

THE DREADFUL BIGHT OF BENIN

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1. West Africa with the Bight of Benin

“Beware beware of the Bight of Benin
There is one comes out for forty go in”
(1,2)

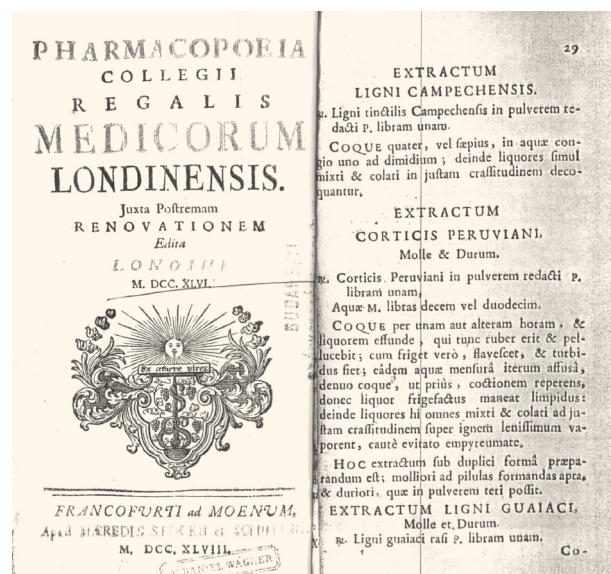
Prevention of malaria with quinine – the discovery, it's effects on trade and on making of pharmaceutical (quinine) industry (Cinchona plantations, Kina Bureau, quinine-analogues)

Ivory coast, Gold coast, Slave coast are telling names about the growing European trade activities from the 16th century in West-Africa. Traders, missionaries or explorers entered the African interior on rivers or on foot – a fraction of the expedition survived these enterprises. 483 of 1000 soldiers died annually in the British forts (2,3,4). The sea shanty tells a lot about the region what was then called *The White men's grave*. Malaria was the most dangerous killer. Europeans used quinine (1820) to treat marsh fever, African fever, tertian or quartian fever, ague, Roman fever just to mention a few names for the same disease – caused by bad air or *mala aria* – as it was thought at that time.

The Cinchona barks that arrived from Peru since approx. 1630 (Augustino Salumbrino Jesuit pharmacist sent the first shipment to Rome) had also telling names that show the story the medicine got to Europe, hence Peruvian bark, Loxa bark, Jesuit's bark, Cardinal's bark etc. Maybe the Quechua did not use it against malaria though! (5) In Britain it became widely used after the death of O. Cromwell, made a success by a quack as R. Talbor was called by the medical society, but he treated kings and never admitted in his life that he used the Jesuit's bark.

One of the first explorers of the West African region, the Bight of Benin and today's Angola was the Hungarian László Magyar (1818-64), also died of malaria.

He wrote in 1856: “...Remarkable is the rapidity of negative, cachectic effects of the hot, corroding climate on individuals who were born in moderate climate, it eats the vigour and shortens lifespan (carneirado – meatgrinder climate). A man of 25 years old after two years here and after lots of sufferings in getting accustomed to this climate consumes 10 years of his life and looks 35 years old; after 8-10 years all his bodily and spiritual strenghts will be burnt and he will look like and old man, white haired, teethless, thin faced grey-



2. Pharmacopoeia Londinensis

beard. My own experience is that Europeans disappear in 10-12 years. I had in 1848 more than 60 European friends in Benguela and now, after eight years one sixth is still alive only, and the newcomers who took their places have meagre hopes to see any friends in the whole town after further 9 years..." (6)

Another quotation from his Journal: "At the moment I started to feel the first symptoms of the fever, I withdrew into my room, took a dose of castor oil and ate a tender chicken meat soup to promote the effect; next day early in the morning I took 12-16 grains of quinine sulphate and repeatedly 8 grains after 4 hours and then 4 grains..." (6)

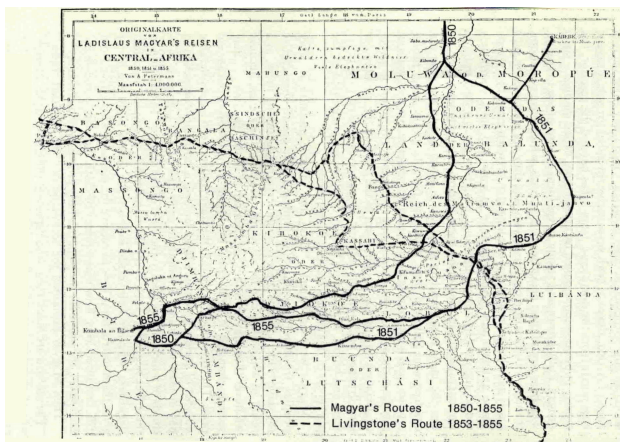
Dr David Livingstone(1813-1873) wrote in his Zambesi Report in 1859: "...a dose of quinine was administered in cherry wine, but before it a dose of calomel and a dose of jalap or rhubarb and 4 grains of chinin or larger doses in every two hours or so till the ears ring or deafness ensues, this last is the essential part of the cure..." (7)

The quinine overdosage symptoms indicated that a „proper” dose was administered.

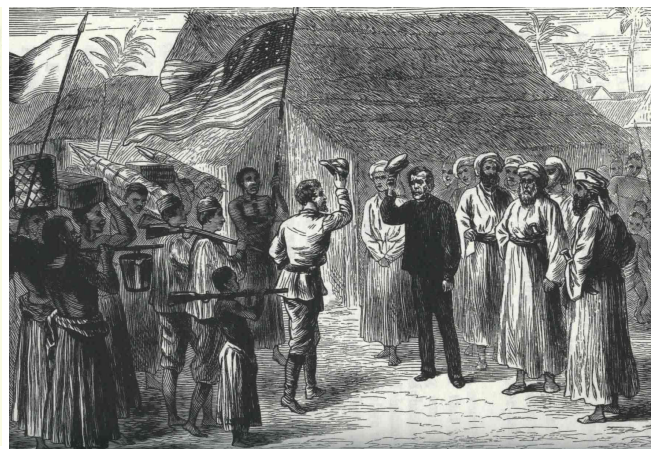


3. László Magyar (1818-1864)

H. M. Stanley wrote: "...the Doctor's prescription consists of 3 grains of resin of jalap, 3 grains of calomel with Tinct. cardamoms just to prevent the irritation of the stomach. Quinine should be taken with these pills... My stomach could never bear quinine unless subsequent to a catarric... 3 grains of tartar emetic to eject bilious matter from the stomach..." (8)



4. A map of Magyar's and Livingstone's travels



5. The encounter of Stanley and Livingstone

Prevention

In 1854 Dr William Baikie (1824-64) first as a surgeon, later as captain commanded the expedition on the Oil Rivers (Niger) up to the junction of Niger and Tsadda.

He insisted that the crew took quinine (6-8 grains) dissolved in sherry twice a day – all 54 crew survived the four months expedition !

Dr Baikie concluded: "...a great modern discovery is that quinine not only cures but that actually prevents ...malaria...; ...quinine not as a curative agent but as a prophylactic or preventive..." (9,10)

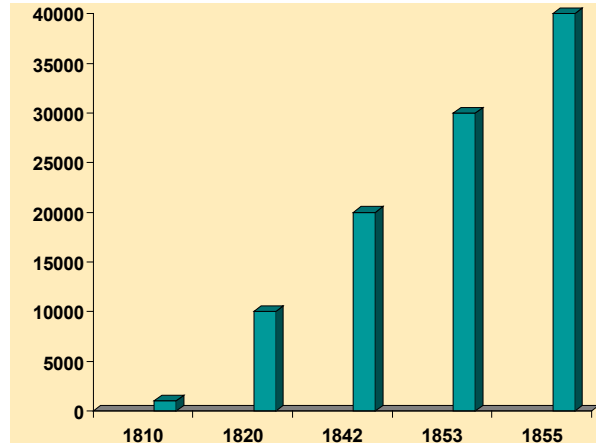
The demand for quinine sharply rose: the bark monopoly from Peru and Bolivia encouraged smuggling seeds and seedlings from these countries by the Dutch and British and they established Cinchona plantations in Java and in India. (The best, C. Ledgeriana seeds were collected by C. Ledger with the help of his Bolivian guide M.I. Mamani.) (2,11,12,13) This is the age of plantations: sugar-cane, oil-palm, cocoa, tea, coffee, etc. (13) The Italian physician Ramazzini's comparison quinine to gunpowder (1702) was proven to be true in conquering Africa by the Europeans, too (14).

By the 19-20th century the Amsterdam based Kina Bureau controlled the bark and quinine outputs. The World Wars distorted this balanced economy, quinine shortage accelerated research for quinine analogues. (2,11,15,16,19)

Today annual production of quinine is: approx 300-500 tons (5000-10000 tons of bark). (17,18) Food industry uses half of this amount in soft drinks like Indian Tonic Water, as sugar is added into cokes: quinine in soft drinks found another market. (13)



6. Dr. William Baikie

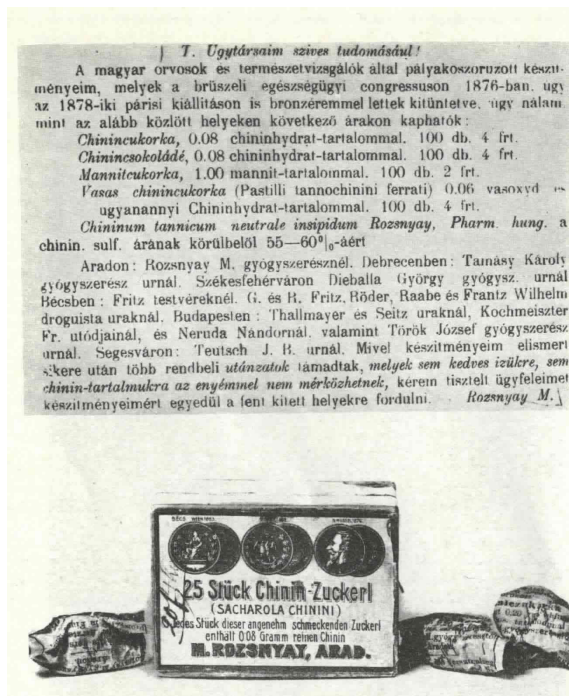


7. Palm Oil export in tons from the Oil Rivers

The taste of quinine

The terribly bitter quinine was taken in sweet wine e.g. Robert Talbor's English remedy (1678) (2), in sweet pills or in gin with lime and sugar.

Mátyás Rozsnyay, Hungarian pharmacist (1831-95) precipitated quinine with tannic acid and got a tasteless salt. His Chinin-Zuckerl contained Chininum tannicum neutrale insipidum. (20,21)



8. Hungarian pharmacist Matyas Rozsnyay used tasteless chininum tannicum in his products (1878 Paris Exhib.)



9. Arms of Peru with Cinchona tree

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