

Some further remarks on the economical and medical uses of the oil commonly called croupee on the Gold Coast, touloucouna at the Gambia and Senegal, and kundah at Sierra Leone / by Robert Clarke.

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SOME FURTHER REMARKS ON THE ECONOMICAL AND MEDICAL USES OF THE OIL COMMONLY CALLED CROUPEE ON THE GOLD COAST, TOULOUOUNA AT THE GAMBIA AND SENEGAL, AND KUNDAH AT SIERRA LEONE.

BY ROBERT CLARKE, ESQ., COLONIAL SURGEON, GOLD COAST.

THE tree which produces the seeds from which Croupee oil is made is a Meliaceous plant, the *Carapa Toulououna* of the *Flore de Senegambia*.* It flowers in January and the early part of February, and ripens in March or April, when the fruit is gathered, and shortly after the manufacture of the oil is commenced. The fruit, a large, somewhat globular five-celled capsule, contains in each cell eighteen to thirty seeds, varying in size from a chestnut to a small hen's egg. They are three-cornered, convex on the dorsal surface, of a brownish or blackish red colour, and rugous. On the Gold Coast the tree grows abundantly in Assin, Tueful, Dinkarra, and Western Wassaw, the Braff Country, Essicoomah, Akim, and Aquapim, and in several of the other districts of the protected territory. Strictly speaking, it might be extensively grown over large tracts of land, both at Sierra Leone and the Gold Coast, which are at present a wilderness of jungle; the land under cultivation bearing so small a proportion to that lying waste, and which prevails to such an extent, that the former is the exception and the latter the rule. In the vicinity of Freetown, and the villages and hamlets of the former colony, and in the suburbs of Cape Coast, and forts on the seaboard of the latter settlements, nearly all the magnificent forest trees have been cleared away, the ground being covered with copsewood, densely matted by climbing plants. Everywhere almost in these luxuriant copsewoods the *Carapa* forms part of them, and is readily distinguished by the rich reddish-brown colour of the bunch of soft leaves which adorn the points of the upper branches, attracting the notice of the most casual observer by the beautifully variegated appearance imparted to the darker leaved brushwood around them. Its presence also is a sure indication of the fertility of the soil on which it grows.

At present, Cape Coast market is chiefly supplied with Croupee oil from Assin, Accra obtaining its supplies from Akim, and Aquapim. Small quantities are brought to Wimebah from Essicoomah, the other regions before named furnishing enough of it for home use.

The manufacture of Croupee oil is conducted by the natives much in the same way as they make palm oil. In Assin the seeds are dried for a short time, they are then boiled, and the oil skimmed off as it rises to the surface. The boiling is done in large clay pots made in the country, which are ingeniously ranged upon furnaces built of clay; large quantities of the seeds being boiled in them with little trouble and small expense, fuel being abundantly at hand in the rural districts of the country, which is not the case in some of the Coast towns, where

* In my former paper on Toulououna oil, which appeared in vol. ii., page 341, of the *Pharmaceutical Journal*, the *carapa* tree, it was stated, would be found figured in Sweet's *British Flower Garden*; but this is not the case, as I had an opportunity of ascertaining through the kindness of Mr Bennett, of the Botanical Department, British Museum.—R. C.

it is scarce and extremely high priced. For domestic use and for sale the natives preserve the oil in large wooden troughs hewn out of a part of the trunk of the Pullom or wild cotton tree. They fit these reservoirs with covers of the same material, and thus keep the oil safe from impurities falling into it.

In the village of Kent, situated in the western district of the colony of Sierra Leone, the mode of obtaining Croupee, there known as Kundah oil, is somewhat different. There the seeds, after being sun-dried, are hung up in wicker hurdles for some weeks in their huts, and exposed to the heat and smoke from the fire, are subsequently slightly roasted, and reduced to a pulp in large wooden mortars, which is boiled, the supernatant oil being removed by skimming.

The economical uses of Croupee oil are varied. It burns well, and the finer qualities give a pleasant and good light, but more frequently the bulk of it brought to market burns rather smokily; but that defect might, in my opinion, be removed, by greater care being taken in preparing the oil, the present methods being rude and imperfect. As a paint oil it answers well and admirably for lubricating iron tools and utensils, and I am satisfied will be found a valuable addition to the oils used in the manufacture of soap.

Croupee oil is taken to market in pots, holding from two to four gallons each, the average market value paid by the traders in Manchester or Birmingham goods being about 1s. 9d. sterling a gallon on the Gold Coast. At Sierra Leone it is carried to market in calabashes, the average market price being about 2s. per gallon. As an article of commerce it is alleged to be deficient in stearine, but I am not aware whether this statement is correct. It should, however, be kept in view that there is almost invariably the greatest difficulty at first experienced in attempting to introduce any new product to market. Few of the regular purchasers will buy it, as they want that kind of oil to which they have been accustomed either for machinery or manufacture, and it is only by sending it for years to market that it at length attracts attention. Gradually, however, it works its way up, and being found useful, inquiries are made for it and its real value determined. Much labour and time might be saved, and the process shortened, by employing brokers who pay special attention to particular articles, and by giving them every information on the subject. This method, I would suggest, should be tried with Croupee oil, and I feel satisfied would be ultimately rewarded by its becoming a valuable export from the Gold Coast, more particularly when it is known that a very large quantity could be procured, and double or treble that quantity if encouragement is given to the growers; and there is good reason for believing that these expectations are capable of being practically realized, and a vast benefit thereby conferred on the settlements of the Gold Coast. For some years past several puncheons of the oil have been shipped from Cape Coast to the United States, by an enterprising merchant there, the samples sent fetching the current price of palm-oil; and I may here mention that it is generally used in the Wesleyan chapels on the Gold Coast for lighting purposes, and is found to answer well.

Several years ago I brought from Sierra Leone to England specimens of the root, stem, leaves, and fruit of the Touloucouna tree, with the oil, and these were at the time deposited in the Museum of the Pharmaceutical Society, where, doubtless, they have been carefully preserved. Before, however, leaving the Gold Coast, I supplied myself with some of the oil from Assin, a sample of which accompanies this paper. An analysis of the oil I took from Sierra Leone in 1842 was made by Mr. Redwood, which showed that it is entirely soluble in ether. In alcohol it is separable into two parts, a concrete substance which was dissolved, and an oil fluid at ordinary temperatures, on which the alcohol has no effect. The former contained the bitter principle and the nauseous odour of the oil, the latter being nearly colourless and tasteless. According to MM. Pelroz and Robinet, the oil owes its bitterness to an alkaloid principle, which is also found in the bark of the tree.

The natives of the Gold Coast, and some of the mixed races at Sierra Leone, with the Soosoos, Timmanees, and Sherbros, inhabiting the country in the neighbourhood of the latter colony, greatly value Touloucouna oil for its anthelmintic virtues, as they, and indeed all ranks and classes of people living in West Africa, are apt to become infested with one or other of the *Tœnia*, or with *lumbricus*, suffering more especially from the former varieties of worm. Some of the negroes use it as a rubefacient to relieve rheumatic and fugitive pains, and they freely apply it to cure the inveterate itch, known on the Coast by the term *Kra-Kra*, and also in other skin diseases to which they are very liable.

Having heard a good deal of its effects as an anthelmintic, I was induced to give it a fair trial, which I had ample opportunity of doing, as I was then in charge of the large Liberated African hospitals at Sierra Leone. In the numerous cases I tried it I can speak favourably, as I found it to expel and destroy both varieties of tape and also *lumbrici*. I must, however, candidly admit that its nauseous and extremely bitter taste, in my opinion, will prevent its more general employment, unless it may turn out that its valuable and undoubtedly powerful anthelmintic properties depend upon (as in all probability they do) the bitter alkaloid principle, which could, no doubt, by careful manipulation, be freed of its nauseous odour. At least it is well worth a patient trial to ascertain whether so desirable an object cannot be accomplished, because I feel satisfied it would be found a remedy of no mean importance, from the fact of the negroes being accurate observers in matters relating to their own comfort and happiness.

I was in the habit of giving the oil internally in doses of one or two ounces, but this, of course, was regulated by the age and strength of the patient. In weakly persons I consider its administration unwarrantable, while it may safely be given to the robust. Its action as a purgative resembled castor oil, both in the length of time it takes to operate and in the bulky nature of the evacuations. Over doses induce the most dangerous consequences, as hypercatharsis, vomiting, cold sweats, and death, if relief was not soon obtained.

Should the patient labour under *ascarides*, it may be used as an enema, and with the greatest benefit. An ounce or two of the oil may be dissolved in a pint of warm water and thrown into the bowels, and will be found to dislodge and bring away great numbers of these parasites.

London, 28th February, 1860.

