



From the Botany of W.P. C. Smith

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RUBUS VILLOSUS.
(Blackberry.)

AMERICAN JOURNAL OF PHARMACY
Volume 53, #12, December, 1881

Botanical Medicine Monographs and Sundry

NOTE ON THE EARLY HISTORY OF CANADA BALSAM.

BY PROFESSOR FLÜCKIGER.

In the short article devoted to the above drug in my "Pharmakognosie des Pflanzenreiches," Berlin, 1881, p. 70, I availed myself of the opportunity of completing its history, being kindly assisted in my investigation by my friend, Dr. Charles Rice, of New York, as well as by Mr. Wm. Sounders, of London, Ontario. I am indebted to the latter for the following information, as met with in Boucher's "Histoire de la Nouvelle-France" dated October 8th, 1663, "de la Ville des Trois-Rivieres en la Nouvelle-France." The author states: "Il y a des sapins comme en France: toute la différence que j'y trouve c'est qu'à la plus part il y vient des bubons à l'écorce qui sont remplis d'une certaine gomme liquide qui est aromatique, dont on se sert pour les playes comme de baumes, An'a pas gueres moins de vertu." In English: There are pines or firs like those in France, except that they have little swellings in the bark, which are filled with a certain aromatic gum; this has been found as useful for wounds as the balsams. I need scarcely point out that similar swellings or resin ducts are also met with, in France, in the bark of *Abies pectinata*. See "Pharma-cographia" 2d edit., p. 615.

This is a very plain information, which, however, does not refer to the earlier period of the French settlement in Canada. I therefore tried to consult some earlier accounts of the French explorations in that country. I had not before me that of *Jacques Cartier*, of Saint-Malo, who in 1535 and 1541 paid a visit to Canada, and reached the place of the present city of Montreal. Cartier's journey was very-short, and his accounts too meagre as to be expected to contain any allusion to the Balsam under notice. A thorough exploration of Canada and the foundation of the colony was due, from A. D. 1601 to 1635, to *Samuel Champlain*, a very active and intelligent officer of the French navy. His accounts being not at my disposal I referred to those of *Marc Lescarbot*, who visited Canada in 1606, and wrote in 1612 the "Histoire de la Nouvelle-France,

contenant les navigations, découvertes et habitations faites par les Francois és Indes Occi-dentales et Nouvelle-France,” etc. There is a reprint of the original edition, published in 1866, at Paris, by *Edwin Tross*, 3 vols. In the third volume of this recent edition there occur the following statements :

Page 805 : The author mentions excellent bricks to have been made of Canadian clay, the bricks being used for constructing chimneys and furnaces, the latter intended for melting the *gum of pines* (“fondre la gomme de sapin”). This may as well refer to the solid resin of *Coniferæ*, yet at page 811 mention is made of the healing virtues of the resin, i. e., no doubt, the turpentine or balsam: “. . . Et sur le pro-pos de guerison il me souvient d'avoir ouï dire au Sieur de Poutrin-court qu'il avoit fait essay de la vertu de la gomme des Sapins de Port Royal.” And, still more explicit, page 820, Lescarbot says that the pines of Canada are very rich in gum, so that some of them die on account of its too large quantity. This gum he found to be as fine as that of Venice, and quite excellent in pharmacy. He furnished some churches in Paris with it, and was told that it made a very good incense, or, in his own words: “De bois exquis je n'y sache que le Cedre et le *Sassafras*, mats des Sapins et Pins, se pourra tirer un bon profit, parce qu'ils rendent de la gomme fort abondamment, et meurent bien sou vent de trop de graisse. Cette gomme est belle comme Térébenthine de Venise, et fort souveraine à la Pharmacie. J'en ay baillé à quelques églises de Paris pour incenser, laquelle a este trouvée fort bonne.”

Sassafras, it may be observed, is mentioned here, apparently, as a timber; it is now in Canada, as far as I know, rather bushy than a strong tree, which would be able to yield any timber wood. As to the perfume of the turpentine of Canada, as displayed in the churches of Paris, we may mention that Monsieur Lescarbot was not a naturalist, but an advocate.

RUBUS VILLOSUS,

BY CHESTER JOHNSON, PH.G.

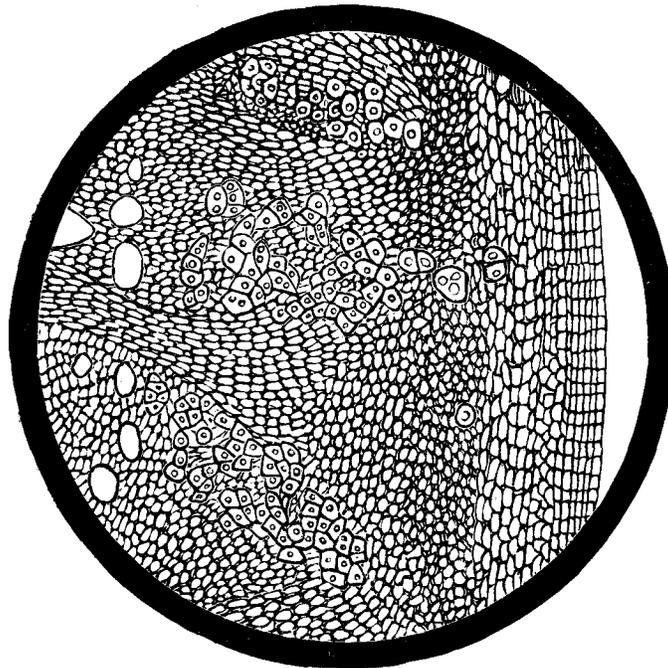
From an Inaugural Essay.

This plant belongs to the natural order of *Rosaceae*, and, though considered to be of little importance medicinally, it presents many

characteristics which cannot fail to be deeply interesting to the botanical student It is an upright, shrubby perennial, growing in rough pasture lands and thickets, throughout the eastern part of the United States from Maine to South Carolina, and it is universally known as *High Blackberry*.

Its flowers, consisting of five white rounded petals and numerous stamens, occur upon the irregularly branched stem in more or less elongated racemes, and produce, a, black multiple fruit, which ripens in August or September. The stem is longitudinally ridged, and armed with stout downward curved prickles.

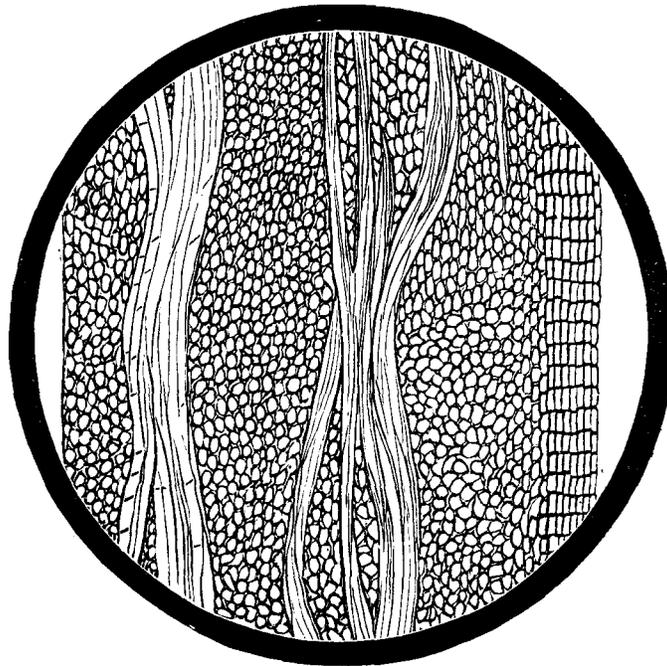
The leaves are slightly pubescent beneath, alternate and of a darkish green color; their general shape is ovate, with an acute apex and an unequally serrate margin. The prickles grow along the midrib and down the petiole, which is nearly the length of the leaf. All intermediate gradations are found between the single and the compound leaf of five leaflets., the five-divided being produced from the three-divided by lobes appearing upon the base, and becoming more deeply incised, so as to form a new set of leaflets.



RUBUS VILLOSUS. Bark of the root.
Transverse section, magnified 150 diameters.

The root varies from the one-eighth of an inch in diameter to the thickness of the little finger, and contains a tough, ligneous meditul-

lium. The bark, in which the virtues wholly reside, is of a gray-brown color externally, and of a darker brown in the intermediate-layer, and is slightly wrinkled. A longitudinal section of the bark shows the fibrous or bast tissue, which makes it very tough and strong, although it can be torn in the direction of the fibre with comparative ease. The cross section presents the medullary rays and the wedge-shaped bundles of bast tissue. The epi-phloem consists of about six or seven layers of tabular cells, and the medullium is quite porous from the numerous ducts. The bark is found in commerce-peeled from the inert woody portion.



RUBUS VILLOSUS. Bark of the root.
Longitudinal section, magnified 150 diameters.

Rubus villosus is also interesting from the fact that upon the leaves is found a minute fungus, to which Schweinitz gave the name *Æcidium nitens*, described in his "Synopsis Fungorum Carolina; Superioris" as growing upon the leaves, petioles and young branches of the entire genus. To the naked eye its appearance is that of an orange colored rust, but when magnified one hundred and fifty diameters it is found to consist of a large number of roundish granular bodies, which appear about the size of a pea, and are of a light orange or sometimes a deep crimson color. They are attached to the hairs, and are found more plentifully on the under surface of the leaves, these parts often becoming so thickly covered as to give to the plant an autumn tint or sunburnt appearance.

By cultivation *Rubus villosus* acquires the habits and appearance of an ornamental shrub, some of its numerous stamens becoming petals, and the flowers increasing in size; though by "trimming back" the new growing branches the amount and size of the fruit can be greatly increased.

Tannin is the principal constituent of the root bark. The leaves also contain this acid in a small amount, and the pleasant acidulous-taste of the fruit is due to the presence of citric and malic acids.

ON PHYTOLACCÆ RADIX.

By WILLIAM F. PAPE, PH.G.

From an Inaugural Essay

A quantity of the root was coarsely powdered and treated with benzol until the last of the percolate left no residue upon evaporation. This extract was allowed to evaporate spontaneously, treated with 80 per cent. alcohol, which removed coloring matter and a small amount of resin. The part insoluble in alcohol was a dark brown oil, which, upon being mixed with potassic hydrate and sodium chloride, formed a saponaceous mass; the oil dropped on paper left a permanent greasy stain. Benzol extracted about .8 per cent., of which .4 per cent. was oil.

The root, after treatment with benzol, was completely exhausted with 95 per cent. alcohol; this extract was concentrated by distilling off the greater portion of the alcohol, and, upon standing, deposited a considerable quantity of colorless crystals, which had a saline and cooling taste; the crystals obtained as pure as possible, heated on platinum foil, fused to a colorless liquid, and congealed again on cooling. They were neutral to litmus paper, dissolved freely in water, but only slightly in alcohol, imparted a violet color to the flame, and proved to be potassium nitrate.

The concentrated alcoholic extract has a sweetish, then acrid taste and an odor similar to that of conium leaves. This extract is of a dark reddish-brown color by transmitted light, and of a beautiful green by reflected light. It was carefully evaporated to dryness, treated with absolute alcohol, specific gravity .793, and filtered. The filtrate was evaporated to dryness, treated with water, filtered and the filtrate

precipitated by solution of subacetate of lead; the precipitate was collected on a filter and washed with water, then suspended in water and the lead removed by passing sulphuretted hydrogen gas into it and filtering, the filtrate was boiled to drive off sulphuretted hydrogen. This solution gave a blueish-black coloration with a solution of ferric chloride, and a whitish gelatinous precipitate with gelatin, showing the presence of tannin. The portion soluble in water, but not precipitated by solution of subacetate of lead, was freed from lead and tested for alkaloids and glucosides. By adding iodo-hydrargyrate of potassium to the solution a whitish precipitate formed, and upon adding a solution of iodine and iodide of potassium to another portion of the solution it gave a reddish precipitate; These tests indicate the presence of an alkaloid.

The extract insoluble in water was treated with diluted hydrochloric-acid, which removed such a small quantity that it could not be examined. The mass insoluble in diluted hydrochloric acid, when treated with diluted ammoniac hydrate, was entirely dissolved; hydrochloric acid added to this solution caused a precipitate, showing it to be an acid resin; it has a very acrid taste.

The portion insoluble in absolute alcohol was treated with water, in which it was entirely soluble. To this liquid a solution of subacetate of lead was added; the precipitate was collected on a filter,- washed and freed from lead. This solution consisted of some coloring and-extractive matter. The filtrate was freed from lead. and tested for alkaloids, glucosides and sugar, but none could be detected excepting sugar.

Alcohol added to a decoction of the root gave a jelly-like precipitate, showing the presence of gum. An aqueous solution of iodine-and iodide of potassium gave the reaction for starch.

On incineration, the root yielded 10.73 per cent. of ash, of which 66.35 was soluble in water, 24.96.per cent. soluble in hydrochloric add, and 6.71 per cent. consisting of silica, soluble in hot solution of sodic hydrate, the rest being sand. The ash contained potassium, calcium and iron, combined with chlorine, sulphuric and phosphoric-acids.

According to this analysis poke root contains the following organic-principles: Gum, starch, sugar, tannin, fixed oil, coloring matter, acid resin, and possibly an alkaloid,, the exact nature of which has not been ascertained.

PHYTOLACCÆ BACCÆ.

BY WALTER CRAMER, PH.G.

From an Inaugural Essay.

Phytolacca decandra is indigenous to North America, but perfectly naturalized in Southern Europe, and is known under the names of poke, garget, scoke and coakum.

The berries are about one-third inch in diameter, flattened globular in shape and consist of ten concentrically arranged carpels, each of which contains one black and glossy seed. The thin pericarp is of a blackish-purple color and contains a dark purplish-red juice. The berries are inodorous and have a disagreeable, mawkish and somewhat acrid taste. When dried on the stalk, they resemble raisins in their appearance and for this reason were called American raisins when introduced into Europe.

A proximate analysis of the berries was undertaken, having as its first object the ascertainment of the nature of the coloring matter. Several pounds of the fresh, ripe berries, freed from peduncles and pedicles, were subjected to pressure until entirely deprived of their purplish-red juice. To it a solution of acetate of lead was gradually added until all of the color was precipitated. The precipitate was collected on a filter and the filtrate, freed from the excess of lead, was found colorless as well as tasteless. It was evaporated to one-tenth of its bulk; on boiling it did not gelatinize, nor give a precipitate on the addition of alcohol; alkaloid tests gave no reaction, but Fehling's test proved it to contain considerable sugar.

The lead precipitate, after being well washed, was suspended in water and a stream of sulphuretted hydrogen passed through it. The sulphide of lead was collected on a filter, but the filtrate, which was expected to be a solution of all the dark-red coloring matter originally contained in the juice, was only of a very light red color. What became of the large quantity of color was and is a mystery. Certainly none of it adhered to the sulphide of lead, for this was well washed with hot water and then with alcohol and the washings were found colorless. In order to be more convincing, the same experiment was tried a second time, but with a

larger quantity of juice, and gave the same results—the red color disappeared under the experimenter's hands, but gave no clue to the direction of its exit.

Making, therefore, no further investigation in regard to the coloring matter, the filtrate—which had caused such sad disappointment—was evaporated to an extract; it was soluble in water; the solution, when boiled, did not gelatinize, but the addition of alcohol gave a precipitate which, when dissolved in a small quantity of water and evaporated, did not crystallize nor show any action with the alkaloid tests, and was therefore probably gum.

To the remainder of the extract ether was added, the mixture well stirred, the ethereal solution decanted and allowed to evaporate spontaneously, when, after twenty-four hours, some fine needle-like crystals were found on the bottom of the vessel. They gave an acid reaction with litmus and were of a strongly acid taste. They were dissolved in a small quantity of water and freed from the trace of coloring matter adhering to them by passing through animal charcoal. To the solution lime water was added and no precipitate formed; on the addition of alcohol to the mixture a white precipitate was formed, and this was taken as presumptive evidence that the crystals contain malic acid. In order to obtain positive proof, the precipitate, supposed to be malate of calcium, was dissolved in water and a few drops of solution of acetate of lead added; the precipitate thereby formed was collected on a filter, dried, and then boiled in a test tube with acetic acid. It was entirely soluble; and, on cooling, separated in small needle-like crystals, proving it to be malate of lead.

The washings of the lead precipitates were freed from lead and found to contain gum, sugar and a little coloring matter, and the washings of the sulphide of lead nothing.

The results of the analysis show that the juice of pokeberries contains gum, sugar, malic acid and a coloring matter which, on account of its susceptibility of change, makes a closer investigation difficult.

The cake left in the press, after all the juice and red color had been extracted from it, was dried, powdered and percolated with 90 per cent. alcohol. The tincture was of a green color and, on evaporation, the residue was found to consist of a dark-green resin, entirely insoluble in

water, and a yellow gummy matter, insoluble in alcohol but soluble in water. The two products were not further examined.

Five hundred grains of the fresh, ripe berries, freed from their pedicles, were set aside in a protected place at a temperature of about 70° to 75°F. After twenty days, they weighed 226 grains, after thirty-five days 176, when they were found to be air-dry, as they had lost no more in weight when tested ten days later. They were then powdered, dried quickly over a water-bath and weighed 150 grains, which proves the fresh, ripe berries to contain just 70 per cent. of moisture.

The amount of ash was ascertained to be 5 per cent. of the dry, powdered berries, 62 per cent. of the ash was soluble in water and contained a considerable amount of potassium.

The berries used in the the examinations were collected by the writer in the vicinity of Philadelphia in the last week of September.

THE CONSTITUENTS OF IRIS VERSICOLOR.

The following extracts have been made from a thesis by
WM. E. JENKS, Ph.G.

The recently collected rhizome of blue flag imparts a disagreeable nauseous acrid taste to water by decoction, and more decidedly to alcohol and ether. The acrimony as well as the medicinal virtues gradually diminish by age. The fleshy rhizome transversely sliced and dried in an atmosphere heated to 100°F., then pulverized and placed in darkened well-closed vessels excluded from light and air, will have its therapeutic properties unimpaired for a great length of time.

The oleoresin of blue flag is readily obtained by exhausting the rhizome in moderately fine powder with alcohol, sp. gr. .835, and distilling off the alcohol, the heat being carefully regulated towards the latter part of the operation. It is a dark reddish-brown liquid of a thick viscid consistence, and of a peculiar odor and acrid astringent taste. On treatment with ether and subsequent evaporation, it was comparatively free from astringency, more acrid and lighter in color.

The residue remaining after treatment with ether possessed a somewhat

saccharine taste, was readily soluble in water and, with Trammer's test, showed the presence of glucose.

The powder exhausted by alcohol was percolated with water, and yielded a transparent reddish-brown liquid having a very astringent and scarcely acrid taste. Ferric chloride produced a blue black color, and with gelatin solution a gelatinous precipitate was obtained. Alcohol yielded a voluminous precipitate of gum which was readily soluble in water, and in this solution gelatinized with ferric chloride. The presence of albuminous matter and, in the decoction, a starch was likewise proven.

The thesis of D. W. Cressler, Ph.G., treats of the chemical constituents of the rhizome; the following is a synopsis of his results:

After macerating five troyounces of the coarsely powdered blue flag with water and then distilling a minute quantity of volatile matter was obtained as a brownish viscid mass, by agitating the distillate with chloroform and evaporating the latter. The decoction left in the retort was found to contain sugar, gum, tannin and starch.

Sixteen troyounces of the drug were exhausted with 95 per cent. alcohol, the tincture was concentrated by distillation and then treated with water acidulated with acetic acid; the precipitate, after washing and drying, weighed 1,990 grains, or about 25 per cent. It was freely-soluble in ether, chloroform and hot solution of caustic soda, and from the latter reprecipitated by hydrochloric acid.

The acid filtrate, after concentration, gave evidences of the presence of an alkaloid on testing with potassium iodo-hydrargyrate and solution of iodine in potassium iodide. On shaking the acid liquid with ether and evaporating the latter a brown viscous mass remained, which, was but slightly soluble in dilute acetic acid, and this solution was not affected by Mayor's test or by iodine. The acid liquid previously treated with ether was rendered alkaline with soda and agitated with amylic alcohol, on the evaporation of which a brownish viscid mass-remained, which was almost entirely soluble in dilute acetic acid, the-solution yielding precipitates with Mayor's test and with iodine.

For obtaining a larger quantity of the alkaloid 32 troyounces of the drug were digested with water acidulated with hydrochloric acid; the

filtered liquid was concentrated, again filtered, the gummy matter removed by alcohol, the decanted liquid distilled, concentrated and rendered alkaline by soda. After agitation with ether, the ethereal liquid separated readily on the addition of a few drops of alcohol and on evaporation yielded an amorphous mass, which was soluble in acidulated water, and this solution yielded precipitates with Mayor's test, iodine, tannin and picric acid.

The constituents of the rhizome are a volatile matter, starch, gum,, tannin, sugar, an acid resin, fixed oil and very probably an alkaloid.

PRACTICAL NOTES.

BY HANS M. WILDER.

Syrups.—When syrups are made they are generally poured into the stock bottles or stone jugs while hot, or at least quite warm; the containers are then stoppered and put aside. Now it often happens with many syrups, particularly when the warm weather sets in, that they sour or ferment. This can in a great measure be prevented by giving the filled syrup bottles, etc., a good shaking up when perfectly cold.

The rationale is: When we pour a hot liquid (or, for the matter of that, a hot solid) into a receptacle and stopper, vapor will arise, collect over the surface of the contents and on cooling be thrown down as water, which floats on top of the dense syrup, mixes by diffusion with some of it, and thus forms a weak saccharine solution, which, as may be expected, does not keep very long before it spoils, and eventually spoils the remainder.

By observing the precaution of shaking the containers when cold, the watery layer will mix with the remainder, and thus form a syrup of normal consistence throughout.

Milk.—Although highly beneficial, not only as an article of daily food, but also, for most invalids, physicians are debarred in many instances from its help through the patients' inability of digesting it. Physicians pay generally too little attention to the temperature of the food which their patients take; if milk be warmed, with constant stirring, to 95 to 100°F., it is surprisingly quickly assimilated.

The writer knows, from his own experience, that one pint of milk, of the ordinary temperature, taken at 9 A.M., completely spoils his appetite for the noonday meal, while, when the milk has been warmed to about the temperature of the blood, he gets hungry enough at 11 A.M.

Chelidonium majus, Lin.—

PROF. J. M. MAISCH, Dear Professor: I wish to call your attention to the local but very great importance given to Celandine in our locality. The flower consists of four yellow petals and the plant answers the description in the National Dispensatory. The value attached to it here is as a supposed cure for threatened phthisis (the people do not put it so vaguely, however, they claim it cures). A gentleman, whose mother and brothers all died of pulmonary consumption, was taken as they were at first; but, by the use of the Celandine, his cough ceased and all other symptoms indicating phthisis also. This was ten years ago. Whenever threatened with a cough, now we take the Celandine. A Mr. M., of Lexington, Ky., two years ago was "given up" by the physicians as a victim to consumption. He heard of, the former case, sent for the Celandine, used it and is now apparently as hearty a man as you would desire to see. His age is about 65 years. There are so many instances of the very good effects of Celandine, so well authenticated, that I have at last come to the conclusion, that there is certainly more real merit in the herb than the books indicate. The manner of using it here is as follows: Two or three ounces of the fresh root is put in one pint of whisky, let macerate one week; then take one teaspoonful at a dose when required, which is about three times daily.

I give you this information thinking, perhaps, if in your mature judgment it is worth the while, you might give the public or profession the benefit of its worth. In case it is desirable, I can give you verbatim statements from at least a score of persons within very convenient reach, who will vouch for its efficiency.

CHAS. O. THIEKAUD, Ph.G., Vevay Ind.

**COMPOUND SYRUP OF SARSAPARILLA MADE
WITHOUT THE USE OF ALCOHOL.
(INTERMITTENT DISPLACEMENT EMPLOYED.)**

By ROBERT F. FAIRTHORNE, PH.G.

A question that has often presented itself to my mind is whether there is any necessity for the use of alcohol in making the compound syrup of sarsaparilla of the U. S. Pharmacopoeia, and, after reflection and experiment, I have found that there is none. This conclusion has been arrived at from the following reasons:

1. That in the officinal syrup there is little or no alcohol; 2. That by the process now used only such principles as are soluble in water are retained, the remainder being separated by filtration previous to the addition of the sugar; 3. That by intermittent displacement with cold water as much of the medicinal virtues of sarsaparilla can be obtained and retained in solution as when diluted alcohol is employed in the quantity ordered by the Pharmacopoeia, with subsequent evaporation.

The directions given are to macerate 24 troyounces of sarsaparilla in moderately fine powder and other ingredients in 3 pints of diluted alcohol for 4 days, and to gradually displace with diluted alcohol until 6 pints of tincture have passed. This liquid is then evaporated to 3 pints, when one pint of water is added and the sugar necessary to make the officinal syrup.

When the tincture is reduced to 3 pints there will be left in solution such substances only as are soluble in water, with a trace of such as dissolve in extremely dilute mixtures of alcohol with water, on account of the very small amount of spirit retained after evaporation. When, therefore, another pint of water is added we may reasonably suppose that even the small amount which might possibly be retained in the liquid, will be almost entirely precipitated, so that practically it would contain no substances that are not soluble in water alone after nitration.

Now, by the method adopted by the Pharmacopoeia the tincture is deprived of its alcohol by the heat of a water bath, which requires an exposure of several hours' duration, during which time it is not only possible, but very probable, that a part of the sarsaparillin, and certainly of the essential oil, is volatilized. This being the case, I believe

that if cold water only is employed for the extraction of the medicinal virtues of the root that a syrup can be made by means of it that will be equal in every respect to that as now made with diluted alcohol. What, therefore, is the advantage of its employment? Some druggists may, perhaps, be inclined to think that the use of spirit ensures greater permanence to the finished preparation, on account of some of the inert constituents of sarsaparilla being insoluble in alcohol but dissolving in water, such as albumen, pectin and gum; although these substances are not soluble in strong spirit, yet they will dissolve to a certain extent in equal parts of water and alcohol, and will therefore be present in the tincture which is used in preparing the officinal syrup. This being the case, I do not see what advantage there is in using diluted alcohol. In order, therefore, to test this practically I have prepared the syrup in the following manner:

Having taken 24 troyounces of sarsaparilla in moderately fine powder and the other solid ingredients called for in the Pharmacopoeia, with the exception of sugar, for making about a gallon of syrup, I put them loosely into a percolator which had previously been closed by means of a cork. Cold water was then poured on and sufficient was added to saturate the ingredients. After standing 24 hours in a cool place the cork was removed, the articles firmly pressed and packed in the displacer, and enough water allowed to pass through so as to produce a pint of liquid. After an interval of a day another pint of fluid was produced in the same way. Then, after setting aside for 24 hours, more water was passed through so as to obtain another pint. These 3 pints were mixed together and kept in a cool place. Percolation was then continued until half a gallon of liquid was obtained, which was evaporated to a pint by means of a water bath. When this is accomplished, the liquid is mixed with the reserved 3 pints, and, the sugar having been added, it is dissolved by the aid of heat, which should reach 162°F., so as to coagulate any albumen present, strained and the essential oils are added.

The syrup thus made will be found equally strong in taste as that prepared by the process generally employed, and by dispensing with the use of alcohol great saving in expense will be effected. In appearance it is, if anything, superior, being clearer and quite as dark in color.

By intermittent displacement is meant the treatment of materials as described in the process just mentioned, namely, by alternately

displacing a portion of the fluid (after maceration) and allowing an interval of time to supervene before continuing to do so. By this means, in ordinary practice, a thorough exhaustion of the active or medicinal ingredients of the plants can be effected even when the drug is not quite as finely powdered as would be necessary when continued percolation is used. It combines the advantages of both maceration and displacement, and I can confidently recommend its utility.

VARIETIES

VIBURNUM OPULUS.—This remedy is one of our very best when the following symptoms are present: Hysterical condition from uterine irritation, cramps in the extremities during pregnancy, dysmenorrhea of a spasmodic character, and painful, scanty menses.—*Med. Times*, from *South. Med. Record*, p. 276.

THE SUSTENTATIVE PROPERTIES OF COCA.—Dr. Unanue, an earnest partisan of the celestial plant, mentions the case of a courier, on service between Chiquisata and Paz (about 100 miles), who carried for this long journey only coca and two pounds of burnt maize, or potatoes frozen and dried; and further relates that towards the termination of the siege of La Paz by the insurgents, in 1871, the inhabitants, after a blockade of several months during a rigorous winter, in want of provisions were yet obliged to war simultaneously against the elements, the exigencies of nature and the attacks of the enemy. A few had laid in a stock of coca, and this resource, apparently so scanty, turned out the most powerful allies, since it permitted them to support fatigue, suppress sleep, endure hunger without suffering, and to brave the rigors of the cold.

During the same war a body of patriotic infantry, obliged to traverse, during a rigorous season, one of the coldest plateaus of Bolivia, found itself deprived of provisions while advancing in forced marches to rejoin the divisions encamped in Janin; on arrival, hunger and fatigue had decimated it, and but a few were in a state to combat, but these privileged ones were nearly all young mountaineers, habituated from childhood to carry with them always a stock of coca. From time to time they swallowed tiny balls, prepared in advance with the leaves of coca, from which they had removed the nerves, and which they chewed until they contained no more juice. This precaution conserved their

strength.— *Virginia Medical Monthly*, Aug., 1881, from *Cinc. Lancet and Clinic*.

BULLFROG OINTMENT.—The *Pacific Medical and Surgical Journal*, August, 1881, tells of a practitioner in Alameda county, California, who found his patient using bullfrog ointment made by boiling a pint of milk, then boiling a living bullfrog to paste therein, and throwing out the bones. The “ointment” thus prepared is, on the aforesaid patient's authority, the best application for sore breasts. This seems to be a return to the materia medica of the twelfth century; the “science” of one age surviving as a superstition of another. The “Journal's” zoological nomenclature seems to be as much awry as the therapeutics of the patient alluded to, for it calls the bullfrog *Bufo*, the generic title applied by all other zoologists to the toad.—*Chic. Med. Review*, Sept. 5.