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ANALYSIS OF THE ROOT OF STILLINGIA SYLVATICA.

By WILLIAM BICHY, PH.G.

Abstract from a Thesis.

Moisture.—Two grams of powdered stillingia root were placed in a weighed porcelain crucible, and dried in a current of air at 110°C. until it ceased to lose weight. Loss, 0.31 Gm., or 15.5 per cent.

Ash.—5 Gm. of the drug were ignited at a low red heat, in a suitable vessel, until all carbon was consumed, yielding 0.25 Gm. of ash, equivalent to 5 per cent., of which 0.051 was soluble in water, 0.101 in hydrochloric acid, 0.027 in sodium hydrate, and 0.071 was insoluble.

Benzol Extract.—20 Gm. of the drug, in No. 80 powder, were moistened, placed in a percolator, and completely exhausted with benzol. The combined percolate measured 150 cc., and yielded 1.0 Gm. of extract, equivalent to 5 per cent. The extract was soft, of a reddish yellow color, and consisted of resin, fixed oil, volatile oil, and coloring matter. Water dissolved 0.15 Gm. of the extract, alcohol 0.55 Gm. (also soluble in ether and carbon disulphide), and 0.3 Gm. was insoluble in water and alcohol. The solution of the extract in water, tested for alkaloids by phosphomolybdic acid, platonic chloride and other reagents gave negative results; and when boiled with HCl, neutralized with KHO, gave negative results with Fehling's solution as a test for glucosides.

Alcohol Extract.—The stillingia treated with benzol was dried at a moderate heat and exhausted with 80 per cent. alcohol; the combined percolate measured 350 cc., and yielded 4.396 Gm. of extract, equivalent to 21.98 per cent. The extract was treated with water, and the tannin estimated with a freshly prepared solution of gelatin and alum. The precipitate weighed 5.16 Gm.; estimating 45 per cent. of this as tannin, a net result of 11.61 per cent. is shown. This tannin produced a green color with iron salts, and white precipitates with solutions of tartar emetic and morphine.

The filtrate recovered from the tannin estimate was acidulated with H₂SO₄, mixed with an equal volume of alcohol, filtered, evaporated free of all alcohol, and The acid solution tested for alkaloids and glucosides, with results showing the latter to be absent. With phosphomolybdic acid, solution of platonic chloride and Mayer's solution precipitates were obtained. The remaining acid solution was then carefully neutralized with ammonia, and the resulting precipitate treated with 95 per cent. alcohol, which upon evaporation yielded an amorphous powder. After several

unsuccessful trials to obtain an additional amount of the alkaloid the following plan was devised: The powdered drug was mixed with one-third of its weight of slaked lime and dried; the mixture was treated with alcohol until exhausted ; dilute sulphuric acid was added, the liquid filtered, evaporated free from alcohol, and on neutralizing the acid solution the alkaloid was obtained. When heated it was entirely volatilized; treated with KHO, ammonia evolved; with H₂SO₄ it combines to form a sulphate, which was obtained in fine scale-like crystals. For this alkaloid I propose the name of *Stillingine*.

Cold Water Extract.—The drug, after the alcohol treatment, was macerated and percolated with cold water until exhausted; the percolate was of a straw-yellow color, yielded an extract weighing 0.55 Gm.), or 2.75 per cent. It was found to be principally gum. Strong alcohol and solution of subacetate of lead produced copious precipitates.

Acid Extract.—After drying the residue of the foregoing operation it was found to weigh 10.648 Gm. It was mixed with 400 cc. of water and 10 cc. of H₂SO₄, boiled continually for eight hours, water being occasionally added to preserve the quantity. The liquid now contained all the starch of the root as glucose; it was thrown upon a filter, and thoroughly washed with warm water until the filtrate measured 800 cc. Fehling's solution showed the presence of 4.3243 Gm. of glucose, which was formed from 3.89187 Gm. of starch. The weight of the insoluble portion after drying was 5.902 Gm.; total acid extract, therefore, 4.746 Gm., and of acid extract, not starch, 0.86413 Gm., making the total acid extract 23.73 per cent.

Alkali Extract.—The above remainder was boiled for 3 hours in 200 cc. of a 10 per cent. solution of NaOH, filtered, and washed with water to remove all alkali; the residue after drying weighed 4.592 Gm., making the alkali extract 1.31 Gm. The insoluble residue consisted of crude fibre and ash; to obtain pure cellulose it was macerated for 24 hours in a solution of chlorinated soda, washed, dried, and now weighed 4.367 Gm. This contained 0.355 Gm. of ash, leaving for pure cellulose 4.012 Gm., or 20.06 per cent.

Volatile Principles.—100 Gm. of the finely powdered drug were placed in a retort, macerated for 48 hours with water and distilled; the distillate was neutral, of a straw-yellow color, and possessed a very strong, disagreeable odor. On the surface of this distillate oil was found weighing 3.25 Gm., equivalent to 3.25 per cent. The distillate was tested for alkaloids by the usual tests with negative results.

On summing up the result of the different operations the following is produced:

Moisture	15.50
Ash	5.00
Benzol extract (resin, fixed and volatile oil, coloring matter)	5.00
Alcoholic extract (tannin., alkaloid, resin)	21.98
Aqueous extract (gum)	2.75
Acid extract (starch)	23.73
Alkali extract (coloring matter)	6.55
Cellulose	20.06
Total	100.57

PRODUCTS OF THE MEZQUITE.

By HERMAN J. SCHUCHARD, PH.G.

Abstract from a Thesis.

On the hills surrounding San Antonio, Texas, the *Algarobia glandulosa*, Torrey and Gray (s. *Prosopis juliflora*, De Cand.), is a thorny shrub, branching directly at or a few feet above the ground; but on rich soil and under favorable conditions it becomes a tree 30 to 40 feet high. The legumes, which are somewhat constricted between the seeds, ripen in July and August, and are then yellowish white, mottled with red, four to six inches long, and contain 10 to 20 seeds. In the unripe state they are bitter, but at maturity have a sweet, pleasant taste, and have been sold by the bushel when grain was scarce in the "Alamo City." The Mexicans and Indians prepare a favorite dish from mezquite beans; after the seeds have been picked out, the pulp is ground into a coarse meal, well seasoned with "chile" (capsicum), wrapped in corn husks and boiled. The roots of the mezquite spread sideways for many yards, but others are said to dip into the ground sometimes 50 feet, thereby enabling the shrub to thrive during the hot and dry season. The wood of the mezquite is very hard, and takes a fine polish, but is usually too crooked and knotted to be used for cabinet work. It is brought to the San Antonio market by the Mexican "carrettas" and sold for fuel, for which it is unsurpassed; it is also used in fencing, and blocks of the wood have been employed to a small extent for paving sidewalks in San Antonio.

During the summer months a gum exudes from the stem and branches, which was brought into notice by Dr. Shumard, U. S. A., in 1854, and described by Prof. Procter (see "Amer. Jour. Phar.," 1855, pp. 14 and 223). The gum dissolves completely in an equal weight of water, in 24 hours, at a temperature of about 70°F., and forms a thick mucilage, of an acid reaction, which is not precipitated by subacetate of lead, or thickened to a jelly by silicates, borates or ferric salts, but which, after acidulation with hydrochloric acid and the addition of alcohol, yields a white precipitate. The gum contains 12.6 per cent. of moisture, and on ignition leaves 2 per cent. of ash; this yields to water 26.229 per cent., containing potassium and a small amount of sodium, while hydrochloric acid dissolves 73.442 per cent., containing mainly calcium (about one-half the weight of ash), with small amounts of magnesium and aluminium. The gum is free from starch, and by boiling with hydrochloric acid is converted into glucose.

Gum mezquite does not appear to be much used at present, as the price of gum arabic is low; it is applicable to all purposes like gum arabic, though the dark-colored varieties may be objectionable in some cases. In medicine it does not only answer as well as gum arabic, but may be used with advantage occasionally, since its solution can be combined with basic lead acetate and with ferric salts without being precipitated. No doubt in time gum mezquite will become a commercial article of some importance. It is generally assorted, according to its color, into four varieties or grades.

NOTE BY THE, EDITOR.—The Mexican Pharmacopoeia contains some interesting information on the mezquite, supplementing that given above. The name "mezquite"

is applied to *Prosopis dulcis*, Kunth; *P. microphylla*, Kunth, and *P. juliflora*, De Cand.; an extract is prepared from a decoction of the leaves, and this dissolved in water is known under the name of "bálsamo de mezquite," and used in various inflammations of the eye. The fruit is used as food, and by fermentation yields considerable alcohol; the colorless distillate has a peculiar odor, and when of from 50 to 60 per cent. strength is called "Vino de mezquite." The gum is stated to be commonly mixed with another gum, probably obtained from *Acacia albicans*, which has a much darker color, and the solution of which is darkened by potassa, while the solution of gum mezquite is rendered white by this reagent; the distinction was ascertained by A. Morales in his comparative studies of the Mexican gums.

PHARMACEUTICAL PREPARATIONS OF THE MEXICAN PHARMACOPOEIA. Part 4

BY THE EDITOR.

Tinturas, Tincturae. Among the tinctures which are rarely employed here, the following may be mentioned, which are made in the proportion of 1:5:

Menstruum 80 per cent. alcohol; the tinctures of euphorbium, and of all balsams, turpentine, gum resins and resins; also the tinctures of cloves, Winter's bark, fruit of Myroxylon, mace, nutmeg and contrayerva.

Menstruum 60 per cent. alcohol; the tinctures of arnica leaves, sabadilla, *Artemisia mexicana*, *Hydrocotyle asiatica*, cahinca, *Aristolochia fragrantissima*, Arris root, *Cissus tiliacea*, mustard and other seeds.

Tinture de raíz de Jalapa compuesta, Tinctura de radice jalapae composita.—Jalap 40, turpeth root 5, Aleppo scammony 40, alcohol (60 per cent.) 480; macerate for 10 days and filter.

Triaca, Theriaca.—Powder the following substances: Gentian 40, ginger 20, valerian 20, anise 20, cardamom 20, pepper 10, cinnamon 20, myrrh 10, saffron 10, opium 10, ferrous sulphate 10, mix these powders with moderately warm honey 720 and add Sherry wine 40. Contains approximately 1 per cent. of opium.

Uncion fuerte, Unguentum cum Cantharidibus.—Marshmallow ointment 200, nervine ointment 100, powdered cantharides 25, pepper 25, euphorbium 12; mix. As a vesicant in veterinary practice.

Ungüento amarillo (basilicon), Unguentum pallidum s. basilicum, Yellow Campeachy wax 500, mutton suet 500, colophony 1,000., sesame oil 800.

Ungüento bruno, Unguentum fuseum.—Mercuric oxide 20, burnt alum 10, basilicon ointment 150. Used as a detergent and for phagedenic chancres.

Ungüento contra escabia, Pomatum ad scabiem ex Alderete.—White wax 120, turpentine 250, lard 1,000, carbonate of lead 380, lemon juice 250, mercuric chloride 15, burnt alum 15, yolk of egg 6.

Ungüento de Altea, *Unguentum Althaeae*.—Yellow Campeachy wax 500, colophony 500, oleoinfusion of fenugreek 900.

Ungüento de Agripa, *Unguentum ex Agripa*.—Take of squill, dry, 125, and the following drugs in the fresh state: leaves of *Sambucus mexicana* 500, root of *Bryonia variegata*, 250 and root of *Iris germanica* 250, add sesame oil 2,000, boil gently until all the moisture has been expelled, express, strain, add for every 500 gm. of liquid 125 gm. of white wax and melt together.

Ungüento de Artánita compuesto, *Unguentum Arthanitae compositum*.—Melt together white wax 150 and lard 2,500, add the following in fine powder: scammony 30, jalap 30, colocynth 30, aloes 30, sodium chloride 15, euphorbium 15, myrrh 15, pepper 15, ginger 15 and chamomile 15; agitate the mixture continually while cooling. *Radix Arthanitae* is the tuber of *Cyclamen europaeum*, which is not used in the foregoing formula, nor in that published by Hager in "Phar. Praxis I," 934; it was, however, formerly used in such an ointment, for a formula of which see "Jourdan, Pharmacopée univ." (1828) I, 445.

Ungüento de Isis, *Unguentum cum Acetate cuprico*.—Yellow Campeachy wax 750, colophony 1,000, turpentine 250, lard 1,000, finely powdered verdigris and burnt alum, of each 80.

Ungüento de Mercurio doble, *Unguentum Hydrargyri*.—Melt together white wax 60 and lard 400; of this mix 100 parts with sweet gum (liquidambar) 40, and triturate with mercury 500, until completely extinguished; then incorporate with the remainder of the fatty mixture.

Ungüento de Osorio, *Unguentum ex Osorio*.—Suet 500, lard 1,000, strained sweet gum 120, oil of lavender 25.

Ungüento de todos Sebos, *Unguentum Seborum*.—Mutton suet 125, lead plaster 15, lard 500.

Ungüento del Corazon, *Unguentum cordiale*.—Finely powdered red saunders 30, compound rose powder 12, camphor 4, lard 500.

Ungüento de la Condesa, *Unguentum Comtissae*.—Melt in a suitable vessel lard 600 gm., add 30 gm. each of finely powdered nutgalls, cypress cones, pomegranate bark and arrayan leaves and stir continually while cooling.

Ungüento encarnativo, *Unguentum cum Oxydo plumbico rubro*.—Red lead 60, lard 500.

Ungüento nervino, *Unguentum nervinum*.—Fresh rosemary and laurel leaves, each 250, lard 875, suet 386; digest until the leaves have become crisp, add yellow wax 98, express, strain and mix with oil of bricks (rapeseed or olive oil distilled from broken bricks), oil of rosemary and oil of juniper, each 15.

Ungüento santo, *Unguentum cum Oxydo zincico et Subacetate cuprico*.—Prepared tutty 30, verdigris 8, lard 500.

Vino cordial, *Vinum cordiale*.—Tincture of cinnamon 10, red wine 90.

Vino de Catecú, *Vinum cum Catechu*.—Tincture of catechu 80, Sherry wine 1,000.

Vino de Escila, *Vinum scilliticum*.—Squill 30, sugar 15, alcohol (60 per cent.) 30, Sherry wine 470 ; macerate for 10 days, express and filter.

The wines of rhubarb and of the root and seeds of colchicum are made in the same manner.

Vino de extracto de Quina y Fosfato férrico-citro-amoniaco del Dr. Hidalgo Carpio, *Vinum cum extracto Cinchonae et Phosphate ferrico-citro-ammoniaco ex Hidalgo Carpio*.—Citro-ammonio-ferric phosphate 8, extract of gray cinchona 2, Sherry wine 600.

Vino de Quina Calisaya, *Vinum de Cortice Cinchonae Calisayae*.—Calisaya bark 30, alcohol (60 per cent.) 60; macerate for 24 hours, add sugar 30 and Sherry wine 940, and after 10 days maceration express and filter.

In the same manner, but doubling the proportion of the drugs, are prepared the wines of red and gray cinchona, colombo, quassia, gentian, *Artemisia mexicana*, coca and jaborandi.

Vino de Yoloxochitl, *Vinum de floribus Magnoliae mexicanae*.—Tincture of magnolia flowers 100, Sherry wine 900.

Vino de Zarzaparrilla, *Vinum cum extracto Smilacis medicae*.—Alcoholic extract of sarsaparilla 120, alcohol (60 per cent.) 60, Sherry wine 700, clarified honey 120.

Vino ferruginoso, *Vinum martiatum*.—Ammonio-ferric citrate 5, sugar 30, Sherry wine 1,000.

We have given in several numbers of the JOURNAL under the title of this paper all the formulas of the Mexican Pharmacopoeia, which appear to us to be unique; in addition to these a large number have been admitted which are identical with those of the present or former French Codex.

MATERIA MEDICA OF THE NEW MEXICAN PHARMACOPOEIA. Part 7

BY THE EDITOR.

Chile (Chili). The different species of Capsicum, growing wild or cultivated in Mexico, and used medicinally or for condiment, are the following: **pasilla**, *C. longum*, De Cand.; **ancho**, *C. cordiforme*, Mill.; **mulato**, and in the unripe state **poblano**, probably a variety of the preceding; **valenciano**, *C. dulce*, Hort.; **tzincuyo**, *C. violaceum*, H. B.

K.; **quanchilli**, *C. frutescens?*; **chiltipiquin de Papantla**, *C. annuum*, Lin., and **chilticpin de Jalisco**, *C. microcarpum*, DeCand.

Chilillo, *Polygonum Hydropiper*, Lin., is used in baths against rheumatism, and internally in the form of infusion, as a diuretic. *Pol. aviculare*, *hydropiperoides* and other species are said to be frequently substituted for the former.

Chirimoyo, *Anona Cherimolia*, Miller; Anonaceae; in warm and damp regions. The fruit is nutritious. The seeds, slightly roasted, are violently emeto-cathartic in doses of one to twelve, and are too dangerous for medicinal use; externally they are insecticide. Garza Cortina of Mexico (1872) found the seeds to contain sugar, gum, albumin, extractive, salts, fixed oil and an acrid resin soluble in alcohol, ether and chloroform and representing the active principle.

Chochos, *Lupinus albus*, Lin.; Leguminosae; cultivated. The seeds were formerly used as an aphrodisiac and vermifuge; the decoction is employed in the form of injection in external otitis; also as a discutient.

Damar (dammar), **Datil** (dates), **Díctamo blanco** (*Dictamnus albus*), **Díctamo de Creta** (*Origanum Dictamnus*), **Digital**, **Duboisia**, **Dulcamara**, **Eléboro blanco** (*Veratrum album*), **Eléboro negro** (*Helleborus niger*), **Eléboro verde** (*Hell. viridis*), **Encina de mar** (*Fucus vesiculosus*), **Enebro comun** (Juniper berries), **Eneldo** (dill), **Enula** (elecampane), **Escamonéa** (scammony), **Escila** (squill), **Escordio** (*Teucrium Scordium*), **Espárrago** (asparagus roots and shoots), **Esperma** (spermaceti), **Esponja** (sponge), **Estafisagra** (stavesacre), and **Eucalipto** (*Eucalyptus globulus*), are foreign drugs admitted into the Mexican Pharmacopoeia. The eucalyptus, asparagus, dill and a few others are cultivated in Mexico.

Damiana, *Aplopappus discoideus*, ff. B. K.; Compositae; in the valley of Mexico, etc. Used in baths against rheumatism. The plant does not possess any aphrodisiac properties which have been claimed for it.

Díctamo real, *Passiflora Dictamus*, Fl. Mex. ined. and *P. mexicana*, Jussieu; Passifloraceae; in the State of Morelos and other hot districts. The former species has simple two-lobed leaves, the lobes oblong and three-nerved, the base subemarginate, the peduncles one-flowered and the tendrils simple. The second species has the base of the leaves rounded, their lower side glandular and the petioles shorter. The leaves and stems are used in decoction in bronchial and pulmonary affections. The leaves of the "granadita de China," *Pass. caerulea*, Lin. probably have similar properties; the fruit is used for food, and the root is said to be emetic. *Marrubium Pseudodictamnus* Lin. is also known in Mexico by the name of **díctamo**.

Diente de leon, *Taraxacum mexicanum*, De Cand.; Compositae.; in Mexico. The root and leaves contain a milk juice, without particular odor, bitter, somewhat sweet and slightly acid. The root is blackish externally and white internally. The leaves are radical, rosulate, and irregularly and triangularly lobulate. The constituents are probably analogous to those of *Taraxacum officinalis*. The root is employed as a substitute for chicory.

Doradilla, *Lycopodium nidiforme*, Nor. Mex. ined., Lycopodiaceae; in the valley of Mexico. The decoction is employed in biliar lithiasis, and as a sedative in hepatic colics.

Durazno, *Persica vulgaris* De Cand.; Rosaceae; cultivated in Mexico. A syrup is prepared from the flowers, which, like the leaves contain hydrocyanic acid, the latter being sometimes used as a substitute for cherry laurel leaves. The seeds are incorrectly called bitter almonds. The fermented pulp of the fruit produces an agreeable alcohol.

Ecapatli, *Cassia occidentalis*, Lin.; Leguminosae; in the State of Mexico. The leaves are believed to have the properties of senna leaves.

Encina, *Quercus polymorpha*, Schlechtendal, *Q. barbinervis*, Bentham, *Q. tomentosa*, Willdenow, and other species are used, the bark being astringent; the fruit, called **bellota**, is roasted like coffee.

Epazote, *Chenopodium ambrosioides*, Lin.; indigenous. The entire plant is used as a condiment, and medicinally as an anthelmintic, emmenagogue and in chorea; an infusion is made of 20 Gm. to the liter.

Escila del pais, *Panocratium illyricum*, Lin.; Amaryllidaceae; cultivated in Xochimilco, etc. The bulbs are 45 to 60 Mm. thick, napiform, scaly, externally reddish-brown, internally whitish; have a slightly nauseous odor, and a sweet, afterward bitter taste, and possess diuretic and hyposthenic properties. Dose 0.10 to 0.20 Gm.

Escoba amarga, probably *Milleria linearifolia*, Compositae. The plant is common in the valley of Mexico and flowers in September. Stem herbaceous, almost filiform; leaves alternate, sessile, linear; involucre of 3 to 5 bracts; receptacle not chaffy; ligulate florets pistillate; tubular florets staminate; akenes smooth and compressed. Bitter, tonic; dose 4 to 8 Gm. in infusion. The different species of *Milleria* have opposite leaves.

Escorzonera de México, *Pinaropappus roseus*, Lessing; Compositae; in the valley of Mexico. An infusion of the plant is used in diarrheas.

Espinosilla, *Hoitzia (Loeselia, Don) coccinea*, Cavanilles; Polemoniaceae; in the valley of Mexico, etc. Dr. Oliva found the plant to contain greenish-brown resin, tannin, gallic acid, bitter extractive and salts. The infusion is diuretic and diaphoretic, and in larger doses, emetocathartic.

Esponjilla, probably *Luffa purgans*, Kunth; Cucurbitaceae; in the State of Guerrero. The aqueous infusion of the fruit has a very bitter taste and drastic properties.

Estafiate, *Artemisia mexicana*, De Cand.; Compositae; near the capital and in the valley of Toluca. Leaves on the upper side dark green, on the lower side ash colored, strongly aromatic, bitter, and of a warm taste, amplexicaul, quinque-pinnatisect, pubescent, the lobules trisected and the final divisions linear. In Oliva's Farmacologia the plant is named *Art. laciniata*, which is cultivated in Guadalajara. Rio de la Loza

obtained from the plant a blackish-gray extractive, bitter nitrogenated and bitter resinous principle, yellow volatile oil, starch, salts, etc. Alcohol and water take up the medicinal principles. The plant is tonic, stimulant, emmenagogue and anthelmintic. Dose 2 to 4 Gm. in powder; 4 to 15 Gm. in infusion; 1 to 4 Gm. of the extract; 1 to 6 drops of the volatile oil; the latter is generally used externally, mixed with a fixed oil.

Flor de encino de Puebla is the name given to the staminate catkins of the different species of quercus, which are reputed to possess antispasmodic properties.

Flor de noche-buena, *Euphorbia pulcherrima*, Willdenow; Euphorbiaceae; on the western slope of the Sierra Madre, and cultivated in gardens. The bracts are used; they are short-petioled, lanceolate, attenuate below, penninerved, entire on the margin, fresh of a blood-red color, and dark violet-red after drying. T. Artigas (Thesis, 1880) obtained resin, yellow and red coloring matters, tartaric acid, glucose, saccharose, gum, starch and salts. The decoction, made of 8 Gm. of the bracts and 500 Gm. of water, and taken in two portions during the day, is reputed to be galactophorous; is used as a fomentation in erysipelas, and in the form of cataplasm as a resolvent. The milkjuice is used as a depilatory.

Flor de San Juan, *Bouvardia longiflora*, Kunth; Rubiaceae; in the southern mountains of the Mexican valley. The flowers are used in perfumery.

Flor de Santiago, *Amaryllis formosissima*, Lin.; Amaryllidaceae; in the State of Puebla. The bulb is emetic.

Fresno, *Fraxinus viridis*, Michaux; Oleaceae Central Mexico. The root is popularly used as a diuretic, and the bark as a tonic and febrifuge; the juice of the leaves is similarly employed. The tree is indigenous to the greater portion of the North American continent from Canada westward to Dakota and Arizona.

The following well-known drugs have been admitted: **Fresa** (strawberry root and fruit), *Fumaria officinalis*, **Galanga**, **Gálbano**, **Gelsemio** (*Gels. sempervirens*), **Goma arábica**, **Goma elástica** (India rubber), **Goma guta** (gamboge), **Goma de Mezquite**, **Goma quino** (kino), **Goma del Senegal**, **Goma tragacanto**, **Gomo-resina amoniaco**, **Gomo-resina de euforbio**, **Gramma** (*Triticum repens*), **Granado** (root-bark, flowers, pericarp and fruit-juice of pomegranate), **Grasilla** (sandarac), **Guayacan** (guaiacum), **Haba** (bean), **Haba de Calabar**, **Haba tonca**, **Helecho macho** (male fern), **Hiel de toro** (ox gall), **Higos** (fig), **Higuerilla** (seeds of *Ricinus communis* for extracting the oil), **Hinojo** (fennel), **Huevo de gallina** (egg) and **Huitlacoche** (cornsmut).

GLEANNING IN MATERIA MEDICA BY THE EDITOR

Oranges as a galactagogue. A case is reported in the "N. C. Med. Jour." in which the eating of oranges proved beneficial in deficient milk secretion, causing a plentiful flow of milk.

Capparis coriacea, Burch, is a South African shrub, without spines and with oblong

obtuse and glabrous leaves. The fruit of a Chilian plant to which the same name is applied by Dr. Larrea y Quesada (*Boletin Medico*) is recommended in nervous complaints, hysteria, epilepsy, etc., the powder being given in wine in doses of about 45 Gm. taken twice a day.

Similar properties have long been attributed to *Capparis cynophallophora*, Lin., which is a shrub or small tree with very variable coriaceous leaves either orbicular, oblong or linear, and a linear silique-shaped fruit. This plant grows in the West India Islands and from Panama southward to Guayaquil and Bahia. The root of another West Indian shrub, *Capparis siliquosa*, Lin., now regarded as a variety of *C. jamaicensis*, Jacquin, has likewise been used as an anti-hysterical, but also as an aperitive and anthelmintic; its leaves are silvery tomentose or pale rusty beneath, glossy above, elliptic or lance-oblong in shape and pointed while the variety *emarginata* has obtuse or emarginate leaves. These and some other West Indian species are stated by Baillon to be acrid and even vesicant.

C. spinosa Lin., which yields the well known capers and is indigenous to the Mediterranean basin, is stimulant, antiscorbutic, diuretic. and aperient, and similar properties are ascribed to several Egyptian and East Indian species.

Andira inermis, Kunth. The bark of this West Indian tree is again recommended as an anthelmintic by Midy (*Nouv. Remèdes*.) For use an ounce of the bark is boiled in a quart of water until the decoction has become of a wine color, the average dose for an adult being two ounces. It should be administered in small doses gradually increased, the occurrence of nausea being regarded as proof that the maximum dose has been attained ; in overdoses it is said to be narcotic. The active principle is said to be a glucoside andirin.

This bark has been known and occasionally medicinally employed since the middle of the eighteenth century. Hüttenschmidt, (1824) isolated from it an alkaloid which was named jamaicine, but was by Gastell (1866) shown to be identical with berberine. The name andirin was given by Peckolt (*Archiv d. Phar.*, 1858, vol. 146, p. 38) to a brown-yellow coloring matter, which may perhaps be identical with berberine, and which was obtained from the wood of *Andira anthelmintica*, Bentham. In addition to this the wood contains a soft pungent and bitter resin, soluble in ether and alcohol, but insoluble in chloroform; this it seems has drastic and anthelmintic properties, and is also contained in the seeds, which are used in Brazil for their vermifuge properties under the name of *angelim amargosa*.

Evodia longifolia, nat. ord. Rutaceae, is a native of the Fiji Islands. The leaves are said to be useful as a preventive of abortion; they are steeped in the milk of the cocoanut, the infusion being taken for several weeks or months.

A Brazilian species *Evodia* (*Esenbeckia*, Martius) *febrifuga*, Saint Hilaire is astringent and tonic, the bark having been occasionally used in the place of angustura bark (see *Am. Jour. Phar.*, 1874, 50, 414); it is known in Brazil in different provinces as *quina, tres folhas vermelhas*, or *larangeira do matto*.

The bark of the Japanese *Evodia glauca* contains berberine (see *Am. Jour. Phar.*

1879, 26.)

Grindelia robusta, Nuttall, is recommended by Dr. Gatebell (*N. Y. Med. Times*) as a topical application in the treatment of stings and bites of insects. A lotion prepared with it is stated to stop the itching and promote the healing of the mosquito or flea bites.

SEMEN CEDRONIS.

By C. HARTWICH.

Several genera of the family Simarubaceae are distinguished by the large quantity they contain of intensely bitter substances, which, so far as is known, may be all identical with or nearly allied to the more exactly investigated quassiin. It is to the presence of these substances that is due almost exclusively the medicinal use of different parts of these plants, especially in former days, and which is still tolerably wide spread in the present time. For instance, the wood from *Picraena excelsa*, Lindl., and *Quassia amara*, L., are used, and the root bark of *Simaruba officinalis*, DC.,¹ and *S. medicinalis*, Endl. According to Fremi, the flowers also of the *Quassia amara* are in favor with the natives as a remedy against disorders of the stomach.² Further, Flückiger has referred to the high quassiin contents of the seeds of *Samadera indica*, Gaertn., without, however, mentioning any medicinal use of them. In Brazil the freshly pressed juice of *Simaruba versicolor*, S. Hil., is used as a remedy against skin parasites.³ Further in the same country the fruit of *Simaba Waldivia* enjoys a great reputation on account of its healing action.

To this latter genus belongs also the *Simaba Cedron*, Plainch.,⁴ yielding the seeds that are the subject of the present note, which have long been known and formerly enjoyed an unmerited reputation, but afterwards fell, almost into oblivion. These seeds have again recently frequently appeared in commerce as a remedy in stomachic disorders. Their reputation in former times was due to the beneficial action attributed to them in fevers and snake-bites. In the latter respect it is even now believed in Costa Rica that they not only have a healing effect when taken by a bitten person, but it is said the exhalation from people who for a time drink a liqueur prepared from the seed or the bark acquires such an odor that poisonous snakes, insects and spiders are seared by it. But it is now recognized that an antidotal action against snake-bite does not exist in the seeds, whilst their antifebrile properties appear also very problematic. Du Coignard observed that the Indians of New Granada used 95 grains of the seed with effect during the cold shiverings, and he himself obtained results with them where quinine had failed, but he confesses that the activity of the seeds was not uniform. Other observers could recognize no action at all. Whether, as has recently been affirmed, the drug is a remedy against insanity, is probably also open to doubt.

The plant occurs in New Granada, especially along the Magdalena river. Polakowsky brought the seeds from Costa Rica, where the plant, according to his statement,

¹ The bark of this tree is used in British Guiana for tanning.

² "Pharmacognosie," 2d ed., p. 461.

³ "Jahresbericht," 1880, p. 35.

⁴ In Brazil the seed of *Simaba ferruginea*, St. Hil., is called "cedron" (*Amer. Jour. Phar.*, Feb., 1880).

grows in the hot lowlands of the coast district on the western side of the republic. He mentions also the statements of Scherzer and Wagner that it is frequent in the woods on the eastern side. It appears, however, to extend considerably further north, since seeds were exhibited in Berlin, in 1883, from Mexico.

The seeds have long been known; according to Lindley they were mentioned as far back as 1699. The tree was discovered in 1846, by Purdie, and described by Planchon. It attains a height of 6 metres, and the stem a diameter of 15 to 25 centimetres. The pinnate leaves are smooth, at least 60 centimetres long, consisting of at least twenty leaflets, and are alternate or opposite; the leaflets are sessile, 10 to 15 centimetres long, acuminate and penninerved. The common petiole is cylindrical, and terminated by an odd leaflet. The racemes are 60 centimetres long or more, densely crowded, strongly branched, covered with a short velvety reddish down. The calyx is small, cup-shaped, with five obtuse teeth, and an ochreous down. The corolla has six [according to Planchon five] spreading, pale brown petals, downy externally. Ten short stamens stand behind a similar number of scales, which approximate to form a tube. Carpels five; styles five, above the base, and longer than the stamens; one ovule in each carpel. The fruit is very large, one-seeded by reason of the abortion of the other carpels, berry-like, ovate, oblique at the top; the fleshy part of the fruit, which does not appear to be very soft, is enclosed in a horny endocarp. Seeds very large, suspended, covered with a membranous integument, with a very distinct chalaza; no endosperm; cotyledons very large, in the fresh condition fleshy and white.

Only the cotyledons are met with in commerce. They are 3 to 4 centimetres long, 1.5 to 2.5 centimetres broad, longish ovate, rounded on one side; on the other side, straight or even somewhat reniform, indented, ridged on the outer surface, smooth on the inner. At one end the cotyledons are notched in a peculiar manner, a fissure that begins nearly at the top of the ridged side running right and left for about 1 1/2 centimetres and separating two semicircular pieces of about 2 millimetres in diameter. To this notch corresponds a point on the inner flat side of the cotyledon, which, according to Vogl, is the residue of the radicle. In a transverse section are seen upon the convex side five or six faint vascular bundles; the remainder of the tissue, consists of uniform polyhedric cells, which appear to be pressed together and elongated tangentially. The contents consist of tolerably large roundish oval starch granules. In addition albumen can be detected, especially in a layer lying next the cell wall, and traces of fat.—*Phar. Jour. and Trans.*, Aug. 8, 1885, p. 127, from the *Archiv der Pharmacie*, cciii, 249.

WINE OF COCA IN FATIGUE.—Dr. E. R. Palmer contributes to the American Practitioner for February an account of a physiological experiment made during a walking-match, upon the effects of coca in sustaining the system under prolonged muscular effort. The subject was a young girl of seventeen years, who was a professional pedestrian, but who was much reduced in strength by poor food and too great reliance upon alcoholic stimulants. The effect of the coca in sustaining muscular vigor were very marked. About a pint of the wine of coca was consumed. The distance traveled was three hundred and fifty miles in seven days.—*Columbus Med. Jour.*, May, 1885.