

POTENT ROOTS ON THE MOVE

Calumba and Abutua as African, Imperial, and Global Medicines, c. 1700s–1900s


KALLE KANANOJA AND MARKKU HOKKANEN

Abstract: Calumba (*Jateorhiza calumba* / *J. palmata*) and abutua (*Cissampelos pareira*) are multi-purpose medicinal plants, whose roots have been used in Eastern, Southern, and West-Central Africa for a considerable time. In the early modern era, the Portuguese adapted the roots, which became commercially traded in the Portuguese empire across the Indian and Atlantic Oceans. By the early nineteenth century, the roots were recognized also by the British and North American pharmacopoeias, but there was confusion and secrecy surrounding their origins and quality. Engaging with recent historiography about African and imperial plant medicines, we demonstrate that calumba and abutua had long, dynamic, and mobile continuities on the continent—first in Portuguese imperial settings and then in appropriation by British botanists and colonial officials in East Africa. Exploring African agency in the making of knowledge about calumba and abutua is problematic, however. While in the *longue durée*, calumba and abutua maintained their value and meanings within Africa, in certain moments, these plants became objects of scientific curiosity and heightened commercial interest in the West.

Keywords: abutua, calumba, botany, Indian Ocean, colonialism, medicine

KALLE KANANOJA is a University Lecturer in the Department of History, Culture, and Communication Studies at the University of Oulu; Kalle.Kananoja@oulu.fi

MARKKU HOKKANEN is a University Lecturer in the Department of History at the University of Oulu; Markku.Hokkanen@oulu.fi

 This open access article is distributed under the terms of the CC-BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0>) and is freely available online at: <https://hopp.uwpress.org>

HISTORY OF PHARMACY AND PHARMACEUTICALS | 63:2

ISSN 2694-3034 | E-ISSN 2694-3042 | doi:10.3368/hopp.63.2.171

© 2022 by the Board of Regents of the University of Wisconsin System

Calumba and abutua are medicinal plants (both belonging to the Menispermaceae family) that have circulated across Atlantic and Indian Oceans and have been used in Africa, Asia, the Americas, and Europe. By the nineteenth century, their botanical origins in Africa were increasingly contested. Abutua was associated with the Americas and Asia while calumba's origins were a mystery except to the Portuguese who had long acquired it from Mozambique. During the nineteenth century, however, both plants were recognized as potential resources from African colonial outposts. In this article, we argue that the study of African connections and contexts of these plants complement (and complicate) our understanding of imperial and global history of medicines.

Medicinal plants from outside of Europe have attracted increasing historiographical interest in the studies of colonial empires. Londa Schiebinger, Abena Dove Osseo-Asare, Pratik Chakrabarti, and Benjamin Breen, among others, have brought potent plants to the focus of investigations that are by nature transnational and regional, tracing plants, plant hunters, traders, experts, producers, and consumers across continents. Schiebinger's study of colonial bioprospecting in the eighteenth-century Atlantic world emphasized the importance of not-knowing and ignorance in European approaches to non-European plant knowledge.¹ Chakrabarti explored the connections between colonialism, medicinal materials (including calumba), and therapeutics in the eighteenth-century British Empire in South Asia and the Caribbean.² In *Bitter Roots*, Osseo-Asare provided a comparative study of six African medicinal plants and their transformation into modern drugs, using a biographical approach.³ More recently, Benjamin Breen argued that early modern empires, particularly Portuguese and British empires, were crucial for the development of modern conceptions of licit and illicit drugs.⁴

Since the 1830s, several substances have been derived from calumba and abutua through laboratory research. By 2020, at least forty alkaloids and fourteen non-alkaloids have been isolated from *C. pareira* (abutua), most of these in the late twentieth century. The alkaloid pelosine, described by Wiggers in 1840, was the first to be isolated.⁵ By the late 1890s, three bitter substances, calumbin, berberine,

-
1. Londa Schiebinger, *Plants and Empire: Colonial Bioprospecting in the Atlantic World* (Cambridge, MA: Harvard University Press, 2004), <https://doi.org/10.2307/j.ctvk12qdh>.
 2. Pratik Chakrabarti, *Materials and Medicine: Trade, Conquest and Therapeutics in the Eighteenth Century* (Manchester: Manchester University Press 2010).
 3. Abena Dove Osseo-Asare, *Bitter Roots: The Search for Healing Plants in Africa* (Chicago: University of Chicago Press, 2014), <https://doi.org/10.7208/chicago/9780226086163.001.0001>.
 4. Benjamin Breen, *The Age of Intoxication: Origins of the Global Drug Trade* (Philadelphia: University of Pennsylvania Press, 2019).
 5. Surekha Kumari, Anmol, Vinod Bhatt, Patil Shivprasad Suresh, Upendra Sharma, "Cissampelos pareira L.: A Review of its Traditional Uses, Phytochemistry, and Pharmacology," *Journal of Ethnopharmacology* (unpublished manuscript, 2021): 54–55, <https://doi.org/10.1016/j.jep.2021.113850>.

and calumbic acid had been isolated from *J. Calumba*.⁶ In this article, we highlight the African connections and contexts of calumba and abutua, while acknowledging that they were not simply “African” roots or drugs in the imperial era.

For this exploratory study, we have traced calumba and abutua through Portuguese and British sources, mostly available in digital form. We discuss the roots in these two interconnected empires—which overlapped especially in East African regions of Mozambique, Malawi, and Tanzania—over a period of some 250 years. The roots of Western knowledge about calumba and abutua can be located in the Portuguese-speaking world in the early modern period. The hybridization of medical knowledge in the Portuguese Empire and in the Indian Ocean colonial world has been explored in an extensive historiography.⁷ Portuguese authors provided the crucial primary sources about the roots’ African connections from the late seventeenth to the twentieth century. Select British-authored materials highlighted the intra-imperial relations between the Portuguese and the British in East Africa, and they illustrated abutua and calumba as objects in twentieth-century colonial knowledge-production for both medical sciences and anthropology.⁸ We also explore how calumba and abutua have figured in colonial relationships between Africans, Portuguese, and the British.

While they never gained the celebrated status of cinchona,⁹ calumba and abutua are well-suited for a longitudinal and comparative study. They remained

-
6. John Uri Lloyd, “Jateorhiza Calumba,” *The Western Druggist* (January, 1898): 5.
 7. Laurinda Abreu, “Health Care and the Spread of Medical Knowledge in the Portuguese Empire, Particularly the Estado da Índia (Sixteenth to the Eighteenth Centuries),” *Medical History* 64, no. 4 (2020): 449–66, <https://doi.org/10.1017/mdh.2020.40>; Cristiana Bastos, “Medical Hybridisms and Social Boundaries: Aspects of Portuguese Colonialism in Africa and India in the Nineteenth Century,” *Journal of Southern African Studies* 33, no. 4 (2007): 767–82, <https://doi.org/10.1080/03057070701646878>; Maria Paula Meneses, “Food, Recipes, and Commodities of Empire: Mozambique in the Indian Ocean Network,” *Oficina do CES*, no. 335 (2009); Eugénia Rodrigues, “Moçambique e o Índico: A circulação de saberes e práticas de cura,” *Métis: História e cultura* 10, no. 19 (2011): 15–41; Eugénia Rodrigues, “A medicina europeia e a natureza na África Oriental: Acomodações e investigações no período modern,” in *Migrações e natureza*, ed. Eunice Sueli Nodari and Silvio Marcus de Souza Correa (São Leopoldo: Oikos, 2013), 93–118; Eugénia Rodrigues, “Eating and Drinking at the Royal Hospital of Mozambique Island: Medicine and Diet Change between the End of the 18th and the Early 19th Century,” *Afriques* 5 (2014), <https://doi.org/10.4000/afriques.1553>; Ana Cristina Roque, “Disease and Cure in Mozambican Health Service Reports from the End of the Nineteenth Century,” *História, ciências, saúde—Manguinhos* 21, no. 2 (2014).
 8. For a broader study of colonial knowledge-production of this period, see Helen Tilley, *Africa as a Living Laboratory: Empire, Development, and the Problem of Scientific Knowledge, 1870–1950* (Chicago: University of Chicago Press 2011), <https://doi.org/10.7208/chicago/9780226803487.001.0001>.
 9. Stefanie Gänger, *A Singular Remedy: Cinchona across the Atlantic World, 1751–1820* (Cambridge: Cambridge University Press, 2021), <https://doi.org/10.1017/9781108896269>; Rohan Deb Roy,

popular over several centuries and, at times, became health “fads” outside African localities where their use remained constant. They tell a partial story of how African plant medicines circulated and were received globally. At the same time, their histories highlight different geographies of knowledge and contrasting fortunes. While abutua, originating in the interior of Mozambique, eventually lost in competition to *Cissampelos pareira* (obtained from India and South America) and faded into obscurity in global drug markets, calumba collected from the littoral regions of East Africa became a sought-after commercial drug in the global and imperial medicinal trade.

Our aim is not to provide proper biographies of these plants here. Above all, without oral sources, highlighting African agency in the making of knowledge about abutua and calumba is far more challenging than exploring the shifting Portuguese and British engagements with the plants and the places connected with them. It is not feasible to firmly establish, for example, “who was first” in the discovery of medicinal uses of these plants. However, following Osseo-Asare’s approach, we aim to “identify key moments of exchange—the time and place when people met and shared or stole information about a particular plant.” We share her argument that knowledge about medicinal plants was an outcome of “multiple innovators . . . across wide geographical regions.”¹⁰

What we can do with our source base is to chart some of the mobilities, changes, and continuities in the meanings and uses of calumba and abutua as they moved about in Africa and imperial networks, and we can recenter African sites, connections, and nodes in some of the networks and supply chains that collected, studied, and sold them. The roots can be thought of as “boundary objects,” which existed in different but intersecting social worlds. As Star and Griesemer have argued, such objects “have different meanings in different social worlds but their structure is common enough to more than one world to make them recognizable, a means of translation.” As medicines used for bodily (or social) healing, calumba and abutua were tangible objects with “robust” enough identity to remain the same across different sites; yet they were “plastic enough to adapt to local needs and the constraints of the several parties employing them”—to use the criteria set for boundary objects.¹¹

Malarial Subjects: Empire, Medicine and Nonhumans in British India, 1820–1909 (Cambridge: Cambridge University Press, 2017), <http://dx.doi.org/10.1017/9781316771617>.

10. Osseo-Asare, *Bitter Roots*, 2.

11. Susan Leigh Star and James R. Griesemer, “Institutional Ecology, ‘Translations’ and Boundary Objects: Amateurs and Professionals in Berkeley’s Museum of Vertebrate Zoology, 1907–39,” *Social Studies of Science* 19 (1989), 393, <https://doi.org/10.1177/030631289019003001>.

Early Modern Use and Marketing of Calumba and Abutua

Along with other plant medicines obtained from the tropics, calumba and abutua became objects of European curiosity that entered the imperial medicinal markets by the seventeenth century. According to John Uri Lloyd, an early historian of calumba, the Portuguese in Mozambique probably obtained calumba soon after establishing their first settlements in the early sixteenth century. They learned its therapeutic indications from East Africans who used it to treat dysentery and other ills. The first reference to the root in European written sources seems to have been in a 1671 text by Franciscus Redi, a physician to the Duke of Toscana. Knowledge of calumba's origins and geographic distribution, however, remained vague in Europe. Lloyd subscribed to the thesis that the Portuguese successfully obscured the root's African origins until the late eighteenth century.¹²

Calumba root had certainly entered the European market by the late seventeenth century. In his 1694 pamphlet, *Some Observations Made upon the Calumba Wood, Otherwise Called Calumback*, physician John Peachi noted that it was imported from the (East) Indies and attempted to show calumba's powers in curing gout and all kinds of rheumatical pains.¹³ Approximately a decade later, Portuguese inventor of patent medicines, João Curvo Semedo, went on to praise the virtues of calumba in his account of samples imported to Lisbon from Africa, America, and Asia. Curvo Semedo did not identify the origins of calumba root, giving credence to Lloyd's argument that the Portuguese wanted to conceal the origins of their calumba.¹⁴

Calumba was arriving constantly from India to England in the first decades of the eighteenth century,¹⁵ but was this the same calumba root that the Portuguese obtained from Mozambique? Pre-Linnean identifications of plants were vague enough to allow for the possibility that the same vernacular name was used for different plant species, especially if the plant originated outside of Europe. In other words, Indian calumba might have been different from East African calumba, but it could very well have been exported from Mozambique to India. The Portuguese empire in the Indian ocean was characterized by regular cross-cultural medical exchanges with Indian medicinals imported into Mozambique

12. John Uri Lloyd, "Jateorhiza Calumba," *The Western Druggist* (January, 1898): 2–3.

13. John Peachi, *Some Observations Made upon the Calumba Wood, Otherwise Called Calumback* (London: n.p., 1694).

14. João Curvo Semedo, *Memorial de varios simples, que da India Oriental, da America, & de outras partes do mundo vem ao nosso Reyno para remedio de muitas doenças, no qual se acharão as virtudes de cada hum, & o modo com que se devem usar* (Lisbon: n.p., 1707?), 12–13.

15. Kapil Raj, *Relocating Modern Science: Circulation and the Construction of Knowledge in South Asia and Europe, 1650–1900* (Basingstoke: Palgrave Macmillan, 2007), 39, <https://doi.org/10.1057/9780230625310>.

but with African plants also exported in the other direction and used in the Royal Hospital of Goa.¹⁶ Moreover, with regular trading connections between the Swahili coast and South Asia, it is plausible that the English were re-exporting calumba originally brought from Mozambique. Instead of seeking definite botanical names for early modern plant designations, we must acknowledge that knowledge about calumba was distorted, suppressed, or forgotten when it was appropriated for globalized European science and medical markets.

Abutua likewise demonstrates the difficulties of fitting historical botanical knowledge to conform with modern classifications—the process which Projit Mukharji has pointedly called retro-botanizing.¹⁷ Known in Mozambique as abutua, *Cissampelos pareira* Linn is a climbing shrub found throughout tropical and subtropical India, Asia, East Africa, and America. Its wide distribution throughout the Portuguese imperial world led to conflicting claims about its origins and to the use of different vernacular and botanical names over the centuries. For a long time, *C. pareira* was regarded as the botanical source of the drug *radix pareirae brava*. In 1648, Willem Piso and Georg Marcgrav, natural historians stationed in Dutch Brazil, described pareira brava as a plant known to the Indigenous Americans as *caapeba* that was used in the treatment of calculus and other bladder complaints.¹⁸

The American variant of pareira brava was popularized in Europe by Parisian pharmacist Pierre Pomet. In his *Histoire generale des drogues* (1694), Pomet wrote that it had been introduced in France by a Mr. Amelot who had served as an Ambassador in Portugal. Parisian doctors mixed its powder with white wine and put it into use as a remedy for stone. A letter which Pomet had received from Lisbon in October 1692 informed him that pareira brava came to Portugal from India and Brazil, that it was a much more common import than ipecacuanha, and that it was allegedly found in almost all Portuguese apothecaries, although not in great quantities.¹⁹ In 1763, Linnaeus gave the name *C. pareira* to *caabeba*, and legitimized the belief that pareira brava originated from *C. pareira* and thus South America.²⁰

16. Rodrigues, “Moçambique e o Índico,” 24; Fabiano Bracht, “Entre brâmanes, cirurgiões e mercadores: Agentes da produção e circulação do conhecimento medico no Oriente Português setecentista,” *Topoi* 21, no. 44 (2020): 385, <https://doi.org/10.1590/2237-101x02104405>.

17. Projit Bihari Mukharji, “Vishalyakarani as *Eupatonum ayapana*: Retrobotanizing, Embedded Traditions, and Multiple Historicities of Plants in Colonial Bengal, 1890–1940,” *The Journal of Asian Studies* 73, no. 1 (February 2014): 65–87, <https://doi.org/10.1017/s0021911813001733>.

18. S. Morris Kupchan, Naokata Yokoyama, and Jack L. Beal, “The Alkaloids of *Cissampelos pareira* Linn. and the Origin of *Radix Pareirae Bravae*,” *Journal of the American Pharmaceutical Association* 49, no. 11 (1960): 727–31.

19. Pierre Pomet, *Histoire generale des drogues* (Paris: Jean-Baptiste Loyson & Augustin Pillon, 1694), 69

20. Kupchan, Yokoyama, and Beal, “The Alkaloids of *Cissampelos pareira* Linn,” 727–31.

Although in early modern natural history *pareira brava* was tightly connected to Asia and America, it certainly had a local significance in East and West Central Africa but under a different moniker. In eighteenth-century Mozambican sources, *abutua* stood out (along with *calumba*). In António Pinto de Miranda's report, for example, it was claimed to work as medicine for swellings, fevers, and nausea.²¹ However, *abutua* had already been popularized in Portugal by Curvo Semedo, whose *Memorial de varios simplices* documented the use of this Mozambican plant medicine. According to Semedo, the root came from the state of Butua in the Zambesi, and the Portuguese called it *pareira brava*.²²

An important Portuguese source from the mid-eighteenth century, however, called Curvo Semedo's knowledge into question. Ignacio Caetano Xavier's December 1758 report from Mozambique claimed that Semedo erroneously called *abutua* by the name *pareira brava*. In Mozambique, he claimed, *pareira brava*'s local name was *mutamba*, and there was a similar plant called *muzarupa*. Importantly, and confirming Semedo's earlier claims, Xavier was positive that the root *abutua* was indeed acquired from the state of Butua, which was also known for its gold.²³ Similarly, in an undated manuscript from the latter half of the eighteenth century, Friar Rolim de Santa Rita referred to a mountain called Butua where the locals collected *abutua* roots and sold them to the Portuguese in Sena.²⁴

Early Portuguese colonialism in East Africa was driven by the search for gold and other minerals in the interior of Mozambique. During these efforts the Portuguese came into contact with the state of Butua. Located south of the Mutapa state in the headwaters of Zambesi River, it was ruled by the Torwa dynasty who were in turn related to Mutapa's rulers. Initially known for its wealth in cattle, Butua held active trading relations with the Muslim traders of Sofala and Chiluané in the early seventeenth century. It is possible that, even before the Portuguese arrival on the Swahili coast, medicinal plants, often valued universally, were traded and given different meanings as boundary objects in the interactions between peoples of the interior and Muslim traders. In Shona traditions, Butua

21. António Pinho de Miranda, "Memória sobre a costa oriental de África (c.1766)," in *Relações de Moçambique setecentista*, ed. António Alberto de Andrada (Lisboa: Agência Geral do Ultramar, 1955), 235.

22. Semedo, *Memorial de varios simplices*, 14.

23. Inácio Caetano Xavier, "Notícias dos domínios portugueses na costa de África Oriental 1758," in *Relações de Moçambique setecentista*, ed. António Alberto de Andrada (Lisboa: Agência Geral do Ultramar, 1955), 170.

24. Roque, "Disease and Cure in Mozambican," 4.

was especially known for its war-medicines and ability to enlist supernatural assistance which strengthened its reputation and prestige in battle.²⁵

Butua became a target of increasing Portuguese incursions in the mid-seventeenth century as the gold mining and trading frontier moved southwards—although the growth of Muslim political influence might also have been a motive for Portuguese expeditions. By the 1680s, Butua was expanding northwards and raiding areas close to Portuguese control. In 1684, Mutapa's forces tried to invade Butua but suffered a defeat. A decade later, Portuguese fairs and mining camps in Karangaland were destroyed by Butua forces then ruled by a chief with the title of Changamire and his Rozvi followers who had overthrown the Torwa dynasty. After another decade of hostilities, peace returned on the high veldt after about 1702, but the rulers of Butua did not allow the Portuguese to settle in the area. Cattle ownership and links with the Muslim traders to the fairs in Manica, Inhambane, and Zambesi towns kept the Changamires supplied with sufficient foreign imports.²⁶

To further complicate the distribution of abutua in the Portuguese colonial world, it also emerged in West-Central Africa in the eighteenth-century. First, Francisco de Buytrago's unpublished manuscript *Arvore da vida*, composed in the 1730s but based on his experience in Angola in the first two decades of the eighteenth century, documented profusely the use of pareira brava, or butua. In Angola, the plant was called Mulembuge u acanga,²⁷ and it had been “discovered” there only recently. Rather than having been transplanted from Mozambique or Brazil, a vernacular name suggests a local origin for the plant in Angola. Early Portuguese sources, however, mentioned land connections and trade routes transporting gold between Mozambique and Angola, so it is possible that knowledge

-
25. Shula Marks and Richard Gray, “Southern Africa and Madagascar,” in *The Cambridge History of Africa, Volume 4, from c. 1600 to c. 1790*, ed. Richard Gray (Cambridge: Cambridge University Press, 1975), 395–96. For coastal trade networks, Islamic influences, and pre-colonial medical pluralism in East and South-Central Africa, see Steven Feierman, “Struggles for Control: The Social Roots of Health and Healing in Modern Africa,” *African Studies Review* 28, no. 2/3 (1985): 118–20, <https://doi.org/10.2307/524604>; Markku Hokkanen, *Medicine, Mobility and the Empire: Nyasaland Networks, 1857–1960* (Manchester: Manchester University Press, 2017), 29–30, <https://doi.org/10.7765/9781526123893>.
 26. Malyn Newitt, *A History of Mozambique* (London: Hurst, 1995), 36, 99, 102–103, 138, 199, 201, 206; S. I. Mudenge, “The Role of Foreign Trade in the Rozvi Empire: A Reappraisal,” *Journal of African History* 15, no. 3 (1974): 373–91, <https://doi.org/10.1017/s0021853700013542>.
 27. Although it is impossible to confirm whether it is the same plant, Gossweiler's posthumous 1953 listing of indigenous Angolan plant names identifies *mulembuji* as *Gynura scandens*, collected in Malange by José Joaquim de Almeida sometime between 1902 and 1919 and known as *musaba* in Umbundu-speaking areas and as *utumbe* by Kioko-speakers. In the twentieth century, it was a rare plant but respected and used medicinally along the Kwanza River. John Gossweiler, *Nomes indígenas de plantas de Angola* (Separata of *Agronomia Angolana*, Luanda, 1953), 309.

about the medical uses of abutua as well as the root itself spread through these early networks.²⁸ Buytrago noted that it was much used in Angola, and, suggesting a hybrid use among Europeans, he referred to its powder being mixed with white wine to cure swellings and kidney stones. He recommended chewing it to cure flatus. Abutua's marvels seemed endless; it made blood circulate better and that was the central argument for its claimed "effectiveness." In sum, abutua was so common that many people used it daily. Therefore, it is somewhat difficult to understand why it had remained so long hidden from the Portuguese who had been active in West Central Africa for over two centuries.²⁹

Despite their emergence in global drug markets, most local knowledge about calumba and abutua remained opaque in European sources. Ana Cristina Roque has suggested that calumba was "discovered" in the hinterland of Sofala at least by the mid-eighteenth century when it appears in António Pinto de Miranda's manuscript.³⁰ Miranda can at best be credited with a "rediscovery," as the root had already been popularized in Portugal by Curvo Semedo. By the early nineteenth century, it had become one of the most sought-after items in Portuguese trade between India and Mozambique and frequent requests to travel inland were specifically filed for the purpose of collecting it.³¹ Its presence was also documented on slave ships intercepted by the British navy patrolling on the East African coast. In Mozambique, Reverend Pascoe Grenfell Hill provided a list of medicines confiscated from the Brazilian ship *Progresso* in 1843, and approximately two kilos of calumba were included among a list of forty-nine medicinal products.³²

In cross-cultural interaction, the Portuguese appreciated local plant resources. Eighteenth-century Portuguese descriptions of African plant medicine were generally positive in Angola, especially towards the end of the century when

28. See e.g., Manuel de Faria e Sousa, *Asia Portuguesa*, vol. 2 (Lisboa: Antonio Craesbeeck), 603.

29. Biblioteca Nacional de Portugal, Fundo Reservados 437, Códice 13114, Francisco de Buytrago, *Arvore da vida, Thezouro descoberto da Arvore irmaã daque se fez a cruz da nossa Redempção. Para livrar dos malefícios do Demonio, p.a vida e saude dos enfeitçados ou vexados do mesmo Demonio, e outras m.tas enfermidades e muitos e singulares remedios p.a muitos achaques aprovado tudo com muitas experiencias prodigiosas, como hé publico e se vera dos daq.les tractados* (Lisbon, 1731), ff. 93r–95r.

30. Roque, "Disease and Cure in Mozambican," 3–4.

31. Roque, "Disease and Cure in Mozambican," 3–4.

32. Pascoe Grenfell Hill, *Fifty Days on Board a Slave-Vessel in the Mozambique Channell* (London: John Murray, 1844), 85. See also Maria Cristina Cortez Wissenbach, "Ares e azares da aventura ultramarina: Matéria médica, saberes endógenos e transmissão nos circuitos do Atlântico luso-afro-americano," in *O império por escrito*, ed. Leila Mezan Algranti and Ana Paula Torres Megiani (São Paulo: Alameda, 2009), 375–93; Manuel Barcia, *The Yellow Demon of Fever: Fighting Disease in the Nineteenth-Century Transatlantic Slave Trade* (New Haven: Yale University Press, 2020), <https://doi.org/10.12987/yale/9780300215854.001.0001>.

plant medicines were also beginning to be imagined as an economically significant alternative to the Atlantic slave trade.³³ This was also the case in Mozambique as Eugenia Rodrigues has shown. In 1785, the Governor of Sena River district, António Manuel de Melo e Castro, reported that among the samples he had collected and sent to Lisbon abutua root was “*excellent* for all kinds of external inflammations.”³⁴ Despite positive reports from different African localities, there were also hindrances and blockages to the circulation of knowledge about plant medicines. Local officials were often cut off from broader networks and reported only to the Overseas Council in Lisbon where the development of medicinal trade was considered financially marginal. All this led to “fruitless botany,” which Neil Safier has referred to as thwarted, rather than ignored, knowledge. Various obstacles—including geographic, social, and racial dynamics—impeded the transmission of knowledge from extra-European outposts and inhibited and diminished its circulation in the imperial metropolises.³⁵

Nevertheless, calumba and abutua appeared regularly in Portuguese and other early modern sources and with increasing frequency from the early eighteenth century onwards. Although the terms popped up in Mozambique, Angola, India, and Brazil, we cannot be certain that the sources always refer to identical plants. In Mozambican sources, abutua was identified with the Butua state in the interior, but abutua of Angola was not necessarily the same plant. It seems likely that at least their names, if not the plants themselves, spread with the Portuguese maritime networks from Mozambique to India and Brazil. Importantly, in the case of West Central Africa, we cannot rule out the possibility that abutua itself or at least knowledge about its medicinal value spread via overland trade networks between the state of Butua and the Angolan interior. It is also possible that the plant or knowledge about it had been spreading with Muslim traders on the Swahili coast before Portuguese incursions in the Indian ocean. Be that as it may, both plants had clear economic value prior to the nineteenth-century alkaloid revolution and were thought of as potential medicinal exports from Africa by the Portuguese. They can be seen as rather typical boundary objects that served first and foremost local needs but that had the capacity of shaping into imperial and global therapeutic commodities—and given a range of curative meanings in the process.

33. Kalle Kananoja, “Bioprospecting and European Uses of African Natural Medicine in Early Modern Angola,” *Portuguese Studies Review* 23 (2015): 45–69.

34. Rodrigues, “A medicina europeia,” 105 (emphasis added).

35. Neil Safier, “Fruitless Botany: Joseph de Jussieu’s South American Odyssey,” in *Science and Empire in the Atlantic World*, ed. James Delbourgo and Nicholas Dew (New York: Routledge, 2008), 205, <https://doi.org/10.4324/9780203933848-12>.

Botanical Exploration, Medical Research, and Medicinal Trade

One of the major changes in Portuguese imperial policy of late eighteenth century was a more systematic effort to study the natural history of overseas colonies. In the 1780s and 1790s, Portuguese scientists undertook “philosophical voyages” in Brazil, Cape Verde, Angola, Mozambique, and Goa.³⁶ These state-organized expeditions were complemented by the botanical work of colonial and religious officials such as Jesuit João de Loureiro who botanized at Mozambique Island and Zanzibar in the early 1780s.³⁷ In his *Flora cochinchinensis* (1790), Loureiro discussed the varieties of abutua and its geographical distribution. He confirmed the earlier view that the plant’s name derived from the African state of Butua where it grew abundantly and was used for healing purposes. Importantly, Loureiro distinguished between *Abutua indica*, prevalent in South and South-East Asia, and *Abutua africana*, common in East Africa. Although they produced different kinds of flowers, the root and lower stem of both variants were used in the same manner to cure abscesses, inflammations, and intermittent fevers.³⁸

Following Loureiro’s work, abutua—and especially its Indian variant—was increasingly mentioned in botanical compendia in the first half of the nineteenth century. In the second half of the nineteenth century, it was increasingly discussed under the rubric of *pareira brava* in North American pharmaceutical texts. While these texts largely ignored its use in Mozambique and Angola, it never lost its popularity in Portuguese Africa throughout this period. In Angola, botanist Joaquim José da Silva included abutua root, used for medicinal purposes, among a shipment of samples he sent from the Dande River to Luanda.³⁹ Angola’s chief physician in the 1790s, José Pinto de Azeredo, was also familiar with it—although he did not attribute it specifically to Angola but wrote in an undated manuscript now held at the Portuguese National Library that abutua (= *pareira brava*) came from Brazil.⁴⁰

36. William J. Simon, *Scientific Expeditions in the Portuguese Overseas Territories (1783–1808) and the Role of Lisbon in the Intellectual-Scientific Community of the Late Eighteenth Century* (Lisbon: Instituto de Investigação Científica Tropical, 1983).

37. Patrick Harries, “Natural Science and *Naturvölker*: Missionary Entomology and Botany,” in *The Spiritual in the Secular: Missionaries and Knowledge about Africa*, ed. Patrick Harries and David Maxwell (Grand Rapids, MI: Wm. B. Eerdmans, 2021), 45.

38. Joannis de Loureiro, *Flora Cochinchinensis* (Lisboa: Academia, 1790), 630–31. Loureiro’s classificatory work is discussed and criticised in E. D. Merrill, “A Commentary on Loureiro’s ‘Flora Cochinchinensis,’” *Transactions of the American Philosophical Society*, n.s., 24, no. 2 (1935): 1–445.

39. “Código n. 4 de “Ofícios para o Reino” (1790–1797), Ofícios do Governador D. Manuel de Almeida e Vasconcelos,” in *Livros de “Ofícios para o reino” do Arquivo Histórico de Angola 1726/1801*, ed. Carlos Dias Coimbra (Luanda: Museu de Angola, 1959), 84.

40. Biblioteca Nacional de Lisboa, Fundo Reservados, Código 8484, José Pinto de Azeredo, f. 14r.

Azeredo's successor, José Maria Bomtempo, took an economic interest in abutua produced in Luanda and its hinterland as well as in Benguela. He observed that it was produced in immense quantities in West Central Africa to the point that it could also have commercial value if and when the Atlantic slave trade ceased. In the 1850s, economic botanical interest soared once again when state botanist Friedrich Welwitsch discussed a plant called abutua that grew in the Golungo Alto, Cazengo, and Dembos regions. Its pounded roots as well as the leaves, branchlets, bark of the trunk, and the fruits were used as a decoction against diarrhea, gonorrhea, and various other distempers, especially long-established syphilis. In addition, he found it used as an antidote against snakebites and as a sudorific in treating constipation.⁴¹ There are no indications in the published sources, however, that the Portuguese would have developed significant commerce in abutua in the nineteenth century.

Abutua remained common in Mozambique as well. Sebastião Xavier Botelho's *Memória estatística* (1835) of Portuguese possessions in East Africa mentioned it as a significant medicinal among seventeen other plants.⁴² Although Portuguese sources, especially João Loureiro, had argued that the plant originated in the state of Butua, the Count of Ficalho questioned this in his celebrated *Plantas úteis da África portuguesa* (1884) that surveyed the medicinal flora of Portuguese African colonies. He believed the identical names to be purely accidental and claimed that the name abutua actually originated in Brazil and was introduced in Africa by the Portuguese.

Discussing at length the history of the plant but ignoring seventeenth-century Dutch naturalists Piso and Margrave, the Count of Ficalho claimed that butua or abutua was a Tupinamba name for *pareira brava*. Bypassing the long Portuguese presence in West Central Africa and the Swahili coast, Ficalho speculated that perhaps a Jesuit who had been transferred from Brazil to Angola knew the American plant and finding a similar plant with the same medicinal qualities in Africa decided to call it by its American name. This confusion, he claimed, resulted from Welwitsch's identification of the Angolan abutua (also known as *gile*) as *Tiliacora chrysobotrya* (another plant belonging in the Menispermaceae family), which Ficalho suggested would be worth experimenting with pharmaceutically as it seemed to him more "efficient and energetic than the American

41. Kalle Kananoja, *Healing Knowledge in Atlantic Africa: Medical Encounters 1500–1850* (Cambridge: Cambridge University Press, 2021), 61, <https://doi.org/10.1017/9781108868020>.

42. Sebastião Xavier Botelho, *Memória estatística sobre os domínios portugueses na África Oriental* (Lisbon: José Baptista Morando, 1835), 361.

roots.” Following Welwitsch, Ficalho then called *Cissampelos pareira* by the Kimbundu name Mucôco, adding another layer of retrobotanical complexity.⁴³

Similarly, by the mid-nineteenth century, calumba was coming under increased scientific scrutiny. In Mozambique, German naturalist Wilhelm C. H. Peters carried out extensive botanical explorations between 1843 and 1848. Referring to British efforts to identify the geographical origins of calumba in the early nineteenth century, Peters reported that calumba was often found growing wild in thick forests on the coast of Ibo and Mozambique Island up to fifteen English miles inland. Its beet-like roots were dug up in March during the dry season, cut into transverse slices, strung on threads, dried in the shade, and brought to market.⁴⁴

The Portuguese medical experiments with calumba intensified in the nineteenth century. Head of Health Services Faustino José Cabral tried calumba in the treatment of cachexia, a wasting disorder, for which he generally preferred using plant-based substitutes of quina. He claimed that calumba usually gave good results in Black patients, but in hospital use its effects were always very uncertain and inferior to quinine. Because they had already been sufficiently studied—and out of distrust (*falta de confiança*) of them—Cabral did not embark on a detailed exposé of the numerous medicinals that had been promoted as substitutes for quinine.⁴⁵

Nevertheless, calumba enjoyed widespread commercial value in Mozambique and elsewhere in East Africa. The Count of Ficalho argued that calumba was indigenous to the northern parts of Mozambique in a region extending from Ibo to the Zambesi basin, and he said that it was found especially in Chupanga, Morumbala, Sena, and on the margins of the river up to Cahora Bassa rapids. He also asserted that it was also common in the interior of Madagascar and that it had been exported to Mauritius in the eighteenth century and to British India in the early nineteenth century. Its cultivation, however, did not really take off, but it was extinguished or limited to botanical gardens. Thus, the commercially valuable calumba came almost exclusively from wildly growing supplies in Portuguese territories. In the interior of Mozambique, the Makua collected the root and brought it to the coast.⁴⁶

43. Conde de Ficalho, *Plantas úteis da África portuguesa* (Lisboa: Imprensa Nacional, 1884), 87–90.

44. Wilhelm C. H. Peters, *Naturwissenschaftliche Reisen nach Mossambique*, vol. 1 (Berlin: Georg Reimer, 1862), 172. See also Chakrabarti, *Materials and Medicine*, 172–73.

45. Faustino José Cabral, *Do clima e das doenças da provincia de Moçambique, comprehendendo diversas noticias sobre a topographia, meteorologia, pathologia e therapeutica* (Lisboa: Lallemand Frères, 1883), 54.

46. Conde de Ficalho, *Plantas úteis da África portuguesa* (Lisboa: Imprensa Nacional, 1884), 86–87.

Table 1. Official prices (in *reis/arroba*) of calumba in Mozambique Island, 1854–1855, 1858, 1861–1864⁴⁸

Month/Year	1854	1855	1858	1861	1862	1863	1864
January		\$200					
February					\$300		
March		\$150			\$300	\$300	
April		\$200			\$400	\$300	
May	\$12 reis/libra				\$300		\$300
June			\$200				
July	\$250	\$350	\$200			\$300	
August	\$300	\$200	\$200	\$300	\$400		\$300
September					\$300	\$500	\$300
October		\$400	\$400				
November		\$250	\$400	\$400	\$300		
December			\$300	\$300	\$300		

Mozambique, however, was not the only place along the East African coast where calumba was found. The root was also sold in the port of Lamu in present-day Kenya in 1831–1832 when Nathaniel Isaacs visited to repair his ship. He managed to buy approximately fourteen and a half tons of the root before returning to Saint Helena where his uncle’s merchant company was based. Isaacs reported that Lamu was at that time frequently visited by US ships that were buying calumba in addition to hides, tortoiseshells, and ivory.⁴⁷

The prices of calumba can be observed in Mozambique’s official administrative bulletin (*Boletim do governo da provincia de Moçambique*). An incomplete series from 1854 to 1864 is available at the University of Florida digital collections (Table 1). These bulletins show that the prices fluctuated heavily from \$150 *reis* in March to \$400 *reis* in October 1855. However, in the early 1860s, the price seems to have settled at \$300 *reis* per arroba (or thirty-two pounds/14.7 kilograms)—with the exception of September 1863 when it sold for \$500 *reis*. Such sudden jumps probably reflected limited supplies and/or extensive demand. In addition to raw calumba root, “alcohol of calumba” was marketed in 1855 for \$92 *reis*/ounce (or \$23 *reis/oitavo*, eighth) while a calumba extract sold for \$138 *reis*/

47. Nathaniel Isaacs, *Travels and Adventures in Eastern Africa*, vol. 2 (London: Edward Churton, 1836), 392–94.

48. *Boletim do governo da provincia de Moçambique* 1854–64, accessed April 14, 2021, <https://ufdc.ufl.edu/UF00095049/00002/allvolumesaccessed>.

oitavo (or \$6 reis/*grão*, grain). These refined products pointed to its local consumption as a medicinal.

The official bulletin also reveals export data from the Island of Mozambique and other locations. Confirming the Count of Ficalho's statement that the root was "harvested" in northern Mozambique, a Portuguese *batel* named *Flôr do már* carried a shipment of calumba to the port of Mozambique from the Pemba River in July 1859.⁴⁹ Ships carrying calumba left the Island of Mozambique regularly. In July 1855, the Portuguese barque *Felicidade* headed to Diu with 237 *fardos* (or fifty-one tons) of calumba in its cargo list, and, in August 1860, a Portuguese yacht headed to Bombay with calumba, oranges, cowries, and ivory. The next month, the brig *Amizade* sailed to Daman, Goa, and Bombay carrying calumba among other goods.⁵⁰

Similar shipments continued until the 1860s, but the published port records do not reveal the export volumes. These can be gleaned through occasional customs records. A total of seventy-five arrobas (1.1 tons) of calumba were exported from Quelimane in 1857, and 915 arrobas (thirteen tons) from Cabo Delgado province in 1859.⁵¹ However, most foreign exports were shipped from the Island of Mozambique, which demonstrated 15\$164 reis worth of calumba exports in 1862. Counting the total weight using that year's selling prices (\$300–\$400) in the port, yields a total of thirty-seven to fifty arrobas, which is likely an underestimate. Among total exports, calumba lost by far to ivory (export value 243\$103 reais) and urzela (*Roccella tinctoria*, 139\$957 reais), but it was in the same magnitude as wax (15\$123 reais) and sesame (13\$329 reais).⁵² It is also worth noting that Portuguese ships did not hold a monopoly in carrying calumba. In May 1860, an Arab *pangaio* headed to Bombay took a shipment of ivory, cowries, and calumba.⁵³

British Interests in Calumba (and Abutua) in the Late Nineteenth and Early Twentieth Century in East Africa

During the nineteenth century, calumba and abutua spread as mobile boundary objects in new imperial—and increasingly global—networks, and they also operated as new kinds of objects for knowledge produced in laboratories. The early

49. *Boletim do governo da provincia de Moçambique* 1859, 120.

50. *Boletim do governo da provincia de Moçambique* 1860, 140, 168.

51. *Boletim do governo da provincia de Moçambique* 1859, 190; and *Boletim do governo da provincia de Moçambique* 1860, 139.

52. *Boletim do governo da provincia de Moçambique* 1864, 127.

53. *Boletim do governo da provincia de Moçambique* 1860, 84.

chemical analysis of the roots took place in the context of the alkaloid revolution of the early century. Calumbin was first isolated from calumba by Wittstock in 1830, and Berberine was isolated a decade later by Boedecker who also discovered calumbic acid. By this time, both calumba and abutua had become widely available in Europe and the United States even though their names were in flux: their origins were varied, and at least in the case of calumba, there were several substitutes on the market. By the late nineteenth century, a “true calumba” had become easier to distinguish. Before this, according to Lloyd, “immense amounts of American columbo root” (*frasera caroliensis/frasera Walteri*), the most common substitute for “true calumba,” were apparently exported to the world market.⁵⁴

Beginning in the mid-nineteenth century, the British Empire strengthened its presence in East Africa with increasing commercial, missionary, naval, and exploration activity. As the British explored the Zambesi region, they came into direct contact with places growing calumba like Quellimane on the Zambesi where the Portuguese exported it in the 1850s when the British explorers arrived. John Kirk, the botanist of David Livingstone’s Zambesi expedition, collected samples of the root with the aim of sending samples to the Kew Gardens. He was also willing to pay African intermediaries for them.

Kirk’s journal showed that calumba was an item sought from the outset of the expedition. In August 1858, he found a “long fleshy root” of a Menispermaceous plant used in Native medicine, noting that it “is not the Calumba.” Ten days later, Kirk recorded that he “made diligent search for the Calumba root but found that at this season, it is withered and cannot be obtained.”⁵⁵ On September 1, 1858, Richard Thornton, the geologist of the party, recorded in his diary a meeting between Kirk and a “Zulu,” who “spoke a little Portuguese and seemed a sensible fellow.” Kirk offered the man “some cloth” if he could bring in “leaves and flower of columba root.”⁵⁶ It was not until late March 1859 that Kirk “came to the Calumba” and recorded in extraordinary detail its characteristics. Finally, in January 1860, he “obtained the Columba in fruit,” again describing it in detail.⁵⁷

As Lawrence Dritsas has pointed out, in utilizing local informants and assistants, Kirk and other members of the expedition did not usually record paying for the collection of specimens. Instead, they acquired samples by buying plants

54. Lloyd, “Jateorhiza,” 6.

55. Reginald Foskett, ed., *The Zambesi Journal and Letters of Dr John Kirk*, vol. 1 (Edinburgh: Oliver & Boyd, 1965): 59, 64.

56. Quoted in Lawrence Dritsas, *Zambesi: David Livingstone and Expeditionary Science in Africa* (London: I. B. Tauris, 2010), 126–27, <https://doi.org/10.5040/9780755625031>.

57. Foskett, ed., *The Zambesi Journal*, 1:161, 280.

and animals as foodstuffs. Kirk also obtained information about economic plants such as India rubber and buaze shrub from Portuguese settlers on the Zambesi, and, as Dritsas noted, he did not always acknowledge their contributions.⁵⁸ Did Kirk enlist the services of this informant partly because he did not get—or did not want to ask for—columba samples from the Portuguese? The Portuguese language skills showed in any case that the local informant had connections with the settlers.

Kirk clearly retained an interest in the root later when he was an influential Consul in Zanzibar. According to Dritsas, in Zanzibar Kirk used “teams of local collectors whom he personally trained.”⁵⁹ On January 29, 1877, Kirk wrote to Sir Joseph Hooker at Kew Gardens that he had found plenty of calumba “south of Zanzibar” (latitude 9° 50’ south). Kirk claimed that “it was of value unknown to the people” and that this region could be “a more open and available source” for obtaining the root. Curiously, the letter contained a handwritten note “don’t want it at Kew,” suggesting the Gardens were not interested in the root by this time.⁶⁰

It is noteworthy that Kirk mentioned local ignorance of the “value” of calumba. It suggests that this would have been an asset for the British as the plant could be bought cheaply and its locations would not be hidden. Of course, it is also possible that Kirk’s local informants refused to disclose the usages of the plant.

Lieutenant Henry Edward O’Neill, the British Consul at Mozambique between 1879 and 1889, complements our picture of calumba’s importance in local, regional, and international trade. His early explorations on the East African coast, first from Mozambique to Pemba Bay in May–June 1880 and then to Angoche in July 1881 gave a glowing view of calumba’s economic potential. In the trading settlement of Mwandazi, where the Makua could obtain goods from Banyan and other Indian traders, O’Neill observed calumba root spread out to dry. In Angoche and the surrounding district, he counted no less than thirty-three trading houses established by Indian merchants with calumba root as one of the principal exports, and he reported the trade in calumba had been steadily increasing over the previous two years.⁶¹

Finally, in an 1883 report to Kew about agriculture and labor, he noted that the root was brought to the coast at many points by “the natives” for sale. Calumba

58. Dritsas, *Zambesi*, 127.

59. Dritsas, *Zambesi*, 127.

60. Kirk to Hooker Jan. 29, 1877, Royal Botanic Gardens, Kew, Archives, Directors’ Correspondence 186/350, accessed April 21, 2021, <https://plants.jstor.org/stable/10.5555/al.ap.visual.kadc1952>.

61. Hilary C. Palmer and Malyn D. D. Newitt, *Northern Mozambique in the Nineteenth Century: Travels and Explorations of H. E. O’Neill* (Leiden: Brill, 2016), 106, 143, <https://doi.org/10.1163/9789004293687>.

together with “Amendoim” (*Arachis hypogaea*), “Gergelim” (*Sesamum orientale*), india-rubber, and orchilla weed formed five-sixths of the total Mozambican exports. However, calumba’s commercialization and regular supply remained limited because of its greatly fluctuating prices. A lower price was insufficient to pay for the trouble of collecting calumba regularly, and locals were hesitant to gather it in large quantities which might be refused upon arrival at the coast. At twenty-five shillings per hundredweight, its export was hardly profitable and consequently diminished. Here, African agency meant that locals kept their eye on the demand and modified their root-collecting activities when the prices were not satisfactory.⁶²

In the early 1880s, Scottish naturalist and theologian Henry Drummond mentioned in his popular travel account calumba together with indigo and orchilla weed as plentiful wild produce on the lower Zambesi. Drummond was disparaging towards the region’s Portuguese colonial economy, arguing that owing to “apathy and indifferent government” the natural riches (including cultivable oil seeds and sugarcane) were “almost wholly undeveloped.”⁶³ Drummond’s comments can be seen in the context of increasing British critique of the Portuguese in East Africa during the growing colonial interests of the late century. The Portuguese were portrayed as lazy and inefficient compared to the British—who occupied the Malawi region in the early 1890s.

German colonial rule in East Africa from the 1880s to the First World War brought the calumba regions of the Tanzanian coast under a different empire, a phase which cannot be properly investigated here. The German interest in colonial botany together with the country’s strong pharmaceutical industry was noteworthy. In Britain at least, it seems that imports of calumba grew substantially during the First World War. Curiously, a boom seems to have been experienced at the end of the war, when English markets had been overflowed with calumba shipments.⁶⁴ Apart from medicinal use (often as a tonic), the root was used as a flavoring agent for alcoholic beverages. Apparently, at the turn of the century following crop damages for hops in England, there was strong interest in calumba as a substitute.⁶⁵ After the war, the British took over the Tanganyika

62. Palmer and Newitt, *Northern Mozambique in the Nineteenth Century*, 305, 311.

63. Quoted in Steven Fabian, “Journey out of Darkness? Images of Africa in American Travelogues at the Turn of the Millennium,” *Continuum: Journal of Media & Cultural Studies* 27, no. 1 (2013): 96, <https://doi.org/10.1080/10304312.2012.649714>.

64. T. H. Marshall, “Notes on Two Drug Plants,” *The East African Agricultural Journal* 3, no. 5 (1938), 385–87.

65. *Some Medicinal Forest Plants of Africa and Latin America*, FAO Forestry Paper 67 (Rome: Food and Agriculture Organization of the United Nations, 1986), 96.

Territory and its Amani research station for botany. Interest in calumba surfaced occasionally in the interwar era in the writings of colonial officials, scientists, and ethnologists.

As Stacey Langwick has argued, colonial administrations were less interested in articulating the category of “native medicine” as carefully or extensively as they documented “witchcraft.” In Tanganyika, the British demanded pharmacological qualities from plants they were willing to consider medicines. The East African Agricultural Research Station in Amani became a center of these research activities beginning in the late 1920s, when P. J. Greenway started working there as botanist. Greenway took a strong interest in medicinal plants, publishing a Kiswahili-English dictionary of plant species and lists of plants in local vernacular languages. By the mid-1930s, Greenway suggested that some of the medicinal plants used by Indigenous residents might be useful in European pharmacology and began to work with the Medical Department of Tanganyika to collect and investigate local medicinal flora. This led to further political interest in African medicine, which allowed healers (earlier labelled as “witch doctors”) to renegotiate their legitimacy. In the Medical Department, analytical chemists began examining plants and medicine sent to them by officers and researchers in the field. According to Langwick, “native medicine” thus came to be separated from “occult” healing as a separate category of knowledge and practice and became conceived of as a question of natural resources.⁶⁶

In the colonial investigations about Tanganyikan medicines that combined ethnological and botanical interests, Austrian-born anthropologist Hans Koritschoner (later Cory) was a pivotal figure. In 1935, Koritschoner provided colonial officials with a long list of medicinal plants used by healers in the Makuyuni district and furnished the Amani research station with specimens. Calumba was not featured on this list (perhaps as it was so well known), but *Cissampelos pareira* was. The name abutua was not used, but its Swahili name was given as *mkuru wa mti*. Its use was described as “intoxicant.” Koritschoner corresponded with the Amani station, which provided botanical names on many of the plants. Koritschoner, who employed four local informants, believed information in due course could be gleaned for over two thousand medical plants (excluding those used for “witchcraft”). The British officials valued his information highly and noted that at least one Swiss pharmaceutical company was interested in East

66. Stacey A. Langwick, *Bodies, Politics, and African Healing: The Matter of Maladies in Tanzania* (Bloomington, IN: Indiana University Press, 2011), 53–55.

African medicinal plants.⁶⁷ Koritschoner's anthropological interests included *ngoma ya sheitani*, or spirit possession healing.⁶⁸

In a subsequent 1949 article about "magic medicines," he (then known as Hans Cory) provided yet another name and usage for *C. pareira*. Known as *ukuluanti* (the elder of a tree), it was used by a *mufumu* healer to help parents who were mourning a lost child. Cory explained that *ukuluanti*, a creeper which covered the stem of a tree, represented the parents while the covered stem represented the child they had left behind.⁶⁹ In Cory's writings and in British commentaries about them, *C. pareira/ukuluanti* appeared as a boundary object that had partly overlapping, partly different meanings as local, social and therapeutic medicine, and was viewed by Europeans through a magical/pharmaceutical binary.

In the 1930s and 1940s, calumba continued to enjoy popularity in world markets as a medicinal bitter. In 1947, Associate Chief T. W. Delahanty of the US Department of Commerce's Chemical and Drug Section noted England, France, Germany, and the United States as the largest importers of calumba before the war. In Mozambique, the labor force was increasingly diverted to cotton cultivation, and British East Africa took the lead as a supplier of calumba during the Second World War with Zanzibar leading the exports to India, England, and the United States. Lourenço Marques in Mozambique was the second most important port. Figures from Mozambique indicated that exports of calumba dropped from approximately 110 tons in 1938 to only ten tons in 1943 and rising to thirty tons in 1944. Tanganyikan exports, in turn, increased from approximately 1.3 tons in 1939 to ninety-nine tons in 1941, 206 tons in 1942, and 292 tons in 1944.⁷⁰

Noting its usefulness in the treatment of dyspepsia, diarrhea, flatulence, anorexia, and similar complaints, Delahanty noted that the plant grew wild from the coastal forest to many miles inland and was most plentiful between Zambezi and Rovuma. Tanganyikan production had been comparatively small prior to WWII but then grew considerably in significance and surpassed Mozambican exports in just a few years. Nearly all commercial supplies were obtained from wild

67. List of Native Medicinal Plants Collected by Mr. Koritschoner in the Makuyuni District, W. Usambaras, Tanganyika Territory, Extract from a Letter from Koritschoner, May 15, 1935, Tanzanian National Archives, file no. 23496, Medicinal Plants Used by Natives—Mr. Koritschoner.

68. Hans Koritschoner, "Ngoma Ya Sheitani. An East African Native Treatment for Psychical Disorder," *The Journal of the Royal Anthropological Institute of Great Britain and Ireland* 66 (Jan.–June 1936): 209–19, <https://doi.org/10.2307/2844124>.

69. Hans Cory, "The Ingredients of Magic Medicines," *Africa: Journal of the International African Institute* 19, no. 1 (Jan. 1949), 13–32, <https://doi.org/10.2307/1156261>.

70. T. W. Delahanty, "Medicinal Bitters: Goldenseal Root (*Hydrastis*), Colombo Root, and Quassia Wood and Chips," *U.S. Department of Commerce, Industrial Reference Service, Part 2, Chemicals, Drugs and Pharmaceuticals* 5, no. 9 (1947), 2, Tables 1 and 2.

growth, meaning that at least seasonal labor in Tanganyika had been redirected to collecting and digging up the root in March during the dry season. After being cleaned and cut into transverse or oblique slices, the roots were dried and then packed in double bags each containing approximately forty-five kilograms or were compressed in bales of varying sizes that were covered with burlap. For shipment, the root had to be thoroughly dry because it easily became moldy from moisture. Delahanty also estimated that calumba's commercial potential could be further exploited and developed.

If there was a demand, the exporters contacted the traders who had natives collect the root. Therefore, prices played an important part in determining the quantity collected in any year. Since very large quantities were reported to be available on the East Coast of Africa, if the natives were given enough incentive the output could be increased considerably. It was believed that more than 500,000 pounds [225 tons] were gathered in producing countries each year for commercial export. The drug was reported to have very little use and no sale locally.⁷¹

Even though Tanganyika took over calumba exports, the plant still continued to have local significance in Mozambique and was actually widely used by the local population as a home remedy and by specialized healers.⁷² During independence, its economic significance has at times been reassessed. For example, in the late 1980s, the agricultural company Agricom in Nampula was instructed to buy quantities of calumba for the state pharmaceutical company.⁷³ More recently, *Jateorhiza palmata* has been exported from Malawi as well although to a lesser extent than from Tanzania and Mozambique. Healers continue to use it for a wide range of ills from stomach and digestive disorders (a long-term usage) to cancer. Increasing collection for exports has also raised concerns about the sustainability of the root supply.⁷⁴ Generally, healers' associations in Malawi have been worried about the loss of traditional medicinal plants and aim to prevent loss of these therapeutic resources.⁷⁵

71. Delahanty, "Medicinal Bitters," 3.

72. Marcella Remoura Fernandes, "Plantas medicinais—sua valorização: Relações científicas com a União Sul-Africana," *Boletim geral das colônias* 21, no. 237 (1945): 229; Carlos Lopes Bento, "A possessão em Moçambique: Achegas para o seu estudo: O curandeiro n'kanga entre os wamwuaní do Ibo (1969–1974)," (unpublished paper presented in the seminar *Perspectiva antropológica das práticas e conceitos tradicionais de saúde*, Sociedade de Geografia de Lisboa, December 2003).

73. João Cravinho, "Frelimo and the Politics of Agricultural Marketing in Mozambique," *Journal of Southern African Studies* 24, no. 1 (1998): 112, <https://doi.org/10.1080/03057079808708568>.

74. David Guta et al., "Socio-Economic Importance, Abundance and Phytochemistry of *Jateorhiza palmata* (Lam.) Miers a Medicinal Plant in Nsanje, Malawi," *International Journal of Scientific Research in Agricultural Sciences* 3, no. 3 (2016): 73–84, <https://doi.org/10.12983/ijrsas-2016-p0073-0083>.

75. Healers Dickson Sakala and Linesi Mhone, Zubayumo Makamo, interviews by Markku Hokkanen and Harvey C. C. Banda, June 20, 2010. Interviews in chiTumbuka translated and transcribed by Harvey C. C. Banda.

As wild medicinal plants that were appropriated by colonial botanists and traders and circulated through imperial medical markets, calumba and abutua can be compared with *strophanthus*, varieties of which were acquired from both West and South-Central Africa in the late nineteenth century. Unlike cinchona, which became cultivated on a large scale in Asian colonial plantations, all these plants remained valued in modern medical trade on a smaller scale and more irregularly. While calumba, in particular, enjoyed a periodic reputation as almost a wonder drug in late-eighteenth-century and early-nineteenth-century European medicine, the African origins of these plants did not (unlike in the case of *strophanthus*) seem to become a particular marketing asset at any point.

Furthermore, the chemical isolation of a range of alkaloids and other potential substances from them did not seem to result in any celebrated discoveries—at least in the English-speaking world—like the development of strophanthin as a cardiac medicine in the 1880s and 1890s. In the origin story of *strophanthus*, the potency of African arrow poisons fused with the imagery of colonial appropriation and scientific transformation in a Western laboratory.⁷⁶ Compared with *strophanthus*, calumba and abutua seem to have been at the same time more prosaic medicinal roots (used mainly as tonics and stomach medicines) and more obscure in their geographical origins so they were not portrayed and advertised as African-originating drugs for European and North American traders, distributors, and consumers.

Conclusions

African healers have consistently used calumba and abutua for centuries for a wide range of illnesses, although European-authored sources allow only tiny glimpses of their agency and usage. As medicinal boundary objects they seem to have retained many of their curative meanings—for example, against stomach disorders—for longue durée while obtaining newer, and possibly localized and shorter-term meanings and uses. The use of *C. pareira* as a medicine to address the loss of a child, documented in mid-twentieth century Tanzania, for example, revealed a different kind of medicinal use for this root that dealt with psychological and social suffering.

A detailed examination of calumba and abutua shows how blockages, conflicts, and translations shaped knowledge about medicines in the early modern period. As part of wider intellectual relations, this specialized knowledge

76. On *strophanthus*, see Osseo-Asare, *Bitter Roots*; Markku Hokkanen, “Imperial Networks, Colonial Bioprospecting and Burroughs Wellcome & Co.: The Case of *Strophanthus Kombe* from Malawi (1859–1915),” *Social History of Medicine* 25, no. 3 (August 2012), 589–607, <https://doi.org/10.1093/shm/hkr167>.

sometimes failed to move in and between spatial and temporal contexts. In these processes of circulation, African agency often remained hidden, ignored, or camouflaged. The Portuguese and English sources consulted here almost completely omit individual Africans involved in the identification, location, collection, trading, and use of calumba and abutua. The “Zulu” to whom John Kirk offered cloth for calumba roots and flowers is known to us only thanks to a chance diary entry of a fellow British explorer. Little is mentioned about African societies or polities either, but, in the case of abutua, the association with a powerful kingdom who successfully fought the Portuguese is certainly noteworthy. The Makua of Mozambique surfaced as one ethnic group associated with calumba collection in both Portuguese and Anglo-American sources.

Commodification of calumba and abutua is clear. By the early nineteenth century, both plants were increasingly seen as potential products for economic botany and the previous mystery and secrecy around them waned. In British and American discourse at least, the Portuguese were portrayed as concealers of information about calumba who no longer could hide the plant for themselves. In late colonial Tanzania, investigations into calumba used by African healers played a part in the process of differentiating between useful “Native medicine” and occult practices or superstition. However, despite recurring commercial interest in them, neither plant became systematically cultivated. They remained wild produce collected seasonally according to fluctuating markets.

It remains to be answered why abutua never reached the same popularity and commercial value as calumba. First, it was a plant medicine that had to be gathered far inland and from a region often hostile to the Portuguese which limited its supply. The Rozvi of Butua had no reason to sell abutua exclusively to the Portuguese, and moreover, their lands were primarily known as a cattle and gold country. Second, there seems to have been an abundance of abutua/*pareira brava* in the world market, because it could also be obtained from India and South America. Therefore, there was less demand for it in Indian and Atlantic Ocean trade networks. While abutua seems to have lost to calumba in economic significance, it still continued to excite intellectual curiosity (as *Cissampelos pareira*) in twentieth-century colonial science and anthropology.

Future biographies of calumba and abutua could take into account wider African and global networks involved in their acquisition, research, and production—including diverse African agents as well as European and American scientists, pharmacists, and pharmaceutical industries. A combination of archival research with oral history fieldwork in several countries would be required for such studies. For its part, this contribution hopes to provide some groundwork, clues, and starting points for future research about these potent roots.

Acknowledgments

Research and Open Access publication of this article has been supported by the Academy of Finland research project, “Mobile Healers, Politics and Development in Sub-Saharan Africa” (project. no. 324388). We would also like to thank Jan Kuhanen for a valuable archival reference.