicator.

When all the alkaloid is dissolved, titrate the excess of acid with n/50 potassium hydroxide solution until the aqueous liquid just turns pink.

Estimation.

Each mil of tenth-normal sulphuric acid V.S. consumed corresponds to 36.4 milligrammes of the total alkaloids of Nux Vomica.

Divide the number of Cc. of n/50 potassium hydroxide solution used by 5.

Subtract this number from 6 (the Cc. of n/10 sulphuric acid taken).

Multiply the remainder by 0.0332, and this product by 10 which will give the percentage of strychnine in the sample nux vomica.

Ignatia.

United States Pharmacopoeial History.

Official:-

'60, p. '70, p. '80

'60

Ignatia Ignatia

Syn. Bean of Saint Ignatius.

The seed of Strychnos Ignatia (Lindley, Flor. Med.).

'70

Ignitia Ignitia

Syn. Bean of Saint Ignatius.

The seed of Strychnos Ignatia (Lindley, Flor. Med.).

'80

Ignatia.

Ignatia.

Bean of Saint Ignatius.

The seed of Strychnos Ignatia, Bergius (Nat.Ord. Loganiaceae).

About an inch and a fifth (3 centimeters) long, oblong or ovate, irregular angular, dull brownish or blackish, very hard, horny; fracture granular, irregular; the albumen somewhat translucent, enclosing an irregular cavity with an oblong embryo; inodorous; very bitter.

Preparations: Abstractum Ignatiae. Tinctura Ignatiae.

Ignatia.

United States Pharmacopoeial History.

Official:-

'60,p. '70,p. '80

Also official N.F. IV.

Official Latin Title:-

Ignatia '60 '70 '80

Official English Title:-

Ignatia '60 '70 '80

Synonym:-

Bean of Saint Ignatius '60 '70 '80

Botanical Name:-

Strychnos Ignatius '60

Strychnos Ignatius (Lindley) '70 '80

Family Name:-

Flor. Med. '70

Nat. Ord. Leguminiaceae '80

Part Used:-

The seed of ------'60 '70 '80

Description:-

About an inch and a fifth (3 centimeters) long, oblong or ovate, irregularly angular, dull brownish or blackish, very hard, horny; fracture granular, irregular; the albumen somewhat translucent, enclosing an irregular cavity with an oblong embryo; inodorous; very bitter. '80

Preparations:-

Abstractum Ignatiae; Tinctura Ignatia. '80

BIBLIOGRAPHY

Beckhurts, H. 1883.

Uber Ferro, Ferricyanstrychnin und ein Oxystrychnin.

Pharm. Centralhl., 24, p. 325. (Pharm. Jour., 43,p. 65.)

A paper devoted to the preparation of ferro and ferricyanides of strychine and their properties. Also the reaction of bromine upon the ferrocyanide of strychine. Reports of the formation of an oxystrychine upon exposure of the ferrocyanide to light.

Conroy, M. 1883.

Tincture of Nux Vomica.

Pharm. Journ., (3) 14,p.161.

Discussion of variation in methods for preparation of Dunstan and Short gives results of various experiments. Characterizes U.S.P. method of preparation as an improvement. Objects to Dunstan and Short method of assaying tinctures.

Dunstan, W. & Short, F.

Tincture of Nux Vomica.

Pharm. Journ., (3) 14, p.,292. (Yrbk. Br. Pharm. Conf., 1883, p. 47.; Am. Drugg., 24, p. 105.)

Discusses variation in alkaloidal content of nux vomica, and the methods of isolating the alkaloids.

Dunstan, W. & Short, F. 1883.

Notes And Suggestions.

Pharm. Journ., (3), 14, p. 441.

A general discussion of the variation of alkaloidal content in tincture of nux vomica; and results of various

experiments to determine the extractive power of different solvents.

Dunstan, W. & Short, F. 1883.

Quantitative Separation of Strychnine and Brucine.

Pharm. Journ. (3), 14, p. 290.

A discussion of the processes of separation of strychnine amd brucine in which the ferro and ferri cyanide methods are used. Results of experiments carried out in acid and alkaline solutions. Proposes a new method of separation.

Dunstan, W. & Short, F. 1883.

Report On Pharmacopoeial Preparations Of Nux Vomica Tincture.

Yrbk. Br. Pharm. Conf., 1883, p. 475.

A report on the varation of samples of Tincture Nux Vomica considering:-

Methods used.

Results of experiments.

Recommendation of standard preparations.

Dunstan, W. & Short, F. 1883.

The Analysis Of Some Authentic Specimens of Nux Vomica.

Pharm. Journ., (3), 13, p. 1053.

A description of commercial samples coming into England and their analysis. Discusses alteration of constituents of powdered nux vomica by excessive heat in drying.

Dunstan, W. & Short, F. 1883.

Assay of Nux Vomica.

Pharm. Journ., (3),13, p. 665.

Detailed description of method of extraction and assay.

Hick, J. 1883.

Tincture of Nux Vomica Prepared From Extract.

Pharm. Journ. (3), 14, p. 380.

Prefers to manufacture tincture of nux vomica from the B.P. extract. Gives formula for the preparation of the tincture from the extract. Considers the process troublesome. Very few retailers manufacture their own tincture.

Hick, J. 1883.

Tincture Of Nux Vomica From The Extract.

Pharm. Journ., (3), 14, p. 440.

In answer to a query, says that he uses a commercial extract of nux vomica. Detailed reasons are given.

Rother, R. 1883.

Tincture of Nux Vomica.

Yrbk. Br. Pharm.Conf., 1883, p. 270.

Recommends a solution of common salt for securing complete extraction of nux vomica.

Details of procedure are given.

Sandford, G. 1883.

Tincture of Nux Vomica.

Pharm. Journ., (3), 14, p. 480.

Agrees with Mr. Hick that few retail chemists manufacture Tincture of Nux Vomica according to B.P.

Discusses general undesirable conditions in both retail and wholesale drug trade.

Tanner, A. 1883.

Tincture Of Nux Vomica From Extract.

Pharm. Journ., (3), 14, p. 400.

Discusses personal experience with tincture of Nux Vomica and objects to the preparation from the extract.

Atkins, S. 1884.

Discussion Of Papers Of Dunstan And Short.

Pharm. Journ.,(3), 14, p. 634.

Discusses papers of Dunstan and Short with regard to their practical nature and their value in preparation of definite and standard proparations. Also discusses popular belief that preparations approximated a greater uniformity than they possessed . Expresses approval of the processes set forth.

Beckhurts, H. 1884.

Uber Strychnin.

Chem. Centralbl., 25,p.812. (Yrbk. Br. Pharm.Conf.,1885, p.55.).

Discusses structure of anhydrous strychnine crystals, the action of light on ferro and ferri cyanides in water and gives a description of the mono, di and tribromostrynine along with the salts of the two cyanides.

Crespi, P. 1884.

Solubility of Strychnine and Preparation of Some of its Salts.

Gazz. Chem. Ital., 13, p. 75:(Journ. Chem. Soc., 53,p.187; Ybrk. Br. Pharm. Conf., 1884,p. 68.)

The solubility of strychnine in alcohol, water, amyl alcohol, alcohol of various dilutions is treated in detail.

Normal succinate, normal malate, normal pyrotartrate and phthalate salts of strychnine are described. Formulas are given, except for the last salt.

Dunstan, W. 1884.

Reply to Schacht.

Pharm. Journ., (3) 14, p. 875.

Answers arguments set forth in the discussion of former papers with regard to the feasibility of preparing standard preparation. This step in his opinion marks a step forward.

Dunstan, W. & Short, F. 1884.

The Preparation Of A Standard Tincture of Nux Vomica.

Pharm Journ., (3), 14, p. 622.

Propose that standard tincture shall contain.24% of total alkaloid or one grain in one fluid ounce. The assay process is essentially the same as for extracts, Gives a formula for preparation of a standard tincture.

Dunstan, W. & Short, F. 1884.

Preparation Of a Standard Extract Of Nux Vomica.

Pharm. Journ., (3), 14, p. 621.

(Yrbk. Br. Pharm. Conf., 1884, p. 274; Drugg. Circ., 28, p. 52.)

Gives a process for the preparation of Extract of Nux Vomica. Discusses the amount of solvent necessary to completely extract the drug. Also gives a process of assay of the product.

Dunstan, W. & Short, F. 1884.

Report Upon Extract of Nux Vomica.

Pharm. Journ., (3), 14, p. 443.

Discussion of experiments to determine the assay of extract of Nux Vomica. Results of various experiments and a discussion of the preparation are given.

Dunstan, W. & Short, F. 1884.

A New Glucoside From Strychnos Nux Vomica.

Pharm. Journ., (3), 14, p. 1025.

Report a new glucoside in nux vomica which is called loganin. Discusses the properties and gives an analysis of the compound.

Dunstan, W. & Short, F. 1884.

Summary Of Investigation.

Pharm. Journ., (3),15, p. 156.

General summary of work on the alkaloids of Nux Vomica.

Dunstan, W. & Short, F. 1884.

The Chemistry And Botany Of The Strychnos Nux Vomica Indigenous To Ceylon.

Pharm. Journ., (3), 15, p.1.

A description of the Ceylon Nux Vomica and a discussion of

the poisonous properties of same.

Greenish, T. 1884.

The Seed Hair of Strychnos Nux Vomica.

Pharm. Journ., (3), 14, p. 60.

Takes exception to statement of Dunstan and Short that seed hair of nux vomica has never been sketched and refers to the work of Berg, which has been reproduced by Fluckiger. Explains that it would be difficult to identify seed hair from wood cut of Dr. Ondaatje.

Lindt, O. 1884.

Detection of Brucine And Strychnine.(Microchem).

Zeitschi f. Wissensch. Mikroscopie.,-,p.-,, (Pharm.Jour. (3),15,p.107; Yrbk. Br. Pharm. Conf.,1885,p.120.

Color test for bucine using selenic acid + nitric acid.

Color tests for strychnine. Throws aside the potassium bichromate reaction.

Martindale, W. 1884.

Discussion of Papers of Dunstan and Short.

Pharm. Journ., (3),14,p. 635.

Expresses opinion that papers were written in prospect of the new pharmacopocia and expresses preference for metric system.

Schacht, G.L. 1884.

Discussion of Papers of Dunstan and Short.

Pharm. Journ., (3),14,p.635.

His results show that a larger volume of solvent is necessary for the extraction of nux vomica than is given by Dunstan and Short. Discusses strength of proposed extract with reference to dose.

Schacht, G.L. 1884.

Extract of Nux Vomica and Some Methods of Estimating the Alkaloids It Contains.

Pharm. Journ., (3),14,p. 851;(Yrbk., Br. Pharm. Conf., 1884, p. 275.).

Summary of work of Dunstan and Short and objects to their method of assay because of time required and prefers titration with potassic mercuric iodide based upon recommendation of Dragendorff.

Schacht, G.L. 1884.

Reply to Smith On: "Standardized Tincture of Nux Vomica."

Pharm. Journ., (3), 14, p. 896.

Agrees with Smith,relative to assay. Doubts the correctness of combined strychnine and brucine factor.

Smith, G. 1884.

Estimation of Total Alkaloids In Extract of Nux Vomica.

Pharm. Journ., (3), 14, p. 876.

Replying to Schact describes in detail,a method of estimation based on Dragendorff's process.

Lyons, A.B. 1885.

Nux Vomica Extract and Tincture.

Proc. Mich. Pharm. Assoc., (3), p.172.

A critical discussion of the process of Dunstan and Short and recommendation of a change in menstruum.

Fluckiger, F. 1886.

Strychnin Reaction.

Pharm. Zeitg., 31,p.9.(Yrbk. Br. Pharm. Conf.,1886,p.47.)

Recommends the use of the Chromate Test. Discusses color reactions and conditions of the reaction.

Focke, M. 1886.

Separation de la Strchnine et de la Morphine des matieres grasses.

Journd.Pharm, et.d.Chim., 123,p.360.(Yrbk. Br. Pharm.Conf., 1887,p.115.).

Seperates strychnine from morphine using tartric acid.

Hannsen, A. 1886.

Beiträge zur Kenntniss des Brucins.

Ber.d.d. Chem.ges., 19, p. 520.

Gives the method of preparation of nitrobrucine nitrate and amido-brucine hydrochloride. Also the chemical and physical properties of each.

Lyons, A.B. 1886.

Assay of Nux Vomica and It's Galenical Preparations.

Drug. Circ. & Chem. Gazette,30,p.137.

Discusses Dragendorff's process which is characterized as being too tedious. Recommends process of Dunstan and Short with modification. Believes that knowledge and familiarity with process will soon be expected from pharmacists.

Martin,N. 1886.

Note on the Preparation of Nux Vomica in the British Pharmacopoeia.

Yrbk. Br. Pharm. Conf.,1886,p.507.

Refers to the work of Dunstan and Short and discusses the variation in color of tinctures prepared from the extract.Based upon the results of twenty-five samples. Objects to tendency for a stronger tincture as dangerous to public health.

Yeager, E. 1886.

Nux Vomica Tincture.

Am.Journ. Pharm., 58,p.291.

Discusses methods of separation of the alkaloids from drug. Tests methods of Dunstan and Short by comparative experiments with Fluid Extract of Buchu. Gives a bibliographical note on nux vomica.

Bloxam, C. 1887.

Color Tests For Strychnine and Other Alkaloids.

Chem. News, 55,p. 155,(Yrbk. Br. Pharm.Conf.,1887,p.113.).

Results of experiments on various alkaloids including a description of the color tests. Strychnine and brucine are listed.

Dieterich,E. 1887.

Der Alkaloidgehalt der Narkotischen Extracte.

Pharm. Centralhl.,28,pp.21,29,134,200,257,505. (Am.Journ. Pharm.,61,p.179.)

Work on extracts. Examination of Extract of Nux Vomica, (p.257), Suggests that rosolic acid be used as an indicator for titration. Gives alternative process.

Holst, M. & Beckhursts, H. 1888.

Zur Kenntniss der Ferro-und Ferricyanate des Strychnins und Brucins.

Archiv.d. Pharm., 225,p.513. (Yrbk.Br. Pharm.Conf.,1888, p.69.)

Gives estimation of alkaloids based upon Dunstan and Short's method,by treatment with potassium ferro and ferricyanide.

Raimondi,M. 1888.

Differences in the Reaction of Strychnine and Gelsemine.

Chem. News, 57,p.251. (Ybrk.Br. Pharm.Conf.,1888,p.69.).

Calls attention to distinguishing features between strychnine and gelsemine and gives color reactions of both alkaloids.

Simonson, W. 1888.

Powdered Extract of Nux Vomica.

Pharm. Era, 2,p.287. (Am. Drugg.,17,p.122.).

Discusses the advantahes of the powdered extract and means of removing the fixed oil from nux vomica seeds. Criticizes Lyons method of determining the alkaloidal content of nux vomica.

Beckhurts,H. 1889.

Uber das Verhaltniss von Strychnin und Brucin in der Strychnos pr äparaten.

Pharm. Centralhl.,30, p.574. (Yrbk. Br.Pharm.Conf.,1890, p.225.).

Discusses results of experiment on five samples of nux vomica. Suggests that the extract be standardized for strychnine only.

Beckhurts, H. 1889.

Uber einige Verbindungen der Alkaloide mit Ferrocyanwasserstoffsaure.

Archiv.d.d Pharm.,228,p.347.(Yrbk.Br.Pharm.Conf.,1891,p.33).

Ferrocyanides of various alkaloids including Strychnine and Brucine are discussed. Color reactions and solubilitus are included.

Duncan, W. 1899.

Extract of Nux Vomica.

Pharm.Journ.,(3),7,p.625. (Yrbk.Br.Pharm.Conf.,1889,p.221).

Variation of the composition of extract of nux vomica is discussed; and suggests the addition of sugar of milk to bring it up to the proper strength.

Gerock,J.E. 1889.

Separation de la strychnine et de la Brucine.

Journ.d. Pharm. Et.d.Chim.,129,p.19.(Yrbk.Br.Pharm.Conf., 1890,p.99.)

A method of separation by using picric acid as a precipitant.

Kremels, A. 1889.

Zur Prüfung des Semen Strychni auf Alkaloidgehalt.

Archiv.d. Pharm., 226,p.899.(Pharm.Post,21,p.534;Yrbk.Br. Pharm. Conf.,1889,p.166.)

A detailed description of a method of assaying nux vomica by gravimetric methods.

Simonson,W. 1889.

Rate of Extraction of Nux Vomica by the Official Menstruum.

Proc. Ohio Pharm. Assoc., 11,p. 118.(Am. Drugg.,18,p.128; Proc. Am. Pharm. Assoc. 38, p.431.)

A paper devoted to the relation of a alkaloid to extractive matter by use of official menstruum.

Snow, H. 1889.

The Assay of Nux Vomica. Its Pharmaceutical Preparation and the Estimation of Strychnine and Brucine in a Mixture.

Proc. Mich.Pharm. Assoc.,7,p.73. (Am.Drugg.,18,p.202.; Proc. Am. Pharm. Assoc.,38,p.430).

A summary of the various methods of assaying nux vomica and conclusions arrived at by the various chemists. Criticises the Dunstan and Short method as yielding larger amounts of alkaloid than have since been isolated.

Watkins, E. 1889.

Tinctura Nucis Vomicae.

Yrbk.Br.Pharm. Conf.,1889,p.222.

A paper given over to the results of assay of samples of Tincture of Nux Vomica.

Christianson, A. 1890.

Bestimming der fieun alkaloide und deren Aquivalent Zallen.

Chem.Zeitg.,14,p.1346. (Chem. and Drugg.,38,p.602.;Proc. Am. Pharm. Assoc., 39,p.609.).

Call attention to use of modification of Kjeldahls iodemetric method of the estimation of ammonia,for the determination of alkaloids.

Beckhurts,H. 1891.

Verbahren zur Bestimming des Alkaloidgehaltes in Extractum Strychni.

Apoth. Zeitg.,6,p.537.(Am.Journ.Pharm.,64,p.25.;Yrbk.Br. Pharm.Conf.,1892,p.216).

Assay of nux vomica extract,by extracting the alkaloids by an ammoniacal chloroform and alcohol menstruum, acidulation with hydrochloric acid and titration with n/100 alkali using cochineal as indicator. He assumes the alkaloids to be present in equal proportions.

Burroughs, S. 1891.

Discussion Paper of Conroy on Nux Vomica and Opium.

Yrbk.Br. Pharm. Conf., 1891,p.450.

Suggested that alkaloidal standard be raised if difficulty was encountered in preparing extract of suitable consistency.

Conray, M. 1891.

Proposed Method of Standardizing the Extracts of Nux Vomica and Opium.

Yrbk.Br.Pharm.Conf.,1891,p.447.

Suggests that percolate be evaporated until extract is of suitable consistency. Then test for alkaloidal strength and make up to correct standard by addition of glucose.

Conroy,M. 1891.

Answer to Discussion,"Proposed Method of Standardizing the Extracts of Nux Vomica and Opium."

Yrbk.Br. Pharm.Conf.,1891,p.451.

States that in his experience the use of a weaker extract was not satisfactory and thought use of glucose was far preferable.

Dey,A. 1891.

Tincture Nux Vomica.

Pharm.Journ.,(3),21,p.631. (Yrbk.Br.Pharm.Conf.1891,p.254).

Upon examination of eight trade samples finds variation and thinks that all the preparations are unsatisfactory. Suggests that tinctures be made from crude drug.

Fennel,C. 1891.

Remarks,"A scheme to Establish a Comparative Standard for Alkaloidal Drugs." (Lloyd).

Proc. Am. Pharm. Assoc., 39, p. 131.

Is of the opinion that Prof.Lloyd deserves all praise possible from american pharmacists for development of process whereby possibility of fermentation is so completely prevented.

Grose, H. 1891.

Discussion of Paper by Conroy.

Yrbk. Br. Pharm. Conf.,1891,p.450.

Thought paper should be of great interest to pharmacists and pill-makers;but in his mind the consistence of extracts was not of great importance.

Hallberg,C. 1891.

Remarks,"A Scheme to Establish a Comparative Standard for Alkaloidal Drugs." (Lloyd).

Proc. Am. Pharm. Assoc.,39,p.132.

Expresses opinion that method would be very satisfactory to retail pharmacist in case he were required to assay preparation.

Hooper, D. 1891.

The Leaves of Strychnos Nux Vomica.

Pharm. Journ.,(3),21,p.493. (Yrbk.Br. Pharm.Conf.,1891, p.173.)

A paper on the constituents of the leaves of styrchnos nux vomica and a comparison with the constituents of the seeds. Also color test with ferric chloride.

Lloyd,J. 1891.

A Scheme to Establish a Comparative Standard for Alkaloidal Galenicals.

Proc. Am. Pharm. Assoc., 39,p.124.

A paper given over to extraction of alkaloids and assay of preparations including nux vomica and various other

alkaloidal drugs.

Moss, J. 1891.

Discussion of Paper of Conroy, "Extract of Nux Vomica and Opium."

Yrbk. Br. Pharm. Conf., 1891,p.450.

Suggests the mixing of drugs rich in extractive with those poorer in extractive in order to bring up consistency of the mass.

Patch, E. 1891.

Determination of Extractive and Alkaloids in Nux Vomica.

Proc. Am. Pharm. Assoc.,39,p.91.

A paper given over to the assay of nux vomica seeds, solid extracts, powdered extracts, and fluid extracts, and the manufacture of these preparations.

Short,F. 1891.

Discussion of Paper of Conroy.

Yrbk. Br. Pharm. Conf., 1891,p.449.

Favors somewhat the addition of glucose to the extract of nux vomica, which would be soluble in the menstrum of the tincture.

Simon, W. 1891.

Remarks, "A Scheme To Establish a Comparitive Standard for Alkaloidal Galenicals." (Lloyd).

Proc. Am. Pharm. Assoc., 39,p.131.

Expresses appreciation of good work accomplished toward estimation of alkaloids which has troubled chemists so long.

Southhall, A. 1891.

Discussion Paper of Conroy.

Yrbk. Br. Pharm. Conf., 1891,p.451.

Expresses approval of raising the alkaloidal standard of the preparations; and disapproves of the addition of a foreign substance, such as glucose.

Stanford, E. 1891.

Discussion of Paper of Conroy.

Yrbk. Br. Pharm. Conf., 1891,p.451.

Expresses approval of plan of Umney and Moss viz, use of a weaker menstruum to get more extractive matter.

Umney, J. 1891.

Discussion of Paper of Conroy.

Yrbk. Br. Pharm. Conf.,1891,p.450.

Favors percolation of the marc if extract is too soft,with hot water so as to get out more extractive and harden extract with this.

Davies, R.& Echenstein, O. 1892.

Estimation of Small Quantities of Strychnine.

Chem. and Drugg., 40,p.446. (Yrbk. Br.Pharm. Conf.,1892, p.101).

Outlines a modification of the chromate test in such a way as to make it applicable also foraproximate quantitative estimations of traces of this alkaloid. It is a colorimetric process similar to that of Nesslerising.

Fluckiger, F. 1892.

Über den Alkaloïdgehalt der Rinde von Strychnos Nux Vomica und der Samen von Strychnos Potatorum L.fil.

Archiv. d. Pharm.,230, p.549. (Am.Journ.Pharm.,65,p.11; Proc. Am. Pharm. Assoc., 41,p.865).

An assay of wood and bark of strychnos nux vomica.

Gerock, J. & Skippari, F. 1892.

Über den Sitz der Alkaloïde in Strychnossamen.

Archiv.d. Pharm. 230,p.555.(Proc. Am. Pharm. Assoc.,41,p. 866).

A paper given over to the location of alkaloids in the seeds of nux vomica.

Keller, C. 1892.

Über die Wertbestimmung einiger Drogen und Galenischer Präparate.

Apoth. Zeitg.,8,p.542.(Yrbk. Br. Pharm. Conf.,1895,p.140).

Assays extract of nux vomica by extracting fat from seed with ether,which also extracts some of the alkaloid which is separated by using n/30 hydrochloric acid/ Extracts the fat free drug with chloroform, either and ammonia. An aliquot part of the combined alkaloidal extractive is dried at 100° the residue weighed. Also suggests verification of the alkaloid by titration using iodeosin as an indicator.

Also gives a method for estimating the alkaloids in nux vomica bark,also for estimation of the alkaloids in the dried alcoholic extracts of nux vomica. Gives a method for separation of strychnine and brucine,using nitric acid.

Keller, C. 1892.

Die Bestimmung des Emetins in Radix Ipecacuanhae und in Extractum Ipecacuanhae fluidum.

Schweiz. Wohschi.f. Chem. u. Pharm., pp.501,509.(Proc.Am. Pharm. Assoc.,41,p.400.)

A rambling survey of work being done on alkaloidal assay in Swiss Pharmacopocia in which many processes for assay are touched upon very briefly.

Beckhurts, H. 1893.

Bichromate Test for Strychnine.

Archiv. d. Pharm.,231,p-.(Yrbk.Br. Pharm. Conf.,1893,p.102; Pharm. Journ., 53, p.2.

Discussion of the action of the bichromate test for strychnine and the sensibility of the test in presence of Brucine.

Conroy, M. 1893.

Remarks on Paper of Farr and Wright.

Yrbk.Br. Pharm. Conf.,1893,p.361.

Remarks that work accomplished is gigantic. In his opinion method of Dunstan and Short was a retrograde step because a nice preparation was not obtained. Recommends percolation and standardization to bring it up to the desired strength.

Francis, J. 1893.

Neue Methode zur Bistimmung von Alkaloiden in Narkotischen und anderen Extracten.

Pharm. Centralhl.,34,p.101. (Pharm. Rund.,83,p.186; Bull. Pharm.,8,p.55; Am.Drugg.and Pharm. Rec.,24,p.273.).

Description of apparatus for the estraction of alkaloidal drugs, including nux vomica.

Farr,E. & Wright, R. 1893.

Alkaloidal Tinctures of the British Pharmacopoeia. Suggestions for Standardization.

Yrbk.Br. Pharm. Conf.,1893,p.355.

Discusses methods of preparation of tinctures in detail and suggest various modifications for preparation and assay. Objects to methods of preparation of Tincture Nux Vomica,because of scorched taste so often noticed.

Gerrard, A. 1893.

Remarks on Paper of Farr and Wright.

Yrbk. Br. Pharm. Conf.,1893,p.361.

Reports a loss of potency in alkaloids when boiled. Inquires as to how long preparations would keep their standard strength.

Martin, N.H. 1893.

Remarks on Paper of Farr and Wright.

Yrbk.Br.Pharm.,Conf.,1893,p.361.

Briefly expresses appreciation of the paper and endorses the reference to tincture of nux vomica,i.e. burnt taste and odor as due to drying rather than to direct percolation.

Nagelvoort, J. 1893.

Contribution to the Literature of Strychnine Determinations.

Proc. Am. Pharm. Assoc., 41, p.165.

A paper describing work done on strychnos nux vomica by a modification of Gerock's Process.

Wright, R. 1893.

Remarks on Paper of Farr and Wright.

Yrbk.Br. Pharm. Conf., 1893, p.361.

Explains that samples of preparations had been preserved for three years but as soon as question of permanence had been settled would make report. Emphasizes remarks on preparation of Tincture Nux Vomica from extract.

Coblentz, V. 1894.

Extract of Nux Vomica Assay.

Pharm. Runds., (N.Y.), 11p.159. (Proc.Am.Pharm.Assoc., 42, p.551).

A method of assaying nux vomica using iron chloride and sodium bicarbonate solutions for extraction.

Kebler, L.F. 1894.

Analytical Alkaloidal Chemistry.

Proc. Am.Pharm. Assoc., 42, p.193. (Yrbk.Br. Pharm.Conf., 1894, p.183).

Brief summary of methods of assaying drugs. Discussion of various indicators used for volumetric assays. Prefers haematoxylin. Expresses favor for the gravimetric method.

Schwickerath, K. 1894.

Further additions to the Alkaloid Assays of Drugs and Their Galenical Preparations.

Bull.Pharm.8,p.56. (Pharm. Runds.(N.Y.),12,p.57.;Proc.Am. Pharm.Assoc.,42,p.550.).

A method of assaying nux vomica and it's preparations volumetrically.

Dilly,O. 1895.

Methods of Assaying Alkaloidal Drugs.

Proc. Kentucky Pharm. Assoc.,18,p.46.(Proc.Am.Pharm. Assoc.,44,p.799).

Observes that the next advance in pharmacy should be the making of preparations of an absolute and regular percentage of alkaloid. Recommends volumetric assay methods as most scientific. Includes nux vomica with the others.

Dohme, A. 1895.

A Titration of Pure Alkaloids.

New Eng. Drugg., 7,p.11.(Proc.Am.Pharm.Assoc.,43,p.534).

An effort to establish preference of the method of titration with volumetric solutions,using various alkaloids,including brucine and strychnine.

Formanek,E. 1895.

Beitrag Zur Charakteristik einiger Alkaloide und Glykoside.

Pharm. Post.,28,p.179.(Chem. Centialbl.,36,p.1148.;Yrbk. Br.Pharm.Conf.,1896,p.90.

Briefly discusses color reactions of brucine and strych-

nine with nitric acid, ammonia and hydrogen sulphide.

Kebler, L.F. 1895.

Acidemetric Estimation of Alkaloids.

Am.Journ.Pharm.,67,p.499.(Proc.Am.Pharm.Assoc.,44,p.798).

A series of estimations using volumetric methods with various indicators. Uses gravimetric determinations as a check.

Keller,C. 1895.

Semen Strychni.

Schwz..Wochshr. f.Chem.u.Pharm.,33,p.452.(Yrbk.Br.Pharm. Conf.,1897,p.157).

Suggests modification of his former process for assay.

Pichard,P. 1896.

Quelques reactions colores de la brucine.

Compt.Rend.,123,p.590.(Yrbk.Br.Pharm.Conf.,1897,p.112).

Briefly describes color reaction of nitrates with Brucine.

Smith, C.E. 1896.

Modification of Process of Assay of Nux Vomica.

Am.Journ.Pharm.68,p.189.(Proc.Am.Pharm.Assoc.44,p.569).

Recommends a modified process of assay in which the original extraction is made with acetic acid solution.

Hilger,A. & Jansen,K. 1897.

Zum gerichtlich-chemischen Nachiveis der Alkaloide und Narkotischen Bitterstoffe.

Zeit.Fur. Analyt.Chem.36,p.344.(Yrbk.Br.Pharm.Conf.,1898,

p.

p.98.)

Brief description of experiments upon alkaloids yielding drugs using alcoholic Tartaric acid solution followed by ether with chloroform in a Soxhlet extractor. Detailed results given for strychnine and brucine.

Sander, G. 1897.

Beitrag Zur Kenntnis der Strychnosdrogen.

Archiv.d.Pharm., 235, p.133.(Yrbk.Br.Pharm.Conf., 1897, p.157).

Reports Keller's process most satisfactory for estimation of alkaloids of strychnos nux vomica and strychnos Ignatia. Gives preference to method of destroying the brucine with potassium permanganate and estimation of strychnine by the difference. Gives proportions of strychnine and brucine in seeds and also reports igasuric acid to be identical with Caffeotannic acid.

Seyler, C. 1897.

Note in the Strength of Commercial Samples of Alkaloidal Tinctures.

Yrbk.Pharm.Conf., 1897, p.420.

Describes in detail the method of separation of alkaloids in various tinctures including nux vomica. Reports a great variation in strength.

Bailey, E. & Lange, W. 1898.

The Action of Sulphuric Acid on Strychnine, in the Separation of This Alkaloid from Organic Matter.

Am.Jour.Pharm.70, p.18.(Yrbk.Br.Pharm.Conf., 1898, p.98.)

Detailed account of experiments using sulphuric acid for separation of last portions of alkaloid, and the extent of decomposition of the alkaloid by this treatment.

Kippenberger, C. 1898.

Neue Bertrage zur quantitataven Bestimmung von Alkaloiden in pharmazeutisch wichtigen Praparaten.

Apoth. Ztg. 13,pp.664,672. Proc.Am.Pharm.Assoc.47,p.726).

An exhaustive study of the different methods of alkaloidal assay including assay of nux vomica preparations. Recommends the method whereby alkaloids are precipitated as the iodohydrate of periodide.

Sandor, G. 1898.

Die Trennung von Strychnin und Brucin.

Zeitschr.f. anal. Chem.37,p.132. (Yrbk. Br.Pharm.Conf. 1898,p.97).

Method consists essentially of the potassium permanganate method to destroy brucine, then strychnine is shaken out after adding ammonia.

Bertrand, G. 1899.

L8acide siticotungstique comme reaclif des alcaloides.

Compt. rend.,128,p.742.(Proc.Am.Pharm.Assoc.,47,p.732).

Reports silicotungstic acid as a delicate precipitant for alkaloids. The alkaloids of Nux Vomica are included in the list.

Falieres E. 1899.

Nouveau mode de dosage acidimetrique des alcaloides.

Compt.Rend., 129,p.110,(Yrbk.Br. Pharm. Conf.,1900,p.10).

A volumetric assay of alkaloids,including strychnine and bucine,in which an ammoniacal solution of copper is used as an indicator.

Prescott, A. & Gordon,H. 1899.

Volumetric Estimation of Alkaloids as Peroxides.

Journ. Am. Chem. Soc.,20,p.706.(Yrbk.Br. Pharm.Conf.,1899, p.102).

Detailed description of method consisting of conversion of alkaloids to periodides by addition of iodine and titration of excess iodine.

Squibb,E.R. 1899.

Assay of Nux Vomica.

Am. Journ. Pharm., 71, p. 10. (Yrbk.Br. Pharm.Conf.,1899, p.151).

Suggests process using acetic acid for exhaustion of the drug. Titration carried out using potassium hydroxide.

Stoeder, W. 1899.

Fremming von Brucin und Strychnin.

Chem. Centrlbl., 70, I, p.506. (Yrbk.Br.Pharm.Conf.1900, p.38).

Finds the separation of strychnine and brucine by means of ferrocyanides untrustworthy. Recommends converting brucine to dinitrobrucine and extracting the strychnine with chloroform.

Attfield, J. 1900.

Discussion, "Determination of Strychnine." (Farr).

Yrbk. Br. Pharm. Conf., 1900,p. 451.

Thinks that pharmacist should be allowed to vary process in assay of official preparations.

Bird, F. 1900.

Discussion of, "Determination of Strychnine." (Farr).

Yrbk. Br. Pharm. Conf., 1900,p.451.

Suggests that two hours is long enough time for process, instead of six hours, also that the influence of temperatures was new to many.

Bird, F. 1900.

Alternative Method for the Alkaloidal Assay of Nux Vomica.

Pharm. Journ., (4), 11,p.574. (Yrbk. Br. Pharm. Conf., 1901,p.90).

Modifies the extraction method of Dunstan and Short for nux vomica, and gives an alternative method for the assay of the liquid and solid extracts.

Farr, E. 1900.

Answer to Discussion on Determination of Strychnine.

Yrbk.Br. Pharm. Conf.,1900,p.452.

Gives reasons for favoring six hours in his process.

Also favors a definite amount of wash water and a definite temperature.

Farr, E. & Wright R. 1900.

The Determination of Strychnine.

Yrbk. Br. Pharm. Conf., 1900,p. 440.

Briefly criticizes the British Pharmacopoeial method and takes up in detail the precipitation of strychnine and brucine by potassium ferrocyanide singly and in a mixture of both. Solybilities of both salts, the effect of washing, and the determination of strychnine in liquid extract of nux vomica, are also discussed.

Hill, J. 1900.

Occurrence of Copper in Nux Vomica.

Pharm. Journ. (4),10,p.417. (Yrbk. Br. Pharm.Conf.1900, p.142).

Detection of copper in sample of tincture nux vomica leads to examination of fluid extract and powdered nux vomica and the uncrushed seeds, all of which were found to contain copper.

Moore, J. 1900.

Discussion, "Determination of Strychnine." (Farr & Wright).

Yrbk., Br. Pharm. Conf.,1900,p.451.

Congratulates Farr upon pointing out of weaknesses of B.P. process, in which no definite amount of wash water is stated.

Bird, F. 1901.

The Official Process for the Assay of Nux Vomica.

Pharm.Journ.,(4), 11,p.214. (Yrbk. Br. Pharm. Conf.1901, p.93).

Discusses in detail the assay process of the B.P. and maintains that two hours is sufficient time for the preparation of alkaloids at a temperature of 65°-70° F.

Gadd, H. 1901.

Yrbk. Br. Pharm. Conf.,1901,p.387.

Divides galenicals into two classes , (a) known constituent, (b) unknown constituents; the former which can be standardized chemically, the latter by physical tests. Remarks that he has been unable to find a parcel of nux vomica beans which would yield the required amount of standardized fluid extract.

Gordin, H.M. 1901.

Alkaloidal Assay of Crude Drugs.

Am. Journ. Pharm.,123, pp. 159,211. (Yrbk. Br. Pharm. Conf.,1901, p.19).

Recommends two methods of assay. (a) A modification of Dunstan and Short's method. (b) A modification of Lyon's method.

Greenish, H. & Smith, F. 1901.

Preparation of Nux Vomica Tincture and Fluid Extract.

Pharm. Journ., (4), 12,p.667. (Yrbk. Br.Pharm. Conf.,1902, p.248).

Lengthy discussion of preparations, constituents and

precipitates.

Sieker, F.A. 1901.

Removal of Fixed Oil from Nux Vomica Extract, by Means of Paraffin Wax.

Pharm. Rev.,19, p.56. (Yrbk. Br.Pharm.Conf.,1901,p.195).

Recommends paraffin instead of ether as a solvent for fixed oil because alkaloidal content of drug is not affected by the former.

Bird, F. 1902.

Alkaloidal Stability of Certain Standardized Preparations of B.P. (Nayler,W. & Huxtable, C.)

Yrbk.Br. Pharm. Conf., 1902,p.382.

Briefly refers to useful character of the papar and agrees that loss of alkaloidal strength probably due to precipitation. Suggests that an improvement should be mads in lime process.

Boorsma, W. 1902.

Strychnicine, Nouvel alcaloide des Strychnees.

Bull. Inst. Bot.d. Buitz., 14,p.3. (Journ.d.Pharm.et.d. Chim.,(6),16,p.551; Yrbk. Br.Pharm.Conf.,1903, p.158).

Reports a new alkaloid from Strychnos Nux Vomica,its occurrence,physical,chemical properties, physioligical action, and a method of isolation.

Caspari, C.E. 1902.

Discussion, "The quantitative Estimation of Strychnine in Mixtures of Strychnine and Brucine." (Gordin).

Proc. Am. Pharm. Assoc., 50,p.342.

Expresses approval of method which it was his good fortune to experiment with provious to the reading of the paper; also says he finds it a much shorter process for assay.

Gordin, H.M. 1902.

Die quantitative Bistimmung des Strychnins in gemischen von Strychnin und Brucin.

Archiv.d. Pharm., 240, p. 641. (Proc. Am.Pharm.Assoc.,50, p. 336.).

Alkaloids are liberated by modification of Keller Method, using soda solution instead of ammonia and chloroform alone in place of ether chloroform. Amyl alcohol is used to prevent decrepitation.

Lyons, A.B. 1902.

Note on a New Method of Separating Brucine from Strychnine in Assays.

Pharm. Rev., 20,p.253. (Journ.d. Pharm. et d. Chim.,(6), p.139; Yrbk. Br. Pharm. Conf. 1903, p. 161).

Detailed account of experiments carried out taking advantage of the insolubility of strychnine sulphate in 10 % sulphuric acid.

Naylor, W. & Huxtable, C. 1902.

Alkaloidal Stability of Certain Standardized Preparations

of the British Pharmacopoeia.

Yrbk. Br. Conf., 1902, p. 377.

Details of Experiments performed to determine stability of various preparations. Indications are in favor of loss of alkaloid by precipitation rather than by decomposition.

Dowzard, E. 1903.

Determination of Strychnine and Brucine in Nux Vomica.

Chem. News, 87, p. 99. (Yrbk. Br. Pharm. Conf., 1903, p.158).

A paper on the determination of strychnine and brucine , using a color reaction for determination of the latter,

Lewis, S. 1903.

Improved Method for the Preparation of Liquid Extract of Nux Vomica.

Pharm. Journ., (4), 17, p. 516. (Yrbk. Br. Pharm. Conf., 1904, p. 293).

Describes in detail a medified method for preparation of Extract of Nux Vomica and compares it with the method of Greenish and Smith.

Puckner, W. 1903.

Nux Vomica Assay.

Proc. Am., Pharm. Assoc., 51, p. 197.

A method of assay of nux vomica where the use of an alquot part is eliminated. Results of experiments with various methods are given.

Ruddiman, E. 1903.

Color Reaction of Alkaloids and Other Substances.

Drugg. Circ., 47, pp. 95,119. (Proc. Am. Pharm. Assoc.,51, p. 948).

A systematic arrangement of the color reactions of various alkaloids, including strychnine,(p.123), and brucine,(p.96).

Smith, F. 1903.

The Quantitative E stimation of Strychnine.

Am.Journ. Pharm., 75, p.253. (Proc. Am. Pharm. Assoc.,51, p. 958).

Brief review of the methods of Dunstan and Short, Lyons, Keller, and later modification of Gordin; with recommendation of Gordin's modification.

Alcock, F. 1904.

Discussion, "Distribution of Fat and Strychnia in Nux Vomica Seeds." (Gadd & Gadd).

Yrbk. Br. Pharm. Conf., 1904, p. 518.

Briefly states that he has noticed two kinds of fat in nux vomica, one which is easily extracted by alcohol, the other by ether.

Bourquelot, E. 1904.

Travaux de pharmacie galénique effectués a l'occasion de la nouvelle edition du codex: Extrait de noix Vomique.

Journ.d. Pharm.et d. Chim., (6), 20, p. 289. (Yrbk. Br. Pharm. Conf., 1905,p.271).

A formula for the preparation of Extract of powdered Nux

Vomica containing sugar of milk, and a method of assay by titrating with sodium acid sulphate.

Gadd, H. 1904.

Answer to Discussion, " The Distribution of Fat and Strychnia in Nux Vomica." (Gadd& Gadd).

Yrbk. Br. Pharm. Conf., 1904, p. 519.

Thanks Mr. Alcock for suggestion as to nature of fats. Expresses preference for purification of crude drug rather than an extract. Explains that Centrifugal action of the disintegrator would carefully remove the hairs.

Gadd, H. & Gadd, S. 1904.

The Distribution of Fat and Strychnine in Nux Vomica Seeds.

Yrbk. Br. Pharm. Conf., 1904, p. 515.

Details of experiments in making fat free preparations of Nux Vomica, which leads to the recommendation that the haire be rejected.

Gerrard, A. 1904.

Discussion, "The Distribution of Fat and Strychnia in Nux Vomica." (Gadd).

Yrbk.Br. Pharm. Conf., 1904, p.518.

Recommends dilution of the extract and shaking out with petroleum ether as the most simple and economical process.

Jones, H. 1904.

Discussion, "The Distribution of Fat and Strychnine in

Nux Vomica." (Gadd & Gadd).

Yrbk. Br. Pharm. Conf., 1904, p.518.

Expresses preference for paraffin method of separating oil from the seeds.

Leger, E. 1904.

Note sur l'essai des drogues simples-noix vomique Feve Saint- Ignace.

Journ.d. Pharm. et d. Chem., 158, p.479. (Yrbk.Br.Pharm. Conf., 1904, p.124).

A method of assay consisting of extraction by maceration, shaking out with hydrochloric acid and precipitating with ammonia.

A second method is given which is a modification of the Prollius Method.

Ransom, F. 1904.

Discussion, "The Distrubition of Fat and Strychnia in Nux Vomica." (Gadd).

Yrbk. Br. Pharm. Conf., 1904, p.519.

Expresses doubt as to whether it would be worth while to remove hairs from nux vomica in as much as a process had been devised to remove fat from extract.

Umney, J.C. 1904.

Discussion, " Distribution of Fat and Strychnia in Nux Vomica Seeds." (Gadd & Gadd).

Yrbk. Br. Pharm. Conf., 1904, p. 518.

Recommends paraffin wax treatment for the removal of Fats from the extractive matter in nux vomica.

Gordin, H.M. 1905.

Percolator and Shaking Tube Combined for the Assay of Alkaloidal Drugs.

Proc. Am. Pharm. Assoc., 53, p. 386. (Yrbk. Br. Pharm. Conf., 1906, p. 59.).

Describes a piece of apparatus designed to prevent loss in transferring from shaking vessel to percolator.

Lenton, W. 1905.

The Analysis of Powdered Extract of Nux Vomica.

Pharm. Journ., (4), 21, p. 864. (Yrbk. Br. Pharm. Conf., 1906, p. 54).

Describes in detail, a modification of Bird's Process applicable to the powdered form of Nux Vomica Extract.

Naylor, W. 1905.

Standardization of Galenicals.

Yrbk. Br. Pharm. Conf., p. 358.

A critical discussion of the assay and preparation of various galenicals with suggestions for sundry modifications.

Alcock, F. 1906.

Discussion, "Standardized Powdered Alcoholic Extracts." (Farr & Wright).

Yrbk. Br. Pharm. Conf., 1906, p. 241.

Recommends carbon tetrachloride for separation of fat from seeds of nux vomica. Objects to paraffin because of taste which it leaves.

Dott, D. 1906.

Discussion, "Standardized Powdered Alcoholic Extracts." (Farr and Wright).

Yrbk. Br. Pharm. Conf., 1906, p. 239.

Process gives concordant results with B.P.Method and recommends that it be adopted in next pharmacopoeia as process is less liable to error than one now in use.

Farr, E. & Wright, R. 1906.

The Nitric Acid Process for the Determination of Strychnine.

Yrbk. Br. Pharm. Conf., 1906, p. 226.

A detailed description with comparitive tables of the processes of Keller, Gordin, Dowzard, Howard, Reynolds, and Sutcliffe.

Farr, E. & Wright, R. 1906.

Standardized Powdered Alcoholic Extracts.

Yrbk. Br. Pharm. Conf., 1906, p. 229.

Discusses in detail work carried out on the seeds, liquid extract, powdered extract; methods for preparing a standard extract, and, description for the microscopical recognition of nux vomica.

Gadd, H. 1906.

Discussion, "Standardized Powdered Alcoholic Extracts." (Farr & Wright).

Yrbk. Br. Pharm. Conf., 1906, p. 240.

Inquires why the U.S.P. titration of strychnine was discarded, and why it was necessary to remove the fat since the

greater share of the fat containing hairs were removed in grinding.

Hill, J. 1906.

Discussion, "Standardized Powdered Alcoholic Extracts." (Farr & Wright).

Yrbk. Br. Pharm. Conf.,1906, p. 241.

Says their paper is based on the assumption that the activity is dependant upon strychnine. Hence,why not obtain strychnine in pure form? Suggests a powdered extract to be used in preparation of the tincture of nux vomica by percolation.

Knight, G. 1906.

Discussion," Standardized Powdered Alcoholic Extract." (Farr & Wright).

Yrbk. Br. Pharm. Conf., 1906, p.242.

Expresses dissatisfaction with Pharmacopoeial Method of 1898, because of tendency to place the manufacture in the hands of the jobbers. Suggests standardization for Strychnine and Bucine in Extractum Nucis Vomicae.

Mann, E.W. 1906.

Discussion, "Standardized Powdered Alcoholic Extracts." (Farr & Wright).

Yrbk. Br. Pharm. Conf., 1906, p. 239.

Thought Messrs. Farr and Wright should take great credit for their nitric acid separation which was an improvement upon the U.S.P. process. Expressed doubt as to keeping qualities of the powdered extract containing sugar of milk.

Ransom, F. 1906.

Discussion, "Standardized Powdered Alcoholic Extract of Nux Vomica." (Farr & Wright).

Yrbk. Br. Pharm. Conf., 1906, p. 241.

Recommends the standardised moist extract since there is a certain amount of alkaloid lost in drying.

Roeder, P. 1906.

Alkaloidal Assay of Belladonna, Nux Vomica and Hyoscyamus Extracts.

Yrbk. Br. Pharm. Conf., 1906, p. 13.

A gravimetric quantitative analysis using the usual reagents for isolation of the alkaloids.

Umney, J.C. 1906.

Discussion, "Standardized Powdered Alcoholic Extracts." (Farr & Wright).

Yrbk. Br. Pharm. Conf., 1906, p. 239.

Objects to the use of powdered nux vomica seeds as a diluent for extract because of oil content, with consequent insolubility; when an attempt is made to dilute the extract.

Webster, M. & Pursel, R. 1906.

The Estimation of Strychnine in Nux Vomica by the Nitric Acid Process.

Am. Drugg. and Pharm. Rev., 49, p. 362. (Yrbk. Br. Pharm. Conf., 1907, p. 152).

Report concordant results by the addition of sodium nitrite to the acid mixture in the assay process. Process not

affected by the purity of alkaloid.

Wright, R. 1906.

Discussion, "Standardized Powdered Alcoholic Extract." (Farr & Wright).

Yrbk. Br. Pharm. Conf., 1906, p. 241.

Explains the use of powdered drug as a diluent, because it is easily recognized, is a matter of convenience. Was awaiting information as to relative amounts of strychnine and brucine. Thinks pilular extracts will be replaced by powdered extracts because of convenience in using.

Evans, Sons, Lscher and Webb, Limited. 1907.

Determination of Strychnine in Nux Vomica Extract.

Evans Analyt. Report, 2, p. 32. (Yrbk. Br. Pharm. Conf., 1908, p. 143).

A method of assay, using chloroform, sodium carbonate, and other usual reagents.

Gordin, H.M. 1907.

A Good Method Made Worthless by Unwarranted Modifications.

Am. Journ. Pharm., 79, p. 61. (Yrbk. Br. Pharm. Conf., 1907, p.152).

Vigorously protests against the modification of the specific gravity of nitric acid and the leaving out of amyl alcohol in the assay process.

Matthes, H. & Rammstedt, O. 1907.

Die Verivendbarkeit der Pikrolonsäure (Dinitrophenyl-methylpyrazolon) Zur Wertbestimmung narkotischer Drogen, Extrakte Und Tinkturen.

Archiv. d. Pharm. 245, p. 112. (Yrbk.Br.Pharm. Conf.,1907, p.10).

Picrolonic acid n/10 solution recommended as precipitant for Strychnine and Brucine. The processes for the determination of alkaloids in the extract, tincture, and seeds of nux vomica are given.

Webster, M.H. 1907.

Simple Method for Alkaloidal Assay.

Am. Journ. Pharm., 79, p. 301. (Yrbk. Br. Pharm. Conf., 1908, p. 9).

A detailed discussion of difficulties of assaying. Recommends alcohol and tartaric acid used for exhaustion of drug and titration made with standard sodium hydroxide. Method for solid extracts essentially the same.

Beringer, G.M. 1908.

Fluid Glycerates.

Proc. Am. Pharm. Assoc., 56, p. 981.

Proposal of Fluid Glycerates and formula for many of such preparations, including that of nux vomica.

Umney, J.C. & Bennett, H.C. 1908.

Standards for Alkaloidal Drugs and Fluid Extracts.

Yrbk. Br. Pharm. Conf., 1908, p. 513.

In view of progress being made in potency of drugs and preparations; propose standards for various alkaloidal drugs and discusses therapeutic action in general. Also discuss suitability of assay of various drugs.

Wright, R. 1908.

Note on the Strychnine Standard for Galenical Preparations of Nux Vomica.

Yrbk. Br. Pharm. Conf., 1908, p. 496.

A brief comment upon the results of the experiments of Dixon and Harvey in regard to the calculation of alkaloids of nux vomica as strychnine.

Beringer, G.M. 1909.

Fluid Glycerates.

Proc. Am. Pharm. Assoc., 57, p. 1009.

Proposes a new formula for the Fluid Glycerate of Nux Vomica, requiring hydrochloric acid and chloroform for extraction.

Juillet, A. 1909.

Sur une falsification de la poudre de noix vonuque.

Repert. d. Pharm., (3), 21, p.148. (Yrbk. Br. Pharm.Conf., 1909, p.116).

Two adulterations of powdered nux vomica were found, ground olive pits and raspings of vegetable ivory.

Lyons, A.B. 1909.

Separation of Brucine and Strychnine with Nitric Acid.

Am.Drugg.,54,p.128. (Yrbk.Br.Pharm.Conf.,1909,p.19).

An acid stronger, than used in the U.S.P. process of separation, is recommended for the destruction of brucine.

Malaquin, P. 1909.

Nouvelle reaction pour la caracterisation de la strychnine.

Journ. d. Pharm. et d. Chim., (6), 30, p.546. (Yrbk. Br. Pharm. Conf. 1910, p.37).

A new qualitative test for strychnine using zinc chloride and sulphuric acid.

Pinchbeck, G. 1909.

Note on the Separation of Strychnine from Brucine.

Yrbk. Br. Pharm. Conf., 1909, p. 327.

A detailed description of work carried on in regard to the separation of strychnine and brucine, Recommends nitrogen peroxide as oxidizing agent and the U.S.P. method of separation.

Weigel, G. 1909.

Neus vom Drogenmarkt.

Pharm. Zeutralhl, 50, p.783. (Yrbk. Br. Pharm. Conf., 1910, p.28).

A criticism of the Ph.G. IV, standard for nux vomica and also of the method of determining alkaloidal content.

Beringer, G.M. 1910.

Tincture of Nux Vomica.

Proc. Am. Pharm. Assoc., 58, p. 782. (Yrbk. Br. Pharm. Conf., 1911, p. 308).

Reports preparation of Tincture of Nux Vomica from extract

unsatisfactory; recommends that it be prepared from seeds by percolation.

Bur. of Chem. 1910.

Total Alkaloids in Drugs. Official Method for Determination. U.S. Dep't of Agriculture.

Circular No. 25, March 1910, p. 14.

A description of the methods adopted by the U.S. Dep't of Agriculture for the determination of alkaloids.

Evans, Sons, Lescher & Webb, Limited. 1910.

Variability of Commercial Liquid Extract of Nux Vomica.

Evans Analyt. Notes, 4, p. 51. (Yrbk. Br. Pharm. Conf., 1911, p. 297.).

A note on the variation of the strychnine content of samples of liquid Extract of Nux Vomica; also on the variation of alcoholic content with an improved method for assay of the fluid extract.

Tunmann, O. 1910.

Uber die Alkaloide in Strychnos Nux Vomica-L Während der Keimung.

Archiv. d. Pharm. 248, p. 644. (Yrbk. Br. Pharm. Conf., 1911, p. 41).

A note on the occurrence of the constituents of nux vomica seeds and changes during germination.

Dott, D.B. 1912.

The Test for Brucine in Strychnine.

Yrbk. Br. Pharm. Conf.,1912, p. 436.

A method of detection based upon the separation by means of nitric acid.

Grullerink, A. 1912.

Beitrage Zur mikrochemischen Untersuchung einiger Alkaloide. Zeits. f. Analyt. Chem., 51,p.175. (Yrbk.Br.Pharm.Conf., 1912,p.16).

Detailed description of methods whereby alkaloids may be detected and recognized by the characteristic form of certain organic salts.

Harrison, J. 1912.

Discussion, "The Test For Brucine in Strychnine".(Dott). Yrbk. Br. Pharm. Conf., 1912, p. 436.

Briefly states opinion that detection could be made with mixture of nitric acid and water.

Kohn-Abrest,E. 1912.

Procede d'extraction et de dosage des alcaloides dans les sirops et divers liquides sucres.

Bull. d. Soc. Chim., (4), 11, p. 72. (Yrbk. Br.Pharm. Conf.,1912, p. 15).

A method for quantitative separation of alkaloids from alcoholic solutions by means of potassium carbonate.

La Wall, C.A. 1912.

A New Method of Assay for Alkaloidal Fluid Extracts.

Journ. Am. Pharm. Assoc., 84, p.29. (Yrbk. Br.Pharm. Conf., 1912, p.14).

A method whereby sodium chloride is made use of as a solvent, thereby salting out many impurities.

Pearson, W. 1912.

Some Queries On Alkaloidal Assay.

Journ. Am. Pharm. Assoc., 1,p. 30.

A series of questions in regard to finer points of assaying of various alkaloidal drugs, and preparations, including nux vomica.

Umney, J.C. 1912.

Discussion, "The Test for Brucine in Strychnine."(Dott).

Yrbk. Br. Pharm. Conf., 1912, p. 437.

Emphasises the necessity for strength of nitric acid used in detection of brucine by color reaction.

_____. 1914.

Proposed Changes in Standards and Descriptions for U.S.P. IX.

Journ. Am. Pharm. Assoc., 3, pp. 984,1100,1563.

A list of recommended changes of standards and assays for alkalodial drugs and preparations including the Extract, Tincture, Fluid Extract, and the crude drug of nux vomica.

Cowie, W.J. 1914.

Assay of Liquid Extract of Nux Vomica.

Pharm.Journ.,(4), 38,p.545. (Yrbk. Br. Pharm. Conf.,1914, p.545).

A detailed description of a method for determining alkaloids of nux vomica, involving the isolation with chloroform and acetic acid, and titration with sodium hydroxide.

Criticises Farr and Wright's method.

Deane, H. 1914.

Discussion, "Estimation of Strychnine in Presence of Brucine." (Dott).

Yrbk. Br. Pharm. Conf., 1914, p. 333.

Expresses approval of cold nitric acid process. Specifies summer temperature, and standing one hour.

Dott, D.B. 1914.

Estimation of Strychnine in Presence of Brucine.

Yrbk. Br. Pharm. Conf., 1914, p. 331.

Advocates use of nitric acid at low temperatures for the separation of strychnine and brucine. Results at different temperatures are given.

Dott, D.B. 1914.

Discussion, "Estimation of Strychnine in Presence of Brucine." (Dott)

Yrbk. Br. Pharm. Conf., 1914, p. 333.

Finds twenty minutes to be sufficient time for standing, but notices no loss of strychnine in twenty-five minutes.

Evans, Sons, Lescher & Webb, Limited. 1914.

Assay of Nux Vomica.

Evans Analyt. Notes, 9, p.45. (Yrbk. Br. Pharm.Conf., 1914, p.15).

A simple rapid method for titration of alkaloids. Recommends Cochineal be used as an indicator.

Schaefer, H.H. 1914.

Struxine, A New Alkaloid from Strychnos Nux Vomica.

Journ. Am. Pharm. Assoc.3, p. 1677. (Yrbk. Br. Pharm. Conf., 1915, p. 26).

Reports the isolation of a new base from mother liquors obtained in the manufacture of Strychnine. It's physical and chemical properties are described.

Watt, E. 1914.

Discussion, "Nux Vomica Assay of Liquid Extract." (Cowie). Pharm. Journ., (4), 38,p.546.

Critisizes the paper severely because of using ferric oxychloride which produces a gelatinous precipitate. Refers to the work of Raynolds and Sutlief.

Wasicky, R. 1914.

Der Mikrochemische Nachweis von Strychnin Und Brucin im Samen von Strychnos nux vomica.

Zeitsch. Allgem. Oester. Apoth. Verein., 52,pp.5,38,41, 52,67. (Chem. Zantralbl., 85,II,p.464.;Yrbk.Br.Pharm. Conf., 1914, p.22).

Color reactions of strychnine and brucine with picrolonic

acid are given.

Beal, G. & Lewis, H. 1916.

Quantitative Determination of Alkaloids by means of Immiscible Solvents.

Journ.Am. Pharm. Assoc., 87,p.812. (Yrbk. Br. Pharm.Conf., 1917,p.3).

An exhaustive treatise on the subject using various drugs. A summary of work accomplished.

Hankin, E.N. 1916.

Tests for Certain Alkaloidal and Narcotic Drugs.

Indian J. Med. Research, 4, p. 237. (Analyst., 42,p.174; Yrbk. Br. Pharm. Conf., 1917, p. 137).

An exhaustive study of tests for active principles and alkaloids, including strychnine and brucine.

Jensen, H. 1916.

Estimation of Strychnine in Nux Vomica.

Pharm. Journ., (4), 43,p. 458. (Yrbk. Br. Pharm. Conf., 1917, p.280.)

A detailed survey of the literature on the estimation of strychnine and the separation of strychnine and brucine by hot and cold notration, and a criticism of the B.P. 1914,process of nux vomica.

Peset, J. & Buendia, R. 1916.

Reaction for Alkaloids and Similar Compounds.

Anales Soc. Espan. fis quim. 14,p.257. (Journ.Am.Chem.

Soc., 11,p.2018.; (Yrbk. Br. Pharm. Conf., 1917. p.3).

Report use of saturated solution of titanic acid in strong sulphuric acid as a reagent for color tests for alkaloids,

Watt, H.E. & Angus, G.B. 1916.

Strychnos Nux Vomica.

Journ. Soc. Chem. Ind., 35, p.201. (Yrbk. Br. Pharm. Conf., 1916,p. 136).

Brief results of assay of fat, physical and chemical properties of the isolated substance is given.

Launoy, L. 1917.

Sur la sensibilite' de la methode gén'eral d'extraction des alcaloirde dans l'eau.

Compt. Rend. 165,p. 360. (Yrbk. Br.Pharm.Conf.,1918.p.5).

Reports on the sensitiveness of solutions of alkaloids in chloroform. Various alkaloids used including strychnine and Brucine.

Tunman, O. 1917.

Alkaloids Microchemical Precipitation With Zinc Chlor-Iodide Solution.

Apoth. Zeit., 32,p. 76. (Journ. Chem. Soc.,112,(II),p. 345;. Yrbk. Br. Pharm. Conf., 1918,p.4).

Report of Crystalline precipitate with zinc-chlor-iodide and various alkaloids.

Dieterich, K. 1918.

Rapp's Method for Determination of Alkaloids.

Pharm. Zeitg., 63,p. 628. (Journ. Soc. Chem. Ind., 38,p. 337a; Yrbk. Br. Pharm. Conf.,1919, p. 4.).

Praises Rapp's method but suggests increase in amount of chloroform.

Maske, W. 1918.

Alkaloidal Assaying of Drugs, New Method for Extraction.

Journ. Am. Pharm. Assoc.,7,p.339. (Yrbk. Br. Pharm.Conf., 1918, p.2).

A method of extraction whereby a means is supplied for testing the complete extraction of the drug.

Rapp,- -. 1918.

Method for Determination of Alkaloids.

Apoth. Zeit., 33,p. 463, (Journ. Soc. Chem. Ind.,38,p. 337a; Yrbk. Br. Journ. Conf., 1919, p.3).

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