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Botanical Medicine Monographs and Sundry

NOTE ON ESSENCE FROM GREEN GINGER.<sup>1</sup>

By C. SYMES, PH.D.

The increased use of ginger by manufacturers of mineral waters and others, of late years, has created a demand for a "soluble essence," i.e., an essence which, when mixed with water, causes little or no opacity therein.

Dr. Thresh's scientific investigation of the constituents of this rhizome, particularly of the nature of its resinous constituents, added considerably to our knowledge of its composition. But strange to say, the process devised by him<sup>2</sup> on the basis of this investigation, for the preparation of a soluble essence did not give (to my mind) very satisfactory results. Indeed, Dr. Thresh has since testified to the superiority of an essence produced by another maker.

It would seem, therefore, that the field is still open for the application either of science, or the results of experience. The contribution I have to offer this evening is a simple, short, and practical one. Many, indeed most, drugs deteriorate by age, whilst some few, such as *Rhamnus Frangula*, bark, are said to improve as they grow older, at least to a certain point. Now, it occurred to me, that the nature and properties of ginger, and its behavior towards certain solvents of its active constituents, may not be constant at all periods, and the receipt from Rio Janeiro of a supply of green ginger grown at Santa Catharina, enabled me to make an experiment in this direction. The ginger, of which I have here a sample, occurs in large pieces; it is quite soft, and is not decorticated. Two methods were tried for removing the outer portion; the one simple scraping, the other by first soaking in boiling water. The latter did not appear to possess any special advantage, and by the former it lost fully 15 per cent. of its weight. After a few hours' exposure to the air it was weighed, thoroughly dried and reweighed, when it was found to have lost 65 per cent. of moisture.

Taking a sample of the ginger from which the epidermis had been removed, and which had been surface-dried by exposure for a few hours to the air, I cut it in thin slices, and macerated it for some days, with an equal weight of rectified spirit, which, when filtered, yielded an essence possessing a very fine aroma, and which when mixed with water scarcely rendered it turbid in the least degree. It is fairly strong, and could doubtless be prepared stronger were the drying of the ginger carried a little further. Probably, however, its solubility would diminish if the drying were completed, and of course the result would cease to be essence of green ginger.—*Phar. Jour. and Trans.*, April 7, 1883.

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<sup>1</sup> Read at an Evening Meeting of the Pharmaceutical Society, April 4, 1883.

<sup>2</sup> See "*Amer. Jour. Phar.*," 1878, p. 494.

## REMARKS ON SOME MEDICINAL PLANTS OF CEYLON.<sup>3</sup>

BY W. C. ONDAATJE, F.L.S., Colonial Surgeon of Ceylon.

It is well known that several Indian drugs have been incorporated into the British Pharmacopoeia, which have added to the number of remedial agents, thus conferring no small advantage on the medical profession, and the publication of the Pharmacopoeia of India has conferred an incalculable benefit on the medical practitioner in the East, but still there are many medicinal plants of the colonies and India which deserve a scientific examination.

The public revenue of the colonies is applied to many useful purposes for promoting the general welfare of the people. I believe that if a sum of money were voted annually to be expended in carrying out the chemical examination of indigenous drugs and other products by competent persons in this country, all expenditure would be well repaid by the advantages reaped in the saving of Government expenses for medicines, and in the demand created for native products.

It is a matter of great importance to the millions in the East, and in fact to the whole community, that they be enabled to avail themselves of efficient substitutes for many official drugs which our colonies supply.

I may here mention that the annual cost of drugs for the use of the public service of Ceylon forms a considerable item. The natives are now more largely availing themselves of European medical practice, since the extension of Government hospitals and dispensaries, and consequently an increasing expenditure under this head cannot be avoided without detriment to the best interests of the population.

The necessity for adopting such a measure as I have suggested will be apparent to those who have studied Indian drugs.

The natives of the East have attributed imaginary properties to many plants and drugs, and much that is absurd is mixed up with much that is valuable.

While clinical observations in hospitals and medical colleges are of much importance to ascertain the therapeutic action, chemical examination will perfect the knowledge thus obtained, and will, with the aid of pharmacy, show the best mode of preparation and administration, and no institution can more efficiently carry out this work than the Pharmaceutical Society of Great Britain.

I will now proceed to make a few brief remarks on some medicinal plants which I brought with me from Ceylon.

1. *Randia dumetorum*, Lam.—The seeds of this tree are used by the natives of Ceylon and India as a reliable agent in producing emesis.

I am not aware that any chemical examination has been made to detect the active principle.

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<sup>3</sup> Read at an Evening Meeting of the Pharmaceutical Society, April 4, 1883.

It belongs to the same family (Cinchonaceae) as *Cephaelis Ipecacuanha*, and it would be important to determine if it contains emetine, more particularly since an allied species, *R. uliginosa*, is, according to Dr. Dymock, used in India as a remedy for dysentery. This species is also indigenous in Ceylon. The bark of *R. dumetorum* also possesses the same qualities.

I have seen the powdered seeds used with as good effect as ipecacuanha in doses of 5 to 10 grains. If analysis should prove *Randia* to possess the same active principle as ipecacuanha, a great saving might be effected by its substitution for the more expensive Brazilian drug.

2. *Sethia<sup>d</sup> acuminata*, Arn.—This is a remedy much used by the Cinghalese as a vermifuge. The part used is the leaves, the juice of the leaves being mixed with sugar and castor oil, or with the powder of the leaves. The leaves are easily powdered when dried.

Professor Bentley notices its vermifuge properties in his “Manual of Botany.”

Dr. Thwaites, in his “Enumeratio Plantarum. Zeylaniae,” also refers to it. He says “the Cinghalese attach much value to this plant as an anthelmintic for children, giving the juice expressed from the fresh leaves.” It is chiefly used for expelling round worm, and possesses the advantage of not having a disagreeable taste. The powder is used in the dose of 10 to 15 grains.

3. *Coscinium fenestratum*, Colebr.—Many years ago, while using it as a tonic, I found by experiment that it possessed antiseptic properties, to which I beg to invite your attention.

I found that pieces of beef immersed in an infusion of the stem were preserved for several weeks. I am unable to give more details, as my notes made in Ceylon are not at hand.

I also used in Ceylon a weak infusion of the stem as a lotion for foul ulcers with great success.

I believe the plant has already been subjected to chemical analysis in this country, and contains the active principle berberia.

It has been used also as a yellow dye. As this drug has recently been imported in quantity into England it could easily be obtained, and an examination of the cause of its antiseptic properties seems desirable.

4. *Vateria Indica*, L.—The natives use the bark daily to arrest the alcoholic fermentation of the juice of the Jaggery palm, *Caryota urens*, which is a favorite beverage with them. This property of preventing fermentation might, I think, be turned to account in some of the great manufacturing industries, if not in medicine, and I trust the bark may be thought deserving of chemical investigation by some members of your Society.

4 Erythroxyllum - MM

5. *Semecarpus Gardneri*, Thw.—The black resin yielded by this tree, although not possessing medicinal properties, may be of some interest in the arts.

The resin is hard, breaks with a smooth fracture, burns with a bright flame, is soluble in turpentine, and adheres strongly to wood and metal. It is free from acidity.

The formula for using the resin as a varnish is as follows:

To a saturated solution of *Vateria Indica* resin in oil of turpentine, add by degrees pieces of black resin, and put it into a bottle and shake it well until the whole is dissolved, then apply it to wood or metal, which will give a varnish of great lustre and beauty. The resin should be first melted and strained through coarse calico or a sieve, to free it from impurities.

6. *Vernoniaantheilmintica*, Willd.—This plant is cultivated by the Cinghalese, and is in great repute as a remedy, which is indicated by its name.

The seeds are black, of a bitter and nauseous taste, are easily procured from bazaars, and are commonly used by the village people for expelling the *ascaris lumbricoides* and act as a vermicide.

The dose of the powdered seed to an adult is from  $\frac{1}{2}$  to 1 drachm.

The native physicians prescribe it generally as a tonic in the shape of an infusion.

The Cinghalese name is *sanne nayan* and the Tamil name *kado-seragam*.

European practitioners in India, from personal observations, confirm the truth of the above statement.

7. *Alstonia scholaris*, R. Br.—In 1865 I forwarded to England, to my friend and correspondent, Mr. P. L. Simmonds, the Editor of the *Technologist*, specimens of a kind of caoutchouc, as a substitute for gutta-percha.

The following information supplied by me appeared in that periodical for August, 1865:

“Another substitute for gutta-percha, the milky juice of the *Alstonia scholaris*, a tree belonging to the natural order Apocynaceae, has been forwarded from Ceylon by Mr. Ondaatje; it is stated to possess the same properties and to be workable as gutta-percha. It readily softens when plunged in boiling water, is soluble in turpentine and chloroform, receives and retains impressions -permanently, and is adapted for seals to documents.”

The bark of this tree is thick and spongy. Its properties as a medicinal agent are fully described in the Pharmacopoeia of India.

8. *Acorus Calamus*, Linn.—The well-known sweet flag I merely notice as an

anthelmintic, which property is not included in the Indian Pharmacopoeia.

An infusion of the rhizome or root-stock given to young children acts effectually, as I have seen many such cases treated among the natives.

I hope on a future occasion to be able to contribute further notes on the native materia medica of Ceylon.—*Phar. Jour. and Trans.*, April 7, 1883.

## GLEANINGS IN MATERIA MEDICA.

BY THE EDITOR.

*Lycoperdon giganteum*, the giant puff-ball, belongs to the natural order of trichogastres. The peridium, or outer coat, which breaks up into warts or scales, is intimately connected with the inner coat, and the spores are mostly sessile. All the various species of lycoperdon are produced abundantly in nearly every country, but are so variable both in character and properties, that it is very difficult to distinguish them. Dr. E. Thomson recalls attention in the "Lancet" to the use of this fungus as a local haemostatic. He states that it forms a very soft and comfortable surgical dressing, and that the powder it contains seems to contain antiseptic and anodyne properties. The mature plant is about the size of a child's head, and is covered with a thin skin; the latter is removed, and capillitium and spores which form a dusty mass are used. Mr. Fagan, a leading surgeon of Belfast, found that it at once restrained the bleeding from arteries in the bone, in the neighborhood of the orbit, after the failure of other means. The researches of Hagan show that the hemostatic action of the puff-ball, as well as of all other spongy or powdery substances, depends upon the fact that healthy blood deposits haemato-blasts or minute corpuscles on any foreign substances introduced into a vein, which become adhesive points for the subsequent attachment of particles of fibrin. This action, however, also takes place when the vessels themselves assume abnormal conditions, as when cut or altered by disease.—Wm. Elborne in *Phar. Jour. Trans.*, February 24, 1883, p. 688.

The fumes produced by the burning of this fungus have been used for stupefying bees and other insects, and for the anesthesia of other animals, effects which are due to the presence in the fumes of carbonic oxide.—See *Am. Jour. Phar.*, 1855, pp. 376 and 464.

*Adulteration of Powdered Pepper.*—Prof. Charbonnier directs attention to an adulterant, which is not a new one, but at present appears to be very extensively employed in France, particularly for white pepper. This is the putamen of olives known in commerce as *grignons d'olive* (olive pits), or as *poivrette* (little pepper), a name probably given to it to create the belief as if it contained some of the properties of pepper. These olive pits were formerly burned up and used as manure (engrais); now it is found more advantageous to sell them at 25 or 30 francs for 100 kilos, and to use them for the adulteration of pepper. According to the treatment to which they are subjected, a gray or white powder is obtained adapted for the adulteration of powdered black or white pepper. The hard shell consists of elongated stone cells resembling those found in the epicarp of black pepper; but since white pepper is deprived of the

pericarp, the adulteration of its powder with ground olive pits is readily detected under the microscope by the large number of stone cells.—*Rép. de Phar.* 1883, pp. 19-21.

The adulteration of pepper with olive pits is readily detected, according to Dupré, by dusting the powder upon a liquid composed of equal parts of glycerin and water, upon which the powdered pepper will float, while the powdered olive pits will sink.—*Monit. Prod. Chim.* xiii. 34.

*Guadeloupe Vanilla*.—Seven or eight years ago a new vanilla plantation was established in Guadeloupe, and for several years the vanilla has been met with in French commerce. It is quite distinct from the Mexican and Bourbon vanilla, and is thought by Professor Charbonnier to be probably derived from a variety of vanilla *planifolia*, and, perhaps, to undergo a different process of curing. Instead of being irregularly triangular, it is always flattened, of a blackish color, rather less dark than in the Bourbon and Java vanilla, is less frequently covered with crystals of vanillia, has a distinctive odor, is little wrinkled, and is marked with fine striae in a longitudinal direction. While it is of good appearance, resembling Bourbon vanilla, its odor is less fine, and on use disappears quite rapidly. It is sold at about one half the price of Bourbon vanilla.—*Rép. de Phar.*, 1883, p. 18.