color from greenish-yellow to liver-brown. The older bee-bread, containing waxy and refuse matters, etc., usually has a darker color and is less adhesive. The propolis or bee-bread of commerce contains comparatively only a small percentage of solid matter, its composition depending upon the work of the bees themselves as well as the method of the collection by the bee-keeper. It is mainly composed of an oil or balsam—the so-called propolis balsam—which in turn is composed of cinnamic alcohol, cinnamic acid, tannins and resins.—Ber. d. D. Pharm. Ges., 1911, No. 1.

*Yoghurt: Preparation.*—Dr. H. Kühl contributes a lengthy paper describing the properties and preparation of the Bulgarian milk-food known as "Yoghurt" (also "jaurt") which is receiving considerable attention in recent years and was described in the "Report" of last year (see Proc. 1910, 390). The author does not add much to the description there given, but gives some practical details respecting its preparation which may be of supplementary interest. He says that of the three Bacilli that are concerned in the production of yoghurt from milk, the one of most importance is *Bacillus Bulgaricus*, since it is principally concerned in the peculiar acidification that characterizes this preparation, the other two (*Bacterium lactic acidi* Güntheri and a lactic acid *Streptococcus*) serving mainly the purpose of modifying the taste and preparing the milk for acidification. To prepare the thin-liquid yoghurt, which is preferred to the thick yoghurt used in the Balkan states, good, fresh milk is subjected to brief boiling and then allowed to cool to 45°C., whereupon it is at once inoculated with some old yoghurt or, if this is not available, with a yoghurt culture, which must be well mixed with the milk. It is then allowed to stand at a temperature of about 40°C., observing that the temperature does not fall below 35°C., at which temperature the growth of the *Bacillus Bulgaricus* ceases.

When the milk shows signs of thickening —usually after three to five hours—the vessel is transferred to a cool place, and the yoghurt is then ready for use, retaining its good quality and taste several days. To assure its proper quality an experiment is made with a fresh portion of milk, inoculated with some of the yoghurt just prepared.—Pharm. Ztg. LVI (1911), No. 45, 454; from Südd. Apoth. Ztg., 1911, No. 43.

## REPORT OF THE COMMITTEE ON UNOFFICIAL STANDARDS.

The following portion of the report of the Committee on Unofficial Standards relates to certain crude drugs and chemicals suggested for inclusion in the next revision of the National Formulary, and by order of the Council is published in the JOURNAL in order to afford opportunity for discussion before the standards proposed are finally adopted.

Manufacturers, importers, analysts, and others interested in any of the proposed standards, are requested to send their criticisms and comments to the chairman of the committee, Geo. M. Beringer, 501 Federal St., Camden, N. J.

## APPROVED MONOGRAPHS SUBMITTED AS STANDARDS FOR UNOFFICIAL DRUGS AND CHEMICAL PRODUCTS.

(Continued from January issue—page 73.)

### CANELLA ALBA.

CANELLA.

The dried bark of *Canella Winterana* (L) Gaertn. (Fam. *Canellaceae*).

In quills usually from 1 to 3 dm. long and 1 to 4 cm. thick, occasionally 2 or 3 times as large or in irregular fragments of such quills, the bark from 1.5 to 4 or 5 mm. thick, the outer periderm mostly removed; outer surface light brownish-yellow or pale orange-brown, more or less scaly, with few very shallow fissures, often more or less reticulate with slight ridges; inner surface paler, smoothish, but showing coarse, longitudinal striae; fracture short and sharp, pale yellow, with an irregular slightly darker band just

inside of the middle. Odor slight unless the bark is heated, then aromatic; taste aromatic and peppery-biting, somewhat bitter.

Upon incineration Canella should yield not over 8 per cent of ash.

## CASCARILLA.

CASCARILLA.

Sweetwood Bark. Sweet Bark.

The dried bark of *Croton Eluteria* (Linné) Bennett (Fam. *Euphorbiaceae*).

In quills or curved pieces from 0.5 to 2.5 mm. thick, having a gray somewhat fissured, easily detached corky layer, more or less coated with a white lichen, the uncoated surface dull-brown and the inner surface smooth; fracture short, the fractured surface having a resinous and radially striated appearance.

Odor characteristic, being strong and musk-like when the bark is burned. Taste warm, aromatic and very bitter.

Upon incineration Cascarilla should yield not over 10 per cent of ash.

## CAULOPHYLLUM.

CAULOPHYLLUM.

Blue Cohosh, Blueberry Root, Papoose Root, Squaw Root, Blue Ginseng.

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

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

Upon incineration Caulophyllum should yield not over 6 per cent ash.

## SEMEN APII.

CELERY SEED.

The ripe fruit of *Apium graveolens* Linné (Fam. *Umbelliferae*).

Consisting of two mericarps, which may be united or separate. Mericarp ovoid, slightly curved, 1 to 2 mm. long, rather more than half as broad and about half as thick, of a rather deep brown color; the inner surface flat, the outer convex, smooth except for 5 very slender light colored ribs, two of which are marginal. Oil tubes in the pericarp about 12, one to three in each interval between the ribs. Odor characteristic, agreeable, taste aromatic, warm and somewhat pungent.

Upon incineration Celery Seed should yield not more than 8 per cent of ash.

## CENTAURIUM.

CENTAURY.

The dried flowering herb of *Erythraea Centaurium* (L.) Pers. (Fam. *Gentianaceae*).

Glabrous, 1.5 to 5 dm. high, at length much branched from the base, little if at all branched from above, the stems slender, sharply angled or narrowly winged, sparsely leafy; leaves opposite, entire, mostly 3 nerved, sessile, those at the base obovate and obtuse, 2 to 5 cm. long, the base narrow and petiole-like, the upper gradually changing to oval, then ovate, or even lance-linear, acute or acutish; flowers in a (mostly dense) terminal and at length compound cyme, rose-colored; calyx about 5 to 7 mm. long, deeply 5 parted, the short tube sharply angled, the linear-attenuate lobes with a sharp midrib; corolla-tube nearly twice the length of the calyx, slender, the limb 10 to 15 mm. broad, its lobes broadly oblong or oval; stamens 5, exserted, bright-yellow, their anthers twisted when old; pistil 2 carpelled. Odor faint but characteristic and taste persistently bitter.

Upon incineration Centaury should yield not over 5 per cent of ash.

## CETRARIA.

CETRARIA.

Iceland Moss.

The dried thallus of *Cetraria Islandica* (Linné) Ascharius (Fam. *Parmeliaceae*).

Foliaceous 5 to 10 cm. long, often of equal or even greater breadth, irregularly branched into narrow fringed and channelled lobes; brownish above, underneath whitish and marked with depressed silvery spots; brittle and odorless, but when moistened with water becoming soft and cartilaginous and developing a slight odor; taste bitter and mucilaginous.

Before use Cetraria should be freed from pine needles, other lichens or other foreign matters, which are often found mxed with it.

A 5 per cent decoction should gelatinize on cooling.

Upon incineration Cetraria should yield not more than 1.5 per cent of ash.

## PIX LITHANTHRACIS.

Coal Tar. Pix Carbonis.

The tar obtained as a by-product in the destructive distillation of coal in the manufacture of illuminating gas.

A nearly black, thick liquid or semi-solid, heavier than water and possessing a characteristic naphthalene-like odor and a sharp burning taste.

It is only slightly soluble in water, to which it imparts its characteristic odor and taste and a faint alkaline reaction. It is but partially dissolved by alcohol, acetone, methyl alcohol or petroleum benzin; almost entirely by ether; entirely by benzol, carbon disulphide or chloroform.

## COCCULUS INDICUS.

Fructus Cocculi. Fish Berry. Indian Berry.

The dried fruit of *Anamirta Cocculus* (Linné), W. & Arn. (*A paniculata,* Colebrook; *Menispermum Cocculus,* Linné. Fam. *Menispermaceae*).

Reniform about 10 mm. long and 6 mm. broad and thick blackish-brown and wrinkled; hilum and micropyle close together, separated by a shallow sinus and connected by an obscure ridge running around the convex side. Seed urn shaped, its longitudinal and transverse sections crescent shaped; testa slightly bitter; the seed is whitish-yellow and intensely bitter.

Upon incineration Cocculus should yield not over 5 per cent of ash.

## CONDURANGO.

Cortex Condurango. Condurango Bark.

Condurango is the dried bark of the stem and branches of a climbing shrub indigenous to the Northern Andean region of South America, probably *Marsdenia Condurango* Reichenbach fil. (Fam. *Asclepiadaceae*).

Condurango occurs in quilled or curved pieces about 5 cm. to 15 cm. long and 0.5 to 2 cm. wide, the bark 2 to 7 mm. thick; cork thin, grayish red brown, warty or soft-scaly; inner surface pale, yellow-gray and coarsely striated; breaking with a short and granular fracture, somewhat fibrous in the inner layer and of a pale brownish color.

A cross section examined under the microscope, exhibits a periderm of layers of thin cork cells and a primary bundle of colorless shining long bast fibres at the inner border of the primary bark; in the secondary bark, yellow stone cells but no bast fibres; in the bast narrow medullary rays, bast fibres and stone cells; numerous lactiferous vessels with dark content in all but the periderm and the inner parenchyma rich in starch; calcium oxalate in single crystals in the outer bark and elsewhere in numerous rosette aggregates.

The bark is bitter, somewhat acrid and slightly aromatic and has a somewhat pungent odor resembling pepper. Upon incineration it yields not more than 12 per cent of ash, containing traces of manganese. An infusion of condurango (1 to 5) made cold is clear, but on heating becomes turbid and on cooling clears again.

## FLORES CONVALLARIAE.

CONVALLARIA FLOWERS.

Lily of the Valley Flowers.

The dried inflorescence of *Convallaria majalis* Linné (Fam. *Liliaceae*).

From 15 to 25 cm. long, the peduncle usually more than half of the length. Peduncle dull-green or below purplish-green, and more or less angled; flowers white, but usually drying brownish, usually 10 to 20 in number, borne in a more or less secund raceme on recurved pedicels which are usually from a half longer than their flowers to twice their length, pedicel subtended by a whitish, ovate, acute bract about half its length; flowers 6 to 8 mm. long and rather broader, bell-shaped, six-parted, the segments ovate, obtuse, and slightly recurved; stamens 6, included, adnate to the base of the corolla; style columnar, 3 grooved. Odor agreeable; taste sweetish, then somewhat acrid.

## PERSIO.

CUDBEAR.

Red Indigo.

A purplish red powder prepared from species of *Roccella, Lecanora* and other lichens.

The aqueous or alcoholic solution of cudbear is of a deep red color which is rendered lighter in tint by the addition of acids and changed to purplish red on the addition of alkalies

2 Gm of cudbear agitated occasionally with 200 Cc. of water and then filtered, yields a deep red liquid, which may be used for the following tests:

If 5 Cc. of the aqueous solution of cudbear (1 in 100) be acidulated with 5 drops of glacial acetic acid and boiled for one minute, the addition of 5 drops of stannous chloride

T. S., and further boiling for one minute, should yield a liquid possessing only a faint pink color, (absence of *Brazilwood or logwood*, both of which produce a deep red color with this test).

If 100 Cc. of the aqueous solution of cudbear (1 in 100) be shaken with 25 grammes of kaolin in an Erlenmeyer flask during one hour and then filtered, the filtrate should be almost entirely decolorized, when compared with some of the original solution, which is to be retained for comparison (absence of a number of *coal tar colors* which are unaltered by this treatment).

When carefully ignited to constant weight cudbear should leave not more than 35 per cent of residue, consisting mainly of sodium chloride.

## DIACETYL MORPHNE.

$C_{17}H_{17}(C_2H_3O)_2NO_3 = 369.194.$

A synthetic alkaloid obtained by the acteylization of Morphine.

White odorless crystalline powder of alkaline reaction and a bitter taste.

Soluble in 1600 parts of water, 26 parts of alcohol, 2 parts of chloroform, 70 parts of ether and 6 parts of benzin, also soluble in 3 parts of boiling alcohol.

Diacetyl Morphine melts at 170°-171° C.

On incineration it should not leave more than 0.01 per cent of ash.

0.1 Gm. dissolved in 10 Cc. sulphuric acid should not impart any coloration to the liquid.

If 0.1 Gm. be dissolved in 1 Cc. alcohol and to this solution 1 Cc. sulphuric acid be added and warmed, the odor of acetic ether will be perceptible in a few minutes.

If 0.1 Gm. be dissolved in 2 Cc. Iodic Acid (1-10) no iodine should be liberated (absence of morphine).

A trace of the alkaloid dissolved in a small porcelain dish with a few drops of nitric acid imparts a yellow color to the solution, the color turning greenish blue when slightly warmed, or after standing 3 to 5 minutes without warming. (Absence of morphine and test for identification).

On adding one drop of ferric chloride T. S. to an aqueous solution of 10 Cc. potassium ferricyanide (1 in 1000) and then 1 Cc. alcoholic solution of Diacetyl Morphine (1 in 100) no greenish or blue color should be produced at once (absence of morphine).

If 0.2 Gm. of the alkaloid is dissolved in 5 Cc. of water, with the aid of a few drops of diluted hydrochloric acid, and this solution is slowly poured into 5 Cc. of 5 per cent potassium hydroxide solution, shaking the test tube occasionally, a white precipitate is formed, which is quickly re-dissolved, yielding a perfectly clear and colorless solution (absence of other alkaloids), and if this solution be heated no ammonia reaction should be obtained with moistened red litmus paper (absence of ammonium salts).

## DIACETYL MORPHINE HYDROCHLORIDE.

$C_{17}H_{17}(C_2H_3O)_2 NO_3HCl H_2O = 423.68.$

The hydrochloride of the synthetic alkaloid obtained by the acetylization of Morphine.

White crystalline powder of a bitter taste. Soluble in 2 parts of water, 9 parts of alcohol and 4 parts of chloroform. Almost insoluble in ether and in petroleum ether.

The salt, when heated to about 200° C., turns brown and melts at about 233° C.

Its aqueous solution is neutral and yields a white precipitate with silver nitrate T. S. insoluble in Nitric Acid.

If 5 Cc. of the aqueous solution (1 in 20) is slowly added to 3 Cc. 5 per cent potassium hydroxide solution a white precipitate appears, which rapidly dissolves and yields a perfectly clear and colorless solution (absence of other alkaloids), and if this solution be heated no ammonia reaction should be obtained with moistened red litmus paper (absence of ammonium salts).

On adding one drop of ferric chloride T. S. tc an aqueous solution of 10 Cc. potassium ferricyanide (1 in 1000) and then 1 Cc. aqueous solution Diacetyl Morphine Hydrochloride (1 in 100) no greenish or blue color should be produced at once (absence of morphine).

It should respond to the other reactions for purity when carried out as described under diacetyl morphine.

## CORNUS FLORIDA.

DOG-WOOD BARK.

Bark of Flowering Dogwood or Cornel.

The dried bark of the root of *Cornus florida* L. (Fam. *Cornaceae*).

Occurring in irregular, chip-like pieces, or portions of quills, usually less than 5 cm. long and 1 to 4 mm. thick; externally of a dingy brown color, lightly fissured and thinly scaly, or reddish where the corky layer has been removed; inner surface varying from

pinkish-brown to red-purple, usually harsh to the touch from numerous short striae; fracture short, its surface whitish with yellow striae, except the inner layer, which is light purple. Odor slight and non-characteristic; taste bitter and astringent.

Upon incineration Cornus should yield not more than 10 per cent of ash.

## DROSERA.

DROSERA.

Sundew, Youthwort, Lustwort.

The air dried flowering plant *Drosera rotundifolia* Linné. (Fam. *Droseraceae*), frequently mixed with the closely allied species *Drosera intermedia* Hayne and *Drosera longifolia* Linné or at times wholly substituted by by these.

A delicate plant of a reddish color throughout, with few fibrous blackish rootlets; leaves all in a basal rosette, the blade orbicular about 15 mm. in diameter abruptly contracted into a long, slender pubescent petiole, the upper surface covered with glandular hairs; scape filiform, smooth, 10 to 20 Cm. long, bearing a few parted small white fugacious flowers in a curved one-sided raceme.

Odorless; taste faintly bitter and acidulous.

Drosera yields with 60 per cent alcohol about 25 per cent of brownish red extract.

Upon incineration Drosera should yield not over 30 per cent of ash.

Drosera intermedia is identified by its spatulate leaves with blades 2 or 3 times as long as wide and glabrous petioles. Drosera longifolia by spatulate oblong to spatulate obovate leaves with blades 6 to 8 times as long as wide, and smooth petioles and scape declinate at base.

## ECHINACEA.

The dried rhizome and roots of *Brauneria pallida* (Nuttall) Britton (Syn. *Echinacea angustifolia* De Candolle), (Fam. *Compositae*).

Nearly entire, cylindrical, very slightly tapering, ten to twenty cm. long, four to eight mm. in diameter; externally greyish-brown, light brown or purplish-brown, slightly annulate in the upper portion, with occasional V-shaped stem scars, somewhat what longitudinally wrinkled, or furrowed and sometimes slightly spirally twisted; fracture short, fibrous; internally, bark less than one mm. in thickness, wood thick and composed of alternate light yellowish and black wedges; the rhizome with a circular pith; odor faint, aromatic; taste, sweetish, followed by an acrid and tingling sensation, reminding one of aconite, but lacking the persistency and numbing qualities of the latter.

Microscopical structure. The drug is characterized by (1) the presence of intercellular (schizogenous) oil and resin cavities or reservoirs in both the wood and bark; (2) numerous stone cells which are distinguished by the presence of a blackish, carbon-like, resinous substance in the intercellular spaces between them and some of the adjoining parenchyma; (3) the parenchyma contains masses or aggregates of inulin; (4) the walls of the tracheae or vessels are marked with simply slit-like pores or annular and reticulate thickenings. Bast fibers occur in the stem. In some specimens true libriform or wood fibers are found.

Upon incineration Echinacea should yield about 6 per cent of ash.

## EUPHORBIA PILULIFERA.

Pill Bearing Spurge. Asthma Weed.

The entire annual herb *Euphorbia pilulifera* Linné. (Fam. *Euphorbiaceae*), collected while flowering and fruiting and dried.

Roots usually present, small, branched, reddish; stems slender, cylindrical, obliquely erect, dichotomously branched from near the base, branches recurved at apices; branches and stem only sparsely leafed at base, pale greenish-brown, rough or hairy; pubescence consisting of short, nearly straight unicellular hairs becoming almost hisped at the flowering tops; leaves opposite, obliquely oblong, acute, serrulate, rusty pale green, pubescent especially on the prominent veins on the lower surface, becoming brittle on drying and usually much broken in the drug; flowers small, numerous in short peduncled axillary clusters; fruits small three celled capsules; seed small, triangular ovoid, pale brown.

Odorless, taste faintly bitter and herb-like.

Upon incineration Euphorbia Pilulifera should yield about 12 per cent of ash.

## FOENUM GRAECUM.

Foenugreek Seed.

The dried ripe seeds of *Trigonella Foenum-graecum* Linné (Fam. *Leguminosae*).

Hard, smooth and somewhat shiny, brownish-yellow or yellowish-brown seeds about 3 mm. long and 2 mm. broad, obliquely rhomboidal, the flat surfaces diagonally grooved; internally yellowish, free from starch. Odor

peculiar, somewhat disagreeable. Taste disagreeable, fatty, mucilaginous and slightly bitter.

A transverse section shows microscopically the papillose epidermis covering a layer of palisade stone cells beneath which is a layer of columnar cells with broad bases and large intercellular spaces followed by a layer of parenchyma and a single layer of aleurone cells. The embryo, rich in aleurone, is enclosed in an endosperm of large and loose mucilage cells.

The powder is light reddish-yellow and under the microscope the mucilage cells of the endosperm are very distinctive. On moistening the powder with alcohol the large aleurone grains, about 15 microns in diameter, become very prominent. With solution of chloral hydrate the numerous oil globules and the characteristic elements of the cuticle and other layers are brought out.

Upon incineration Foenugreek yields about 5 per cent of ash.

## ACIDUM FORMICUM.

FORMIC ACID.

A liquid composed of about 24 per cent of absolute formic acid (H. COOH = 46.02) by weight and about 76 per cent of water.

Clear, colorless, having a strongly acid reaction and a characteristic pungent odor.

Specific gravity: about 1.058 at 25° C. (1.060 at 15° C.).

Miscible with water or alcohol in all proportions.

When heated the acid is volatilized and should leave not more than 0.01 per cent of residue.

On warming the acid with mercuric chloride T. S. a white precipitate of mercureous chloride is formed.

Diluted with 5 times its water, formic acid should give no precipitate or turbidity on the addition of silver nitrate T. S. (chloride) or barium chloride T. S. (sulphate); or, after supersaturating with ammonia water, on the addition of calcium chloride T. S. (oxalic acid); or hydrogen sulphide, either after addition of a few drops of hydrochloric acid or after addition of an excess of ammonia water, (heavy metals).

If the acid be supersaturated with potassium or sodium hydroxide solution, the liquid should have no pungent or empyreumatic odor (acrolein, allyl formate, etc.).

If 1 Cc. of the acid be heated on a water-bath with 1.5 Gm. of yellow mercuric oxide and 5 Cc. of water for 10 minutes, the filtrate should not have an acid reaction (acetic acid).

If 1 drop of decinormal iodine solution be added to 10 Cc. of the acid, the iodine color should not be destroyed (sulphurous acid).

ESTIMATION.

Introduce about 5 Gc. of Formic Acid into a stoppered weighing bottle and weigh accurately. Dilute the acid with about 50 Cc. of water and titrate with normal potassium hydroxide V. S., using phenolphthalein as indicator. Multiply the number of Cc. of normal potassium hydroxide V. S. consumed, by 4.601, and divide this product by the weight of the acid taken; the quotient represents the percentage of absolute formic acid in the latter.

## ACIDUM FORMICUM FORTIOR.

CONCENTRATED FORMIC ACID.

A liquid composed of about 83 per cent of absolute formic acid (H. COOH = 46.016) and about 16.5 per cent of water.

Specific gravity about 1.192 at 25° C. (1.200 at 15° C.).

When diluted with three times its volume of water, it should conform to the tests for purity given under Formic Acid.

ESTIMATION.

Introduce about 3 Cc. of Concentrated Formic Acid into a stoppered weighing bottle and weigh accurately. Dilute the acid with about 50 Cc. of water and titrate with normal potassium hydroxide V. S., using phenolphthalien as indicator. Multiply the number of Cc. of normal potassium hydroxide V. S. consumed by 4.601, and divide this product by the weight of the acid taken; the quotient represents the percentage of absolute formic acid in the latter.

## FUCUS.

FUCUS.

Kelp, Bladder Wrack.

The dried thallus of *Fucus vesiculosus* Linné (Fam. *Fucaceae*).

Sometimes a meter in length, but usually in shorter pieces, from 1 to 4 cm. in width, dichotomously branched, black, usually with a slight whitish incrustation, flat, smooth, entire-margined, having a stout midrib throughout, along which are irregularly disposed pairs of air-vescicles which vary in size from that of a pea to that of a hazelnut; receptacles

terminal, compressed, mostly ovate or elliptical and about 1 cm. in length, but varying from spherical and 5 mm in diameter to linear-lanceolate and 5 cm. long, forked, solitary, or in pairs; odor strongly briny; taste saline and nauseous.

Upon incineration Fucus yields about 19 per cent of ash.

## GALANGAL.

### Lesser or Small Galangal.

The dried rhizome of *Alpinia officinarum*, Hance (Fam. *Zingiberaceae*).

Irregularly branched, from 2 to 10 Cm. in length and 1 to 2 Cm. thick, the branches thinner toward the base; reddish or rusty brown externally, and of a lighter orange-brown internally, marked with the fine annuli of the leaf bases, which are from 3 to 10 mm. apart and of lighter color than the general surface; cut ends of the branches circular, with recurved margin; fracture very fibrous; odor aromatic and agreeable; taste hot and spicy and much resembling ginger.

Upon incineration Galangal yields about 9 per cent of ash.

## GUAIACI LIGNUM.

### Guaiac Wood.

The heart wood of *Guaiacum Officinale* (Linné) or of *Guaiacum Sanctum* (Linné) (Fam. *Zygophyllaceae*).

Usually in the form of shavings, chips or raspings which should be of a greenish-brown color, heavier than water, entirely free from adhering bark and containing few chips or shavings of a whitish color (absence of sap wood). Almost odorless except when heated. Taste bitter and acrid when chewed for some time.

If powdered Guaiac wood be placed in a salt solution consisting of one part of salt to three of water, the blackish brown part only will sink; this should far exceed the other. If 10 c. c. of alcohol be shaken with 0.5 Gm. of guaiac wood for a few seconds and filtered the filtrate gives with one drop of a ten per cent. solution of ferric chloride a deep blue color.

Guaiac wood should yield not less than 15 per cent of soluble matter to alcohol and on incineration should leave about 3 per cent of ash.

## HELONIAS.

### False Unicorn Root.

The dried rhizome and roots of *Chamaelirium carolinianum*, Willd. (Syn. *Helonias dioica* Pursh). (Fam. *Liliaceae*).

Rhizome upright, or oblique, nearly cylindrical, from 0.5 to 3 cm. long, about 1 cm. in diameter; externally greyish brown, annulate from scars of bud-scales, upper portion with leaf bases enclosing a small bud, oblique rhizomes with a few stems scars 0.5 mm. in diameter, lower portion with numerous whitish or pale yellowish nearly straight or slightly curved wiry roots, from 5 to 8 cm. long; fracture hard and horny; internally greyish yellow, cortex 3 to 4 mm. thick, central cylinder with three or four circles of small, nearly circular fibrovascular bundles; odor distinct; taste bitter, slightly astringent.

The parenchyma cells contain numerous spherical or ellipsoidal starch grains, varying from 2 to 10 microns in diameter. Numerous raphides are found varying from 25 to 35 microns in diameter. The fibrovascular bundles vary from 20 to 30 microns in diameter, the tracheae being at the periphery and the walls marked either with annular or reticulate thickenings or simple pores. In the root, the cortex is always attached and there are usually 6 mestome strands.

Upon incineration Helonias yields about 5 per cent of ash.

## IGNATIA.

### IGNATIA.

### St. Ignatius Bean. Ignatia Amara.

The dried seed of *Strychnos Ignatii* Bergius. (Fam. *Loganiaceae*).

About 20 to 30 mm. long, by 15 mm. broad and thick; angularly ovate with obtuse angles; externally grayish or reddish black and nearly smooth; heavy, hard and horn like, with a granular fracture and translucent in small fragments; having a small, irregular cavity in the center; nearly inodorous and intensely bitter.

Upon incineration Ignatia yields about 4 per cent of ash.

When assayed by the following process, Ignatia should contain not less than 2.5 per cent of mixed alkaloids (strychnine and brucine).

ASSAY OF IGNATIA.

Ignatia in No. 60 powder.....10 Gm.
Chloroform
Ether
Alcohol
Normal Sulphuric Acid V. S.
Ammonia Water
Distilled Water
Each a sufficient quantity.

Into a 250 Cc. Erlenmeyer flask introduce the Ignatia, add 100 Cc. Ether, 40 Cc. Chloroform and 10 Cc. Alcohol and stopper the flask tightly and agitate thoroughly; then add 5 Cc. Ammonia Water and macerate with the flask closely stoppered and with frequent agitation for 12 hours. Then transfer the contents of the flask to a small percolator which has been provided with a pledget of purified cotton packed firmly in the neck and the outlet inserted in a separater containing 15 Cc. of normal sulphuric acid V. S.. When the liquid has passed through the cotton, pack the Ignatia firmly in the percolator with the aid of a glass rod and wash the flask with four portions (5c. each) of a mixture of chloroform 1 volume, ether 3 volumes and pass this through the drug in the percolator. Next stopper the separator and shake well for 2 minutes; allow the liquid to separate and draw off the acid liquid into another separator. Repeat the shaking out with successive portions of 5 Cc. and 3 Cc. of normal sulphuric acid V. S. and collect the acid washings in another separator. If a drop of the last acid solution yields a precipitate with mercuric potassium iodide T. S., repeat the shaking with another portion of 3 Cc. normal sulphuric acid V. S. To the combined acid solution in the second 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 tared beaker or flask and repeat the shaking out of the alkaline liquid with two successive portions of 15 Cc. each of chloroform; mix the chloroform solutions and evaporate the solvent and heat on a waterbath to a constant weight and subtract from this the weight of the tared vessel and multiply the remainder by 10, which will give the percentage of total alkaloids in the Ignatia. (To be continued.)

## Pharmaceutical Formulas

### PROPOSED FOR A. PH. A. RECIPE BOOK.

*Committee*:

M. I. WILBERT.....Washington, D. C
FRANKLIN M. APPLE.....Philadelphia, Pa.
THEO. D. WETTERSTROEM.....Cincinnati, O.
JAMES M. GOOD.....St. Louis, Mo.
OTTO RAUBENHEIMER, Brooklyn, N. Y., *Chm.*

The Committee on the A. Ph. A. Recipe Book, after due consideration, presented the following report to the Council and at the Boston meeting:

"1*Advisability of Publication*:

There is great need of an authentic collection of reliable formulas of non-official galenical preparations, etc., in the United States and our A. Ph. A. is the proper body to publish such a book, just as our sister associations in Great Britain, Germany, etc., have already done.

2. *Scope and Character*:

The Recipe Book should be progressive and helpful and should include formulas for things which are used and useful and should be divided ino several parts,

a. Formulas deleted from U. S. P. & N. F.

b. Formulas of foreign pharmacopœias and formularies, which are often prescribed or for which the retail pharmacist could make propaganda efforts.

c. Various other formulas, often named after their originators, scattered at present in pharmaceutical and medical journals, books and proceedings and also hospital formularies.

d. Toilet articles, cosmetics, and perfumery.

e. Technical Receipts as battery fluids, photographic solutions, cleansing fluids, insecticides, etc.

f. Agricultural preparations, veterinary remedies, poultry foods and medicines, etc.

g. Soda water, beverages, syrups, etc.

3. *Plans and Details of Publication*:

It is not necessary to publish the Recipe Book hurriedly. We recommend that the department on pharmaceutical formulas in the new JOURNAL OF THE A. PH. A. should first print these formulas before their publication in book form. They cvould furthermore be