

[Some Account of Lac, with the Method of Purifying It for Dying Scarlet, Painting, Making Sealing Wax, Varnishes, &c.] Robert Saunders

Date: 1789/12/01

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Publication Format

Print

Type

Construction

Miscellaneous

Ingredients

Lac

Places

Bengal

Boglepoor

Europe

Assam

Goalpara

Nova Scotia

Source: Nova Scotia Magazine

Institution: Nova Scotia Archives | **Source Origin:** Nova Scotia Newspapers on Microfilm | **Reference:** Microfilm Reels 8062, 8063

Description

From an English surgeon in India, a description of the fly and its lac, the latter useful in making paint and wax, and directions for processing the substance for use. nn_444-45. Microfilm Reel 8062.

Transcription

Some Account of LAC, with the Method of purifying it for dying Scarlet, Painting, making sealing Wax, Varnishes, &c.

[By Mr. Robert Saunders, Surgeon at Bogle-poor in Bengal.]

LAC is the produce of, and a staple article of commerce in Assam; and, strictly speaking, is neither a gummy nor resinous substance, though it has some properties in common to both. Gums are soluble in water, and resins in spirits; lac admits of a very different union with either, without the mediation of some other agent.

Lac is known in Europe by the different appellations of stick lac, seed lac, and shell lac. The first is the lac in pretty considerable lumps, with much of the woody parts of the branches on which it is formed adhering to it. Seed lac is only the stick lac broke into small pieces, garbled, and appearing in a granulated form. Shell lac is the purified lac, by a very simple process to be mentioned afterward.

Many vague and unauthenticated reports concerning lac have reached the public; and though among the multiplicity of accounts the true history of this substance has been nearly hit on, little credit is given in Europe to any description of it hitherto published. My observations, as far as they go, are the result of what I have seen, from the lac on the tree, the progress of the insect now in my custody, and the information of a gentleman residing at Goalpara on the borders of Assam, who is perfectly versant in the method of breeding the insect, inviting it to the tree, collecting the lac from the branches, and forming it into shell lac, in which state much of it is received from Assam, and exported to Europe for various great and useful purposes. The tree on which this

fly most commonly generates is known in Bengal by the name of the *Biber* tree, and is a species of the *Rhamnus*. The fly is nourished by the tree, and there deposits its eggs, which nature has provided it with the means of defending from external injury by a collection of this lac, evidently serving the two-fold purpose of a nidus and covering to the ovum and insect in its first stage, and food for the maggot in its more advanced state. The lac is formed into complete cells, finished with as much regularity and art as a honey-comb, but differently arranged. The flies are invited to deposit their eggs on the branches of the tree, by besmearing them with some of the fresh lac steeped in water, which attracts the fly, and gives a better and larger crop.

The lac is collected twice a year, in the months of February and August.

I have examined the egg of the fly with a very good microscope; it is of a very pure red, perfectly transparent, except in the centre, where there were evident marks of the embryo forming, and opaque ramifications passing off from the body of it. The egg is perfectly oval, and about the size of an ant's egg. The maggot is about the one eighth of an inch long, formed of many rings (ten or twelve) with a small red head; when seen with a microscope, the parts of the head were easily distinguished, with small specks on the breast, somewhat projecting, which seemed to be the incipient formation of the feet. This maggot is now in my custody, in the form of a nymph or chrysalis, its annular coat forming a strong covering, from which it should issue forth a fly. I have never seen the fly, and cannot therefore describe it more fully, or determine its genus and species. The gentleman to whom I owe part of my information terms the lac the excrement of the insect. On a more minute investigation, however, we may not find it more so than the wax or honey of the bee, or silk of the silk-worm. Nature has provided most insects with the means

of secreting a substance which generally answers the twofold purpose of defending the embryo, and supplying nourishment to the insect from the time of its animation till able to wander abroad in quest of food. The fresh lac contains within its cells a liquid, sweetish to the taste, and of a fine red colour, miscible in water. The natives of Assam use it as a dye, and cotton dipped in this liquid makes afterward a very good red ink.

The simple operation of purifying lac is practiced as follows. It is broken into small pieces, and picked from the branches and sticks, when it is put into a sort of

canvas bag of about four feet long, and not above six inches in circumference. two of these bags are in constant use, and each of them held by two men. The bag is placed over a fire, and frequently turned till the lac is liquid enough to pass through its pores, when it is taken off the fire, and squeezed by two men in different directions, dragging it along the convex part of a plantain tree prepared for the purpose; while this is doing, the other bag is heating, to be treated in the same way. The mucilaginous and smooth surface of the plantain-tree seems peculiarly well adapted for preventing the adhesion of the heated lac, and giving it the form which enhances its value so much. The degree of pressure on the plantain tree regulates the thickness of the shell, and the quality of the bag determines its fineness and transparency. They have learned of late, that the lac which is thicker in the shell than it used to be, is most prized in Europe. Assam furnishes us with the greatest quantity of lac in use; and it may not be generally known, that the tree on which they produce the best and largest quantity of lac is not uncommon in Bengal, and might be employed in propagating the fly, and cultivating the lac, to great advantage. The small quantity of lac collected in these provinces afford a precarious and uncertain

crop, because not attended to. Some attention at particular seasons is necessary to invite the fly to the tree; and collecting the whole of the lac with too great an avidity, where the insect is not very generally to be met with, may annihilate the Breed.

The best method of cultivating the tree, and preserving the insect, being properly understood in Bengal, would secure to the Company's possessions the benefit arising from the sale of a lucrative article, in great demand and of extensive use.

Some Account of Lac, with the Method of Purifying It for Dying Scarlet, Painting, Making Sealing Wax, Varnishes, &c. recipe from Early Modern Maritime Recipes: <https://emmr.lib.unb.ca/recipes/241>