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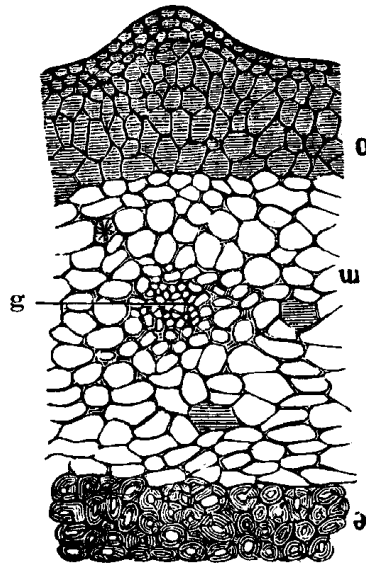
GLEANINGS IN MATERIA MEDICA.

By JOHN M. MAISCH.

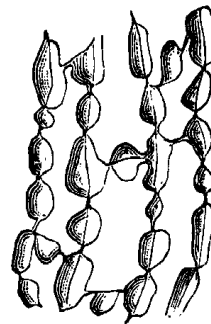
Sabal serrulata, Roemer et Schultes.—The dried fruit of the saw palmetto is described by J. Moeller as being oblong ovate, 10 to 15 mm. ($\frac{2}{5}$ to $\frac{3}{5}$ inch) long, 5 to 9 mm ($\frac{1}{5}$ to $\frac{1}{3}$ inch) broad, bluntly pointed at the base, externally blackish-brown, netted, wrinkled, weighing about .5 gm, inodorous and tasteless, and containing a shriveled seed. The pericarp is 1 mm. thick, and consists of three well-defined layers of nearly equal thickness: the blackish-brown resinous epicarp, the yellowish-green mesocarp, and the yellowish brittle endocarp, composed of sclerenchyma. Soaked in water, the mesocarp swells considerably, and somewhat less the epicarp. Both tissues are formed of thin walled cells; those of the latter are filled with a brown mass; those of the former colorless or brownish, and surrounding numerous fibrovascular bundles. The thin walled cells of the testa contain a red brown mass. The endosperm is hard and hornlike, swells rapidly in water, and consists of a peculiar parenchyma, which becomes gelatinous by potassa.



Fruit of saw palmetto,
natural size.



Transverse section; through *o*,
epicarp; *m*, mesocarp; *e*, endo-
carp; *g*, fibrovascular bundle;
magn., 125 diam.



Section through horny
endosperm; magn., 125
diam.

Iron salts color the contents of the cells of the epicarp blue, but scarcely affect those of the testa. The contents of the latter are soluble in alkalies; those of both tissues insoluble in water. The mesocarp contains sparingly groups of calcium oxalate

crystals, also remnants of protoplasm, which are also found in the endosperm. Starch is not present.—*Phar. Centralhalle*, 1883, No. 15. For an account of the uses of saw palmetto, see paper by Dr. J. B. Read, in *Am. Jour. Phar.*, 1879, p. 169.

Globularia Alypum.—Heckel and Schlagdenhauffen obtained from the leaves by extracting with carbon bisulphide 2.85 per cent. of extract, consisting chiefly of fat and chlorophyll. Ether took up 2.438 per cent., consisting of coloring matter, a little tannin, globularin, chlorophyll and cinnamic acid. Chloroform yielded 11.365 per cent. of extract, containing tannin, coloring matter, and principally globularin and cinnamic acid. Alcohol now took up 30.55 per cent. of extract, containing, in addition to the principles mentioned, also glucose and mannit. Globularin is amorphous; it is precipitated from its aqueous solutions by iodine, bromine and tannin, but not by metallic salts; mineral acids decompose it into glucose and a resinous body, globularetin. This is soluble in cold alkalies and reprecipitated by acids; but after boiling the alkaline solution, acids produce a crystalline precipitate of cinnamic acid. Globularetin C_9H_6O is an anhydride of cinnamic acid, $C_9H_8O_2$. Globularin, when boiled with potassa and potassium permanganate, yields benzoyl hydride; and the leaves, when distilled with a limited amount of sulphuric acid and potassium bichromate, furnish a certain quantity of oil of bitter almond.

The branches yield to the solvents mentioned above much smaller amounts of extract.

Globularia vulgaris contains the same constituents, but the leaves yield to carbon bisulphide 2.70, to ether 4.25, to chloroform 2.35, to alcohol 41.85, and to water 8.75 per cent. of extract. The volatile principle is present only in minute proportion.—*Jour. Phar. Chim.*, 1883, May, p. 361-366.

Nux Vomica.—W. R. Dunstan and F. W. Short have analyzed a number of authentic specimens of nux vomica with the following results:

- *First Series, 1877—Bombay Fine*.—Diameter, 20.25 to 25.5, average, 23.0 mm.; thickness, 4.0 mm.; circumference, 60.0-82.5, average, 70.0 mm.; edge generally acute; texture very silky; form nearly flat, fairly regular, few concavo-convex and bent; cotyledons 7-veined, 2 outer veins small; alkaloids, 3.46 per cent.
- *Bombay Ordinary*.—Diameter, 19.0-28.0, average, 23.0 mm.; thickness, 5.0 mm.; circumference, 60.0-82.5, average, 70.0 mm.; edge generally rounded, some acute; texture silky; form nearly flat, some irregular, few concavo-convex; cotyledons, 2 outer veins small; alkaloids, 3.14 per cent.
- *Cochin*.—Diameter like preceding; thickness, 4.0-6.0, average, 5.0 mm.; circumference, 57.79, average, 68 mm.; edge round, few acute; texture silky; form nearly flat, some concavo-convex, many irregular; cotyledons, 2 outer veins small; alkaloids, 3.04 per cent.
- *Madras*.—Diam., 12.5-23.0, average, 18.0 mm.; thickness, 4.0-5.0, average, 4.5 mm.; circumference, 38.0-71.0, average, 57.0 mm.; edge generally round, seldom acute; texture dull; form nearly flat, some slightly concavo-convex, some irregular;

cotyledons, 2 outer veins small, albumen resinous; alkaloids, 2.74 per cent.

- *Second Series, 1883—Bombay*, like Bombay fine, above, but largest diameter 28 mm.; average thickness, 3.5 mm.; average circumference, 73 mm.; cotyledons, 2 lateral veins small, and sometimes indistinct; alkaloids, 3.90 per cent.
- *Cochin*.—Like above, but average diameter 25 mm.; average thickness, 4-5 mm.; average circumference, 74 mm.; cotyledons, 2 lateral veins indistinct; alkaloids, 3.60 per cent.
- *Madras*.—Like above, but average diameter 19 mm.; average thickness, 4.75 mm.; largest circumference, 65 mm.; cotyledons, 2 lateral veins indistinct; alkaloids, 3.15 per cent.—*Phar. Jour. and Trans.*, June 23, 1883, p. 1055.

Constituents of Ericaceae.—Rich. Thal prepared *ericolin* from 300 pounds of the herb of *Ledum palustre* by boiling it in a still with water, precipitating with acetate and subacetate of lead, freeing the precipitate from lead, evaporating to an extract and exhausting this with spirit of ether. *Ericolin*, $C_{26}H_{30}O_3$, is inodorous, brown yellow, sticky, hygroscopic, strongly bitter, very soluble in alcohol and ether-alcohol, very sparingly soluble in ether, chloroform and benzin, and gradually decomposed when in contact with water, the odor of *ericinol* being developed, sugar dissolved, and a brown powder separated, which aggregates into a blackish-brown mass. This decomposition is rapidly effected by heating with dilute mineral acids and *ericinol*, $C_{20}H_{26}O$, by combining with water, is further converted into *hydroericinol*, $C_{10}H_{20}O_4$. The latter is a thick fluid, brown yellow, of a peculiar strong odor, and a balsamic, not bitter, taste; on keeping even in vacuo it becomes partly insoluble in ether.

Ericolin prepared from *Calluna vulgaris* differed somewhat from the preceding. By following the process given in outline above, and treating the ether-alcoholic extract with warm dilute sulphuric acid, the odor of *ericinol* was observed, and the presence of *ericolin* shown in *uva ursi* and 29 other *ericaceae*—namely, 6 species of *Erica*, 10 of *Rhododendron*, 3 of *Vaccinium*, 3 of *Azalea*, in *Gaultheria Shallon*, Pursh, *Clethra arborea*, *Eriodictyon glutinosum*, *Epigaea repens* and *Ledum latifolium*. The last two species and the *rhododendrons* gave the strongest odor of *ericinol*.

The lead precipitate mentioned above contains *leditannic acid*, $C_{15}H_{20}O_8$, which, in addition to the properties described by Willigk (1852) was found to have a distinctly acid reaction and acidulous astringent taste; it dissolves with difficulty in ether, more readily in acetic acid, and its aqueous solution precipitates cinchonine sulphate, dingy flesh-colored; lead acetate, light yellow; tartar emetic, brown; copper acetate, brown-black. Gelatin causes a copious precipitate, and silver nitrate is reduced. By dilute mineral acid it is split into water and *ledixanthin*, $C_{30}H_{34}O_{13}$; the latter is brown-red, sparingly soluble in water, and freely soluble in alcohol before drying.

The author prepared also *callutannic acid*, which resembles the above, but yields with gelatin only a turbidity. He instituted also comparative experiments with *pinipicrin*, and confirmed its close resemblance to *ericolin*, which had already been observed by Kawalier (1852), but could not prove the identity of the two compounds.—*Phar. Zeit. Russl.*, 1883, No. 14-18.

Oil of Angelica Root has been examined by Naudin. About one-half of the oil distils between 163° and 167°C., 25 per cent. between 167° and 330°C.; the remainder distils with difficulty, and the boiling point rises with each distillation. By fractional distillation in vacuo 75 per cent. of the oil is obtained as a colorless oil, which is not altered in the light, has a faint pepper-like odor, boils at 166°C., has the density .870 at 0°C., and rotates polarized light + 5° 39'. Heated to 100°C., the oil is not altered, but at 160°C. it gradually becomes thick. The author proposes to call it *βterebangelene*.—See also *Am. Jour. Phar.*, 1882, p. 159.—*Rundschau*, June 20, 1883; *Compt. Rend.*, 96, p. 1152.

Saponin, which was discovered by Schrader (1809) in the root of *Saponaria officinalis*, has been prepared by Dr. E. Stuetz from quillaia bark by boiling the aqueous extract with alcohol. The yield was 2 per cent. Saponin is a white amorphous powder, of neutral reaction, producing upon the tongue at first a mild impression without taste, followed by a slight astringency. It dissolves in water almost in all proportions, is soluble in aqueous alcohol and ether, but insoluble in absolute alcohol. Its formula is C₁₉H₃₀O₁₀, and contains five hydroxyl groups.—*Chem. Zeit.*, 1883, No. 49; *Liebig's Annal.*, vol. 218.

Viola tricolor var. arvensis.—Mandelin found in this plant a new coloring matter, *violaquercitrin*. The plant is exhausted with warm alcohol, the alcohol distilled off, and the residue treated with warm distilled water. On agitating this dark brown solution with benzin, for the purpose of obtaining the salicylic acid (see *Am. Jour. Phar.*, 1882, p. 10), a yellow crystalline mass is precipitated. After washing, the crystals are easily soluble in alkalis with a deep yellow color, and reprecipitated by acid. They are soluble in hot water, and crystallize again on cooling. Its composition is C₄₂H₄₂O₂₄. On being boiled with dilute Mineral acids, it is split into quercetin, C₂₄H₁₆O₁₁, and a fermentable sugar, C₆H₁₂O₆. The acid filtrate contains a third product of decomposition, which may be obtained by agitation with chloroform, and is characterized by its beautiful fluorescence when in alkaline solution.—*Phar. Zeit. Russl.*, 1883, p. 329-334.

The Preparation of Cod Oil at Swampscott, Mass., not far from Lynn, and near the head of a bay, between Nahant and Salam, is thus described in the *Edinburgh Medical Journal*, Feb., 1883.

It is a place called the "Rocks," where in winter the codfish come in shoals to spawn, and the striped bass sport themselves in summer. During the winter months, be the weather what it may, unless the wind be rising for a gale, a little after midnight men may be seen going about the village, stopping here and there at houses, rousing the fishermen, who, by and by, gather in group-, about the shore, each with his "dory," that well-known model of Yankee ingenuity which at the great Berlin fishery exhibition excited so much attention. The dories and their owners are soon aboard the various schooners in waiting, and by 5 A. M. the fleet is at the "Rocks," so when the daylight is sufficient, the dories anchor about their respective larger craft, each boat with its single occupant, who is soon hard at work robbing the sea of its life. About 3 P. M., the signal is given from the schooner to come aboard; the dories hasten to their floating castles, with pitchforks the various "catches" are soon thrown aboard, and

sail is made for home. During the passage the fish are gutted, the entrails cast into the sea, and the livers, some of them large enough to fill a quart mug, are put into baskets. When the shore is close at hand, the fish are again put into the dories; but the roughness of the sea is such, that these boats, when loaded, cannot land, and into the icy sea-water the horses are driven until the carts reach such a place that the codfish can be put into them, when off they go, to plod the night through for the early Boston market. The livers are immediately sorted over and the gall bladders carefully removed. The great luscious, flabby masses are thrown into a large oak tub; with this are connected steam pipes. When the receptacle is full and closed, low pressure steam is turned on, and for about two hours and a half cooking goes on. Then the plugs are taken out at the bottom, and the hot oil streams into buckets. It is now placed in butts in the cooling-room, and allowed to stay there until it freezes solid. So it is kept until opportunity offers, when it is put into canvas bags holding about four gallons each. These bags are then placed regularly upon a heavy oak table provided with outer grooves for conducting liquid, until twelve gallons are in a row. On this is laid a slab, then canvas bags, and so layer after layer, until about eighty gallons are piled up. A ton of pig iron is then placed upon the top slab of oak, and the oil begins to flow out. In about twelve hours dripping ceases, and the apparatus is taken apart. Inside the bags is found a yellowish butter-like mass, as hard as tallow, which is nearly pure stearin, with liver debris and fibers. This goes to the soap-makers, while the oil finds its way to the Massachusetts General Hospital and other places, where the superiority of the finest American oil over the Norwegian is recognized.—*Boston Med. and Surg. Jour.*

VARIETIES.

Poison of Ergot.—It seems, says “Nature,” to result from recent researches by A. W. Pehl, brought before the Russian Chemical Society, that the poisonous action of the ergot, the bad effects of which are so often witnessed in Russia, is due to putrefaction-poisons, true ptomaines, which appear during the decomposition of the albuinoids in flour. The ergot, that is the sclerotium of the small mushroom, “*Claviceps purpurea*,” has energetic peptic qualities, and thus would directly contribute to the formation of ptomaines in the flour.

Glycerin.—M. Desguin, of Anvers, has given glycerin internally in certain forms of skin disease with, it is said, marked success, especially in acne punctata and the furuncular diathesis. He commences with four drachms daily and gradually increases the dose. He states that the secretion of the cutaneous glands, which is thick and irritating in these diseases, becomes more liquid, and cutaneous irritation is notably lessened. During convalescence from scarlet fever, he believes that it facilitates desquamation.—*Buffalo Med. and Surg. Jour.*, May, 1883.

Condensed milk.—Dr. Richard Neale raises his voice in the “*Brit. Med. Jour.*,” March 24, 1883, against giving condensed milk to infants. “At times, given medicinally, it is of great value; but, as a food, it is unnatural, and sooner or later the infant must suffer if thus fed. I have in so many instances seen the fatal results of bringing up infants on the condensed milk, that I invariably warn patients against its continuous use. The most robust looking child thus fed has no vitality, and is frequently cut off by

an illness that, under other circumstances, would have proved very trivial." We can corroborate his experience.—*Med. and Surg. Rep.*, May 5, 1883.

Quassin and its uses.—Quassin is the active principle of quassia amara. It is amorphous or crystallized. Both forms produce the same effects; the former is preferable at a dose of 0.04 to 0.10 gm. a day; of the latter a dose above 0.02 gm. produces toxic effects. In a healthy man quassin produces during the first days a rapid increase of the appetite, a more complete digestion of aliments and a rapid development of strength. At a dose of 0.04 gm. before meals, it increases the alvine discharges, and therefore becomes useful in constipation caused by a feebleness of the muscular tunic of the intestines. This property is a precious one, for it permits, in many cases, to substitute the quassin for purgatives, which frequently render the constipation invincible, without speaking of the returns which most often are produced after their administration. At the same dose of 0.04 gm. before meals, quassin has been given to patients having three or four diarrheal discharges within twenty-four hours. After eight days of treatment the discharge became normal. Other experiments have proven that quassin has a most pronounced diuretic effect; that it increases the secretion of the salivary glands, of the fauces, of the kidneys, and also of the mammary glands. Quassin is a bitter tonic, aperient and stomachic. It must not be administered during the acute stages of diseases, but in the general debility, the atonic dyspepsia, the anorexia, the chlorosis, the spasmodic vomiting, the long and difficult convalescence, especially of fevers.—*Chicago Med. Jour.*, May, 1883; *Gazette des Hôpitaux*.

Guachama, a tree which grows in Venezuela, contains in its bark and several layers of its wood an active principle. Guachama belongs to apocynaceae. The extract ("Progrès Médical," March 24, 1881), which is of a sombre brown color and resinous, resembles curare, but it is slightly soluble in absolute alcohol, and insoluble in ether and chloroform. The principal difference between the action of curare and that of extract of guachama is that the latter, according to Scheffer ("Deutsche Medicinische Wochenschrift," No. 28, 1882), acts rapidly on the nerve centres, while the action of curare is slow. Schiffer found that in a case of spasmodic muscular contraction, the hypodermic injection of one-sixth of a grain of the solid extract resulted in slumber, at first slight, then deep, which lasted about three hours; circulation and respiration being normal. Reflex excitability was preserved during slumber. Guachama seems likely to be a valuable hypnotic, but further experiments are needed.—*Gaillard's Med. Jour.*, April 28, 1883.

Extract of Calabar Bean.—This medicament has been recommended as an heroic remedy in obstinate constipation. Recent experiments undertaken in the service of Prot Leyden, of Berlin ("Deutsche Medic. Woch."), demonstrate that this extract has a very rapid and sure action in atonic states of the intestine, characterized by flatulence, meteorism occurring just after meals, a sensation of weight in the epigastrium, habitual constipation, etc. The medicament was given in this form :

R Ext. calabar bean.....1 centigram.
 Glycerin.....30 grams.
M. S.—Ten drops, daily.

The patients are greatly relieved, but the benefit is rarely durable, and if the remedy

is continued for any length of time, toxic accidents are apt to supervene.—*Med. and Surg. Rep.*, May 5, 1883.

Pop-corn has been introduced to the materia medica by Dr. F. C. Wallace (“Medical and Surgical Reporter”) as a remedy for the vomiting of pregnancy. It is to be prepared in the usual way in a wire popper and sprinkled lightly with salt, and is to be eaten freely. He speaks from an experience of several cases in which it served a good purpose, and reports one in which accepted remedies had previously failed. Dr. E. J. Kemf, in the “Louisville Medical News,” speaking favorably of personal experience with it, says that Dr. F. A. Burrall called attention to it three years ago.—*Albany Med. Annals*, 1883, p. 108.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

The American Homeopathic Pharmacopoeia. Second Edition. Thoroughly revised and augmented by Joseph T. O'Connor, lately Professor in the New York Homeopathic Medical College. Compiled and published by Boericke & Tafel, New York, Philadelphia, Chicago. 1883. 8vo, pp. 511.

The work partakes less of the nature of a pharmacopoeia than it does of the dispensatories in use, with the physiological and therapeutical properties and uses omitted. There is scarcely an attempt made at describing the crude drugs, brief botanical descriptions of the plants and their habitat being substituted in place thereof. The few attempts at the characterization of the histological structure are made without a clear comprehension of the subject; thus it is said of black hellebore: “Imbedded in the pith, but not reaching its centre, are six to ten wedge-shaped bundles of wood fibre which radiate and extend into the substance of the bark.” The botanical terms are likewise frequently used erroneously or in an inexact manner. Levant wormseed, cina, is said to be frequently mixed with the scales of the calyx; the strobiles of hop, lupulus, are stated to bear rudimentary leaflets on a central irregular stalk, etc. The chemicals are somewhat better off than the vegetable drugs; but there appears to be little uniformity in the extent to which the processes, the physical characters and the chemical tests are referred to.

The chief interest for us in this work lies in the materia medica list and in the pharmaceutical processes. Of the latter we propose to speak in a future number. Regarding the former, we find that the drugs used in regular practice are likewise employed by homeopathic practitioners, and in addition thereto a large number, which are used in domestic practice, or which were formerly recognized and are now discarded by most pharmacopoeias, though from time to time one or the other is galvanized into a short-lived notoriety by an enthusiastic physician. A number of drugs in use in foreign countries and rarely seen here, have likewise found a place in this pharmacopoeia.

The drugs derived from the animal kingdom bear a striking resemblance to those generally employed about two centuries ago. The poisons from half a dozen or more reptiles and from some insects; the gall, liver and lungs of the fox, the saliva of the South American toad; the fresh hide with the hair on, of the Brazilian stag; fresh bedbugs, spiders, plant lice, etc., form a collection of remedies which may possibly possess some historical interest, but beyond this have no claim to be considered as

remedial agents. *Psorinum*, the pus from the itch pustule; *variolinum*, the contents of a ripe small-pox pustule and other similar substances have been retained in the present edition; but others which were honored with some notice in the first edition, have been omitted; among them such with suggestive names like buboinum, gonorrhin, syphilinum, etc.

The book is well gotten up, and will doubtless prove of interest to those who may seek an acquaintance with homeopathic materia medica and pharmacy.