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ORIGINAL ARTICLE

Evidence of an Eleventh-Century AD *Cola Nitida* Trade into the Middle Niger Region

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Abstract Kola nut (*Cola* cf. *nitida*) and Safou fruit (*Dacryodes edulis*) remains have been discovered in eleventh- to fourteenth-century archaeological contexts at Togu Missiri near Ségou in Mali. These remains are evidence of early trade in perishable foodstuffs from the West African forest zone into the Middle Niger region. On the basis of these finds, this paper argues that long-distance trade links were well established by the end of the first millennium AD. It thereby supports the hypothesis that dates the inception of trade between the West African forest zone and the savanna regions to the first millennium AD. The circumstances of the find are discussed, as are the implications for our understanding of the wider exchange network based on the Niger River system in the late first and early second millennium CE.

Résumé Des fragments de noix de cola (*Cola* cf. *nitida*) et de fruits de Safou (*Dacryodes edulis*) ont été découverts dans des niveaux archéologiques du onzième au quatorzième siècle à Togu Missiri près de Ségou au Mali. Ces vestiges témoignent d'un commerce précoce des denrées périssables de la zone forestière d'Afrique occidentale vers la région du Moyen Niger. Sur la base de ces découvertes archéologique, cet article montre que les liens commerciaux à longue distance entre la zone forestière d'Afrique de l'Ouest et de la région des savanes étaient déjà bien établis dès la fin du premier millénaire AD. Les contextes et la nature de cette découverte sont discutés, ainsi que les implications sur notre compréhension du réseau d'échange basé sur le haut et moyen Niger à la fin du premier et au début du deuxième millénaire de notre ère.

Keywords Kola nut · African plum · Stimulants · West African archaeology · Archaeobotany · Mali

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Introduction

Kola nuts (the seeds of *Cola nitida* or *Cola acuminata*) are important to West African cultures past and present. These seeds contain caffeine, theobromine, and kolanin, among other bioactive phenolic compounds (Niemenak et al., 2008; Nyadanu et al., 2020). In recent times, they have been essential as gifts for almost any social occasion. They accompany visits, negotiations, reconciliations, and many other events, where they are given as a sign of respect or goodwill or as a form of symbolic payment. Kola nuts also feature centrally in divination and sacrifices and are valued as mild stimulants that suppress hunger and thirst (Lovejoy, 1995; Sundström, 1966). Their cultural uses and symbolism are fairly well described for the forest zone (Drucker-Brown, 1995; Hauenstein, 1974; Kwame, 2019) but less explicitly so for the western Sahel, where they are a constant yet peripheral feature in ethnographic accounts (Bertaux, 1984; Boujou, 2000). Although they are highly valued culturally, kola nuts do not grow in the Sahel. Instead, they come from the West African forest zone, a fact which has even led to the cardinal direction south becoming named after kola nuts in several Sahelian Mandé languages. For example, the Bambara and Northern Maninkakan word for the "south" is "*wòrodugu*" — lit. "the land of kola."

The most common species of kola nuts in West Africa, and those responsible for the vast majority of consumed nuts, are *Cola acuminata* (Vent.) Schott et Endl. and *Cola nitida* (P.Beauv.) Schott et Endl. These two are the economically most important of more than 125 *Cola* species native to the West African forest zone (Burkill, 2000). The growing conditions of the trees prevent them from prospering in the drier climate north of the tropical forests (Fig. 1). Thus, large parts of West Africa in which kola nuts are regularly consumed lie outside of the areas where they can be grown, and so the nuts need to be moved to reach their consumers. The trade in kola nuts is considerable today, with a global production of 280,000 metric tons in 2016, of which Nigeria, the Ivory Coast, Cameroon, and Ghana produced 97% (Tridge, n.d.).

Despite their popularity as a trade item, kola nuts are not easy to transport. Since they must be kept moist, despite warm climatic conditions, and are susceptible to pests (Lovejoy, 1980, p. 97), they must be frequently unpacked, checked, watered, and repacked. Several authors have pointed out that trade in kola nuts (especially historical trade that did not rely on mechanized transport) must depend on established commercial networks so that the nuts can reach their destination before they are spoiled (Lovejoy, 1980, p. 106; Person 1968, p. 102). Even present-day kola

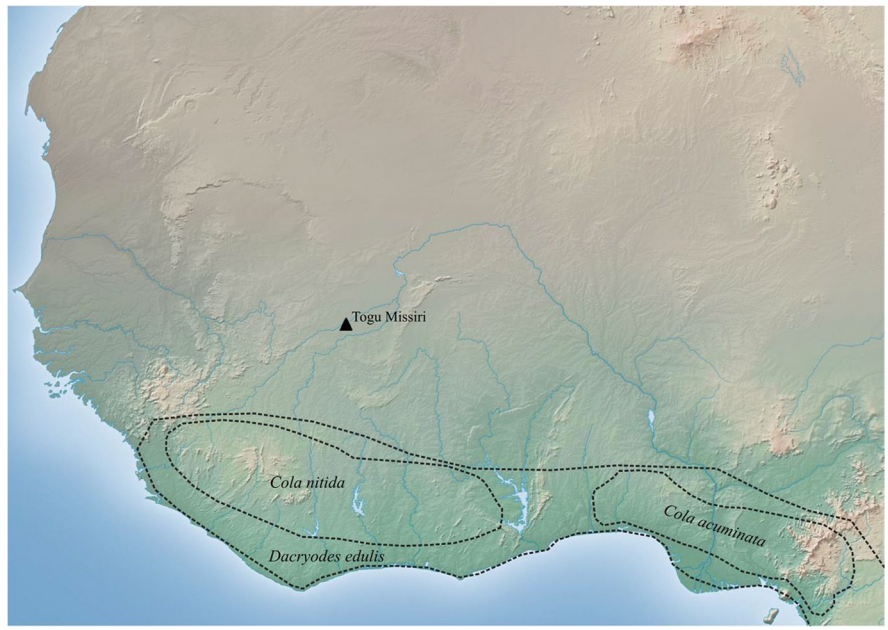

Fig. 1 Distribution of main production area for *Cola nitida*, *Cola acuminata*, and *Dacryodes edulis* (Lovejoy, 1980, Burkill, 2000) and the archaeological site (Togu Missiri) where *Cola* sp. and *Dacryodes edulis* fruit remains were recovered

trade is seen as a high-risk venture, according to Kirikoshi (2019), who stresses the importance of trust relationships between the parties in this trade.

Kola nuts are thus a trade good that cannot be traded casually. They require carefully planned trading operations, established routes, high mobility, and close contact between persons over large geographical distances to minimize the risk of spoiling the merchandise. It may be due to this risk and these infrastructural demands that the profit margins were historically very high. Roberts (1987, p. 67) speaks of a gross profit of 400% for traders from the Ségou area in the eighteenth and nineteenth centuries, while a late nineteenth-century source speaks of a value increase of 6,000% on nuts bought in Ghana and sold near Lake Chad (Hopkins, 2016, p. 73). Between the long distances to be overcome and the risk of loss from spoiled commodity, the beginnings of this trade would have faced considerable obstacles. The question of when and under what circumstances such a trade began remains to be answered.

Kola Trade and Trade Networks in Middle Niger During the First and Second Millennia AD

Lovejoy's (1980) study on the interior regions provides the most comprehensive overview of the historical, ethnographic, and linguistic evidence for the development of the West African kola trade to date (also see Brooks, 1980, for the treatment of the coastal kola trade). He claims that the market for kola existed in the savanna by the thirteenth century and proposes, though without firm evidence, that it might have been established much earlier than that. There are several indications that kola nuts are a product that must have been traded following a long formative period of exchange relationships, which allowed the kola nut to gradually gain popularity in the Sahel. Firstly, the perishable nature of the nuts means they must be transported quickly or traders risk losing their cargo. Hence, routes with safe and fast passage must be known and negotiated in advance. Secondly, the linguistic evidence of widely shared names across many languages suggests that kola nuts became available in the savanna and Sahel zones within a short period, rather than through a lengthy, gradual spread (Lovejoy, 1980, p. 106). This contrasts with the evolved cognates shared across Benue-Congo languages and basal Bantu that presumably originated in the forest zone (Bostoen, 2014). Thirdly, Lovejoy (1980, p. 100) points out that kola nuts are an acquired taste, which means that a market for them had to be created. This sets them apart from many other historical West African trade items like salt, sandstone implements, iron, cloth, or grain which are arguably more fundamental to human needs. In this regard, a lengthy period of contact must have existed between the Sahel/savanna and the rainforest zones before a regular trade in kola nuts could be established. While the evidence presented in this paper is the earliest for kola nuts in the savanna zone so far, it probably does not date the beginning of the kola trade, and it is definitely later than the beginning of trade relationships between the forest and savanna zones.

Much of the existing literature ties the beginnings of the forest-savanna trade to gold. This is, for instance, the case with Nehemia Levtzion, who saw contacts between the savanna and the forest areas as an effect of political developments driven by the gold trade. Levtzion (1973, p. 53) supposed that the political succession from the Empire of Ghana to Sosso and then to the Empire of Mali implies a progressive movement of the centers of power southward from the desert edges towards the forest zone, although the accuracy of this orthodox version of West Sudanese history has been questioned (Gestrich, 2019; Hunwick, 1973; MacDonald et al., 2018). Corollaries of this shift, he believes, are that the Buré goldfields gained importance and that the populations in the forest zone were drawn into the pre-existing long-distance trade networks of the savanna. This would date the inception of regular trade links to the early fourteenth century. Paradoxically, Levtzion states elsewhere (1973, p. 181) that the use of kola nuts was well established in the savanna by then and that it "already fulfilled many of its more recent economic and social functions" during the period of the "great empires." Certainly, the fourteenth-century date for the inception of the kola nut trade appears to be late since we have documentary records that suggest the inclusion of kola nuts in the trans-Saharan trade before 1356 (al-Maqqarī in Levtzion & Hopkins, 2000, p. 307).

R. McIntosh sees a similar link to gold as a driver of north–south trade, though he believes this trade began considerably earlier, by the middle of the first millennium AD. For R. McIntosh, the kola and gold trades are a southern add-on to earlier networks that brought iron, sandstone objects, and salt into the Inland Niger Delta in exchange for foodstuffs and led to specialized and regular trading expeditions (McIntosh, 1998, p. 217). All of these relate to the broader economic connections in the West African savanna and the Sahel, for which archaeological research is increasingly showing that a high-volume trade over medium to long distances developed in the mid to late first millennium. The existence of such interregional trading networks has been mostly documented in iron (Gestrich, 2013; Gestrich & MacDonald, 2018; Håland, 1980; McIntosh, 1995; Serneels & Perret, 2003) and likely also extends to foodstuffs, salt, sandstone, and charcoal. The main drivers of this trade are the diversity in ecological zones and regional variations in geology, which govern the distribution of plants, animals, and mineral resources such as iron ore, salt, and sandstone. These regional ecological and geological contrasts mean that many areas are abundant in a particular set of vital resources while lacking others. If we suppose Levtzion's and McIntosh's proposals for the connection between gold and kola trades to be accurate, we might suggest that the kola trade developed before the seventh or eighth century since this is when we have the earliest written mentions and earliest archaeological evidence for the trans-Saharan gold trade (Nixon, 2017, p. 157–160). In this context, it is also worth mentioning Brooks' (1993) work on the early expansion of pre-European contact trade networks, in which he also links kola and gold as major factors in the rise of Mandé-speaking populations to political power and their demographic expansion. Brooks, however, sees this trade as developing in response to a southward shift in climatic zones around 1100.

In historical linguistics, names for kola are reconstructible to considerable time depths. Williamson (1993) showed that terms for kola could be reconstructed in many West African proto-languages. A root that occurs in Benue-Congo languages in Nigeria and Cameroon is shared with Proto-Bantu and reconstructed to *-*bèdú* (Blench, 2006; Bostoen, 2014). The term *góóró* from Songhay appears to have been spread by Hausa traders later (Blench, 2006). Lovejoy's (1980) reconstruction of the linguistic evidence shows considerable diversity in words for kola nuts in the languages of the forest zone. By contrast, the terms for kola in the savanna from the Atlantic coast to Lake Chad virtually all use a variation of *goro* or *woro*, indicating that they are borrowed from a West Atlantic language in the Sierra Leone-Guinea border area, where the Niger has its headwaters. Although the kola nut was undoubtedly known throughout the forest zone, it therefore seems to have been this area from where its commercialization and trade into the savanna began. This linguistic evidence also suggests that none of the other growing areas traded north sufficiently early to influence the vocabulary of the savanna peoples, who had settled on the **goro* root before areas like the Akan region became involved in the trade. When exactly the first regular trade links to the latter area developed is currently impossible to say. However, the Gonja region of north central Ghana seems to have been involved in trade with the savanna, possibly the Inland Niger Delta, by the twelfth century AD, as the presence of African rice (*Oryza glaberrima*) at Old Buipe indicates (Champion in Genequand et al., 2020), and thus, earlier than Wilks (1961) had previously suggested.

Thus, the extant literature documents the establishment of regular trade routes linking the West African forest zone with the savanna and the desert edge sometime between the mid-first millennium and the early second millennium AD. Through these networks, which might have initially developed for gold trade, kola nuts began to be traded into the savanna and even across the Sahara. The initial trade seems to have focused on the source areas of the Niger river in today's Sierra Leone-Guinea border region, but it subsequently developed across several areas in the forest zone, where kola trees were also known and grown. From the outset, the trade in kola nuts required well-known routes, at least part-time specialized traders, and social contacts spanning large distances. From the beginning of the second millennium AD, Togu Missiri near Ségou in Mali was part of this trade network.

The Maraka Settlement of Togu

Togu is today a large village on an unpaved road linking the city of Ségou to the market town of Dioro. It

consists of a recent sprawling settlement and an older core beside a large pond, which is seasonally fed from the canals of the neighboring irrigation scheme, the *Opération Riz Ségou* (see Fig. 2). During the time of the *Segu fanga*, a polity founded in the early eighteenth century by "Biton" Mamari Coulibaly and effectively ended by El-hajj Umar Tall's conquest in 1860, Togu was one of the major *marakadugu*, settlements of the Maraka group. The Maraka were, and are, understood as a contrast to the majority Bamana group (Bazin, 1972, 1985) and engaged in activities that were not part of Bamana lifestyle, most significantly the practice of Islam, the refusal to take part in warfare, and an engagement in long-distance commerce. The *marakadugu* are the focus of a research program which aims to understand the settlement and population dynamics in the area between the Niger and the Bani before the eighteenth century. Together with the Traoré lineages (Bazin, 1988), they play a key role in local histories preceding the *Segu fanga.* Their origins are controversial and their age was formerly unknown. Nevertheless, previous authors have seen them as a key enduring part of an ancient settled landscape (MacDonald & Camara, 2011) and sociopolitical system (Bazin, 1972, 1988). Although they were politically sidelined, they were not removed in the demographically and politically turbulent developments of the *fanga* period and continued to be of commercial and religious importance. Our ongoing project has carried out archaeological surveys and excavations as well as extensive interviews on local traditions in an attempt to gain a multiperspective understanding of the past of the Maraka and their neighboring communities. This undertaking brought team members to Togu on several occasions between 2016 and 2020.

As Richard Roberts (1987) has described for Sinzani, one of the main Maraka centers of trade and

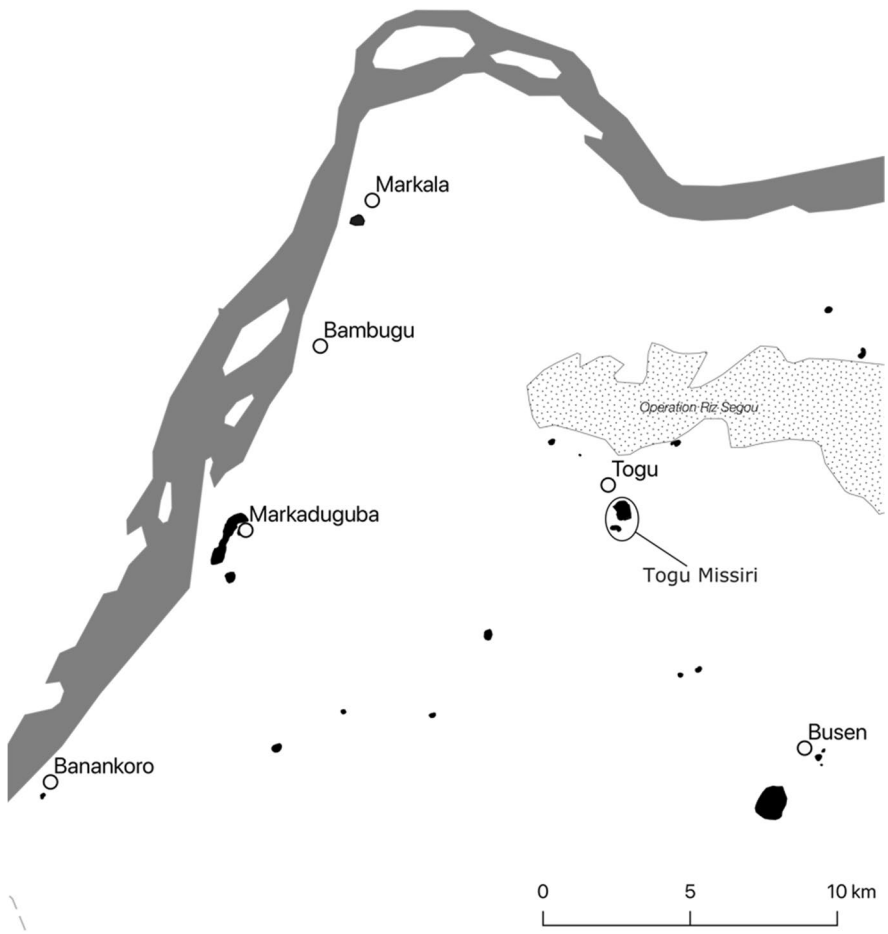

Fig. 2 Location of the site below the eastward turn of the Niger at Markala (archaeological sites of the area are shown in black)

production in the *Segu fanga*, the Maraka commercial activities took several forms. Instead of trading in the market, the Maraka of Sinzani mainly acted as brokers (*jatigi*) to Azawagh Arab (*Suraka*) traders bringing salt from the north, in exchange primarily for slaves, which the *Segu fanga* supplied in large numbers. Yet, there was also a southern component of this trade, based entirely on foodstuffs, in which Maraka traders were directly involved. According to our informants in the region, salt, dried fish, and *sunbala* (a condiment made from the fermented pods of the *nèrɛ* tree — *Parkia biglobosa*) were carried south on donkeys as far as Man, Bouaké, and Abidjan in Cote d'Ivoire (see Fig. 3) until recently. The traders returned with kola nuts and cloth. In the first detailed French reports on Ségou in 1893/1894, Togu is listed as a staging point for caravans going towards the southeast, crossing the Bani, and from there taking many different directions (ANOM 51 PA 1).

Our surveys in 2016 revealed four archaeological site complexes surrounding the present village of Togu — three habitation sites and one small iron smelting site (Gestrich & Keita, 2017). We focused our attention on the site known as "Togu Missiri," which translates as "mosque (or, the meeting place) of Togu." The town notables that we interviewed in the course of our research believe this to be the first of the settlements at Togu and that it was inhabited by one of the founding lineages of the Jiré patronym.

The Site of Togu Missiri

Togu Missiri consists of a cluster of thirteen settlement mounds, seemingly in two distinct areas (Fig. 4). The mounds are most likely the remains of a single settlement, with the lower-lying areas between them representing seasonal ponds, open spaces, and roadways. The height of the mounds varies between 1.5 and 3.0 m. The excavations carried out in January and December 2017 targeted the larger northern part of the site and tested one of the higher mounds, Mound G. Here, a 3-×-3-m test trench aimed at gaining an overview of the stratigraphy and dates of the settlement was excavated to a depth of around 3 m below surface. The excavations, led by Daouda Keita, uncovered a sequence of layered earth and mud-brick buildings, floor levels, and midden deposits subdivided into four phases (Gestrich & Keita, 2017). The sequence was dated with five AMS dates on wood charcoal between the early ninth and the late thirteenth century (Table 1).

In terms of material culture, Togu Missiri is comparable to other sites investigated in the area in recent years, mainly Sorotomo (MacDonald et al., 2011),

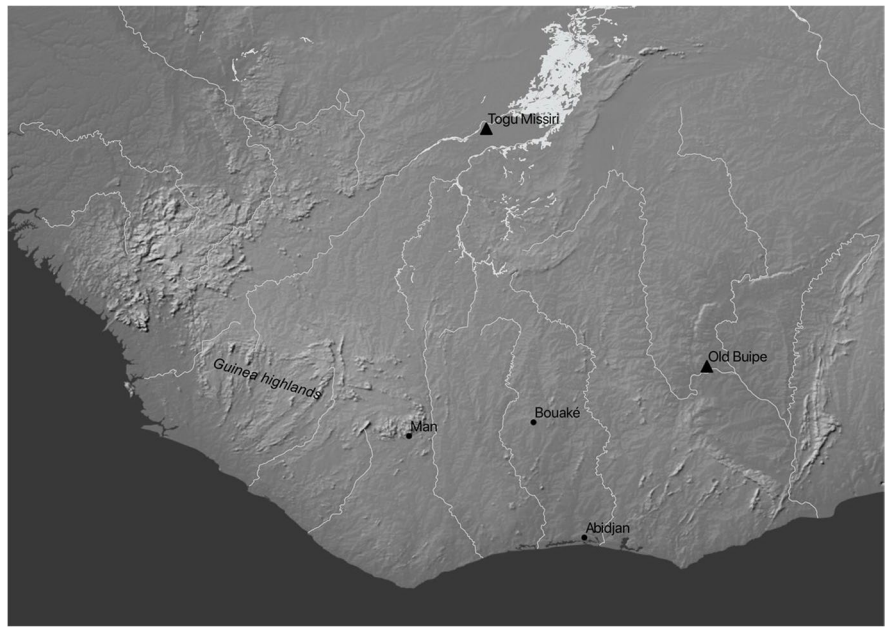

Fig. 3 Map of locations mentioned in the text

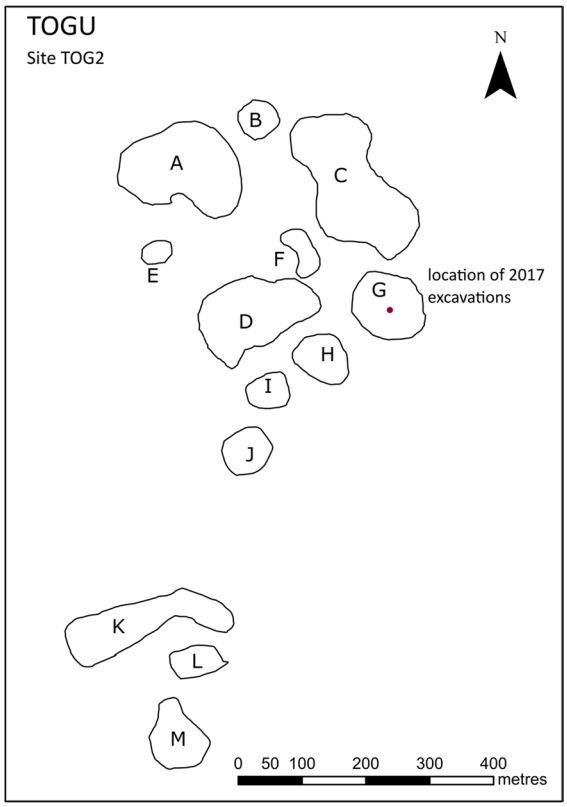

Fig. 4 Map of the individual settlement mounds at Togu Missiri, showing the location of the 2017 excavations

Marakaduguba, and Faraku. A combination of rectilinear and curvilinear construction in mud-brick and coursed earth, tamped laterite gravel floors, and pottery decorated with folded strip roulettes, fish spine roulettes, red slip, and burnish are among the typical elements of the archaeology of this region in the first half of the second millennium AD. Overall, the material culture of this settlement was not significantly different from the contemporaneous ones in the region. What was remarkable at Togu Missiri was the number of midden deposits uncovered by the excavations. These mostly consisted of soils with a high amount of ash and organic admixture which were rich in finds. There were pit features containing such midden deposits as well as midden layers between the occupation levels of the site (see Fig. 5). In the other sites that have been excavated in the area, no such deposits were found, with the possible exception of a deep pit feature at Sorotomo Unit B (MacDonald et al., 2011). The reason why our excavation trench at Togu Missiri had such an exceptional amount of midden material cannot so far be explained, nor do we know whether this is a feature of the site in general rather than only of the small area selected for test excavations.

The Botanical Assemblage

The soil samples analyzed for this study came from midden deposits (nine samples), from the sediment found inside intact pottery vessels (seven samples), and from living floors (two samples). They do not represent a systematic sample of the site, but all major architectural rebuilding phases are represented. The soil samples were subjected to bucket flotation and subsequently passed through a 0.25-mm mesh sieve by the students of Bamako University's HOPE laboratory under the supervision of Nikolas Gestrich and N'Ji Jacques Dembélé. The samples were analyzed in London and Frankfurt by Louis Champion following the methodology described in Champion and Fuller (2019). Three samples were devoid of any plant remains. In total, 1425 archaeobotanical items were recovered from 100 L of soil. The density of finds,

Table 1 Radiocarbon dates from Togu Missiri

Sample no	Site	Context	Depth below datum (cm)	BP	95.4% cal AD
Beta-464271	TOG2	5	29	780 ± 30	1,210–1,281
Beta-464267	TOG2	13	90	880 ± 30	(68.4%) 1,117–1,222 (27%) 1,042–1,104
Beta-464272	TOG2	20	116	900 ± 30	1,039–1,210
Beta-502929	TOG2	42	235	1,140 ± 30	(78.6%) 854–981 (11.3%) 802–848
Beta-502928	TOG2	50	257	1,140 ± 30	(78.6%) 854–981 (11.3%) 802–848

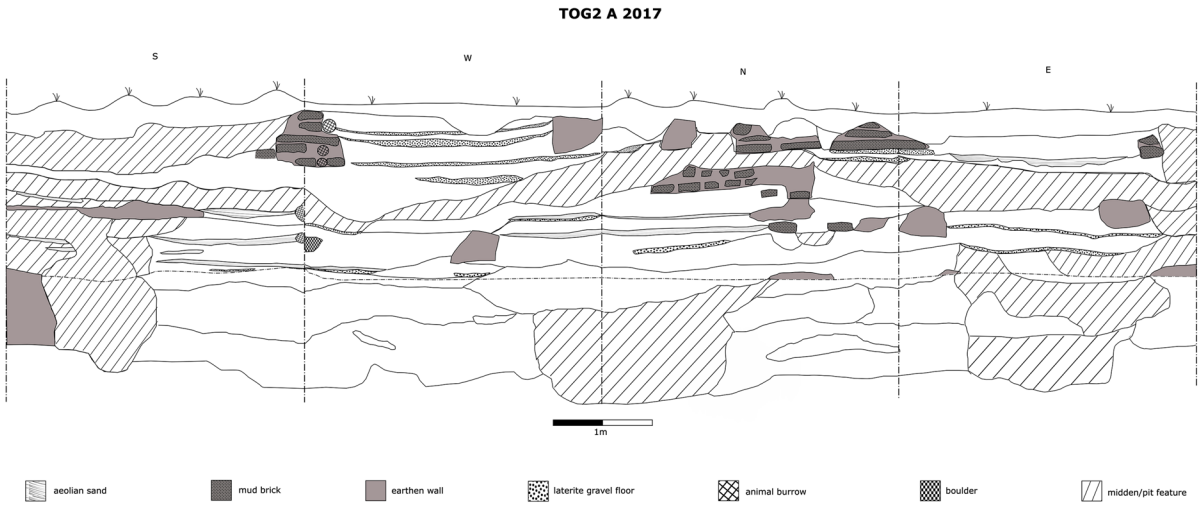

Fig. 5 Profiles of the excavations Togu Missiri showing midden deposits

14.3 botanical items per liter of soil, is high compared to other sites in the West African savanna and Sahel, where the average is around 10 botanical remains per liter of soil (Champion, 2019).

The archaeobotanical assemblage from Togu Missiri (Table 2) is largely dominated by fonio remains, of which 709 grains were found in 13 samples (72% of ubiquity), representing a frequency of 54%. Pearl millet is also well represented with 348 items (for 24% of the total assemblage [frequency]). Sorghum is present as well but only in low frequency (4%). Finally, cowpea is present in very low frequency, with only three cowpea remains (less than 1% of the assemblage). With 37 remains (3%), cotton is the main cash crop present.

One major diachronic development visible in the assemblage is the arrival of cotton, which is not present before around AD 1200 in Phase B. Further, a constant decrease in the frequency of pearl millet remains is noted (from 67% in Phase E to 7% in phase B; Table 2). African rice is observed only in the earliest phase but only in a very small proportion (2% in phase E) and is absent in other phases. These agricultural results will be further discussed in a separate publication. The focus here is on kola nut and safou fruit remains.

Like kola nuts, safou fruit trees, *Dacryodes edulis*, grow natively in the countries bordering the Gulf of Guinea but are cultivated (and naturalized) from Sierra Leone to Angola in the South and Uganda in the East (Fig. 1). The fruit is an ellipsoid drupe of 8–12 cm by 3–6 cm that usually supports one oblong seed up to 6 cm long. In Cameroon, where Safou is a daily staple, it is usually boiled in water and consumed as a side plate. It is usually the pulpy pericarp that is eaten, either raw or cooked. The pulp could also be reduced to a sort of butter. The seed kernel is also rich in oil and can be turned into butter (Bostoen, 2014; Burkill, 2000).

Kola nuts (*Cola* cf. *nitida*) and Safou fruits (*Dacryodes edulis*) (Fig. 6) are present in each soil sample from the last three phases (D, C, B) but are absent in the earliest phase. *Cola nitida* fruits are dry, woody capsules (or aphiscarum) that grow in radial clusters of two to six fruits (Fig. 6A). Inside the shell is a series of ovate to obturbinate seeds ("kola nuts") arranged in two rows. The seeds are three- or four-sided, with an indented hilum on the wider end, and often coming to point; in cross section, they are three- or four-sided. Pods of ~ 10 cm long contain three to 14 seeds, which are reddish when fresh, ~ 3 cm long, and surrounded by white fleshy aril. The *C. nitida* seed has a typical dicotyledonous structure, unlike *C. acuminata* with a seed that can split into three to six lobes (Dah-Nouvlessounon, et al., 2016; Niemenak et al. 2008). The specimens studied here have two cotyledons and are therefore referred to as *Cola.* cf. *nitida* (Fig. 6B, C), the species that is natural to the western side of the kola belt. *Dacryodes edulis*, the Safou or "African plum,"

Table 2 Archaeobotanical assemblage at Togu Missiri by phases: number of items recovered, frequency, and ubiquity for the main crops

Date AD	Togu Missiri				
	Phase E 900–1,000	Phase D 1,000–1,100	Phase C 1,100–1,200	Phase B 1,200–1,300	Total
Number of samples	3	5	5	5	18
Volume of soil in liters	15	25	25	25	100
Digitaria exilis	-	315	336	58	709
Frequency		56%	59%	32%	54%
Ubiquity		75%	100%	100%	72%
Pennisetum glaucum	72	161	103	12	348
Frequency	67%	29%	18%	7%	24%
Ubiquity	100%	100%	100%	75%	89%
Sorghum bicolor	3	14	35	-	52
Frequency	3%	2.5%	6%		4%
Ubiquity	33%	100%	100%		67%
Oryza glaberrima	2	-	-	-	2
Frequency	2%				< 1%
Ubiquity	33%				5%
Vigna sp.	-	3	-	-	3
Frequency		< 1%			< 1%
Ubiquity		40%			10%
Gossypium sp.	-	-	-	37	37
Frequency				20%	2%
Ubiquity				75%	22%
Tree/bush (fruit)	1	16	65	53	135
Frequency	< 1%	3%	11%	25%	10%
Ubiquity	33%	75%	75%	75%	55%
Cola cf. nitida	-	Present	Present	Present	Present
Ubiquity		100%	100%	100%	84%
Dacryodes edulis	-	Present	Present	Present	Present
Ubiquity		100%	100%	100%	84%
Total number	108	562	574	181	1425
Density (item/liter)	7.2	22.5	23	7.2	14.3

produces elliptical drupes (~ 7 cm long) that ripen to a purple or blue hue, but the edible pulp (mesocarp) is somewhat tough and oily and will soften when boiled. While the endocarp and testa of the stone are thin and unlikely to preserve, the highly convoluted and segmented embryo within it (Fig. 6D) is denser and thus able to survive charring (as in Fig. 6E).

Togu Missiri and the Long-Distance Trade of the Late First and Early Second Millennium AD

How Did the Tropical Produce Get to Togu Missiri?

The find of kola nut and Safou fruit remains at Togu Missiri raises questions about the circumstances of their deposition. It is not usual to find any botanical trace of kola nuts at the point of consumption since they are reduced to a pulp by chewing and often digested. Further, no durable specialized material culture is currently or historically used in their transport and storage. Kola nuts are usually stored and transported in baskets and wrapped in leaves. Why, then, do we find large fragments of nuts here? We suggest that whole kola nuts or large fragments would only enter the archaeological record in important numbers during the regular process of repacking the nuts and discarding those that are no longer in good condition and risk spoiling others by spreading mold or infestation. If Togu Missiri were a regular halt on the kola trade route northwards, then it would make sense that nuts would regularly be discarded there and that some would survive alongside other organic material

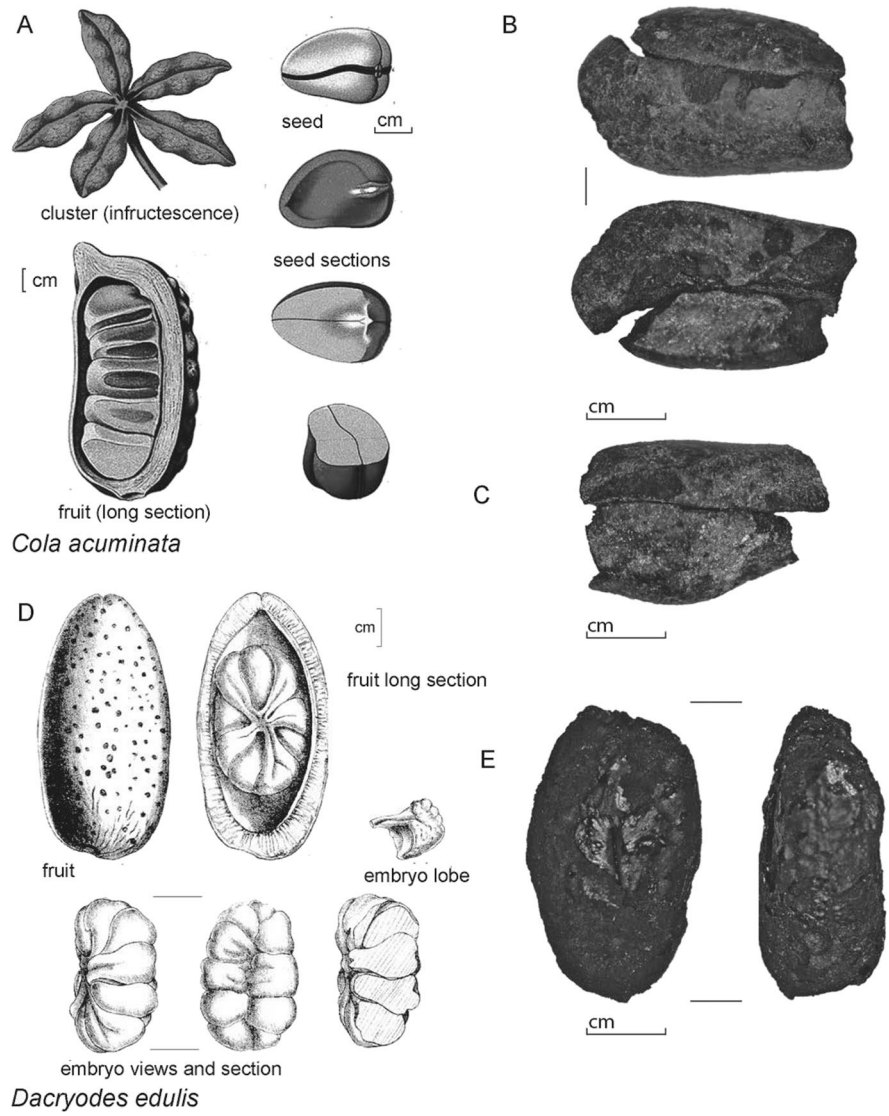

Fig. 6 Modern *Cola* sp. and *Dacryodes edulis* drawings and archaeobotanical remains from Togu Missiri. **A** Fruit cluster, sectioned fruit, seed and seed sections of *Cola acuminata* (after Kohler 1890). **B** and **C** Archaeobotanical remains, *Cola* cf. *nitida* carbonized fruit from Togu Missiri archaeological deposits A14 and A6. **D** *Dacryodes edulis* fruit and seeds (after Hooker, 1899). **E** Archaeobotanical remains, *Dacryodes edulis* carbonized fruit from Togu Missiri archaeological deposit A17

in the midden deposits. Their charred state might not be an accident but rather a deliberate burning of infested nuts to prevent the spread of pests, as is also suggested by current best practice guidelines, which advocate burning and burying the discarded nuts (Ndingwan et al., 2013). It is a question of chance that these middens were deposited on the habitation mound and in the area of our excavations. However, the finds do allow us to suggest that Togu Missiri was a settlement through which kola nuts were regularly traded, rather than only being a point where they were consumed.

If Paul Lovejoy's interpretation of the linguistic data is correct and kola trade originated in the Sierra Leone-Guinea border highlands (Lovejoy, 1980), then the kola nuts would have reached Togu Missiri on a route that roughly follows the course of the Niger. From the mid-eighteenth century onwards, according to Roberts (1987), the kola trade from the Segu area was focused mainly on the trade entrepots of Wassulu and Bonduku, with only a secondary route to Guinea and Sierra Leone. The oral accounts that we have collected also speak of recent trade for kola through entrepots in Côte d'Ivoire, in particular Man, Bouaké, and even Abijan (Fig. 3). Roberts (1987, p. 62) further states that the Maraka kola trade did not often use the river but instead relied on overland caravans for their journeys, which were often more

than 500 km one way. In the establishment of early trade from the Guinea highlands to the Middle Niger, prior to the last centuries of the first millennium, it is difficult to imagine that the river would not have played some role in transport or at least in the establishment of contacts between the populations of the two regions. As Kuba (2009) points out, for the lower reaches of the Niger, river trade (at least downstream) was considerably faster, with less need for tolls and negotiations, something that would be convenient for the trade of perishable goods. For now, however, we must treat the question of trade routes as mostly unknown. This is because the northern edges of the forest zone, especially the areas of Guinea and northern Cote d'Ivoire, have seen little archaeological work and no archaeobotanical analyses from this area are known to the authors.

What Was the Wider Trade Network and Who Were the Traders?

Our results suggest that kola nuts were not the only commodities traded north from the forest into the savanna zone. The safou fruit remains found at Togu Missiri shows us two things: Firstly, those trade operations were fast enough to bring tropical fruits northward into the savanna. Secondly, the previous archaeological and historical view on traded items in West Africa was too narrow. The Arabic historical sources with their focus on gold are extremely limited in their information on trade goods in the West African interior. Early European sources contain much more detail for the coastal regions, but not until the fifteenth century. Archaeological research has missed many goods traded across the region because of preservation problems, especially for organic objects. The fortunate finds of kola nut and safou fruits from Togu Missiri strongly suggest that we need to imagine early long-distance trade in West Africa as incorporating a much more diverse range of items than the current historical and archaeological evidence documents.

It is usual for authors on historical trade in West Africa to focus on gold, and as we have stated above, the link between kola and gold trades has been made by Levtzion and R. McIntosh. It is, however, also the case that the early written sources for the area have the gold trade as their main concern. It is perhaps these sources that lead many historians to place a disproportionate emphasis on gold (Green, 2019; Hunwick et al., 1979) and slaves and to neglect other trade items. A notable exception is Brooks (1993), whose list of traded items is considerably more varied. The archaeological focus has been on gold, salt, iron, stone, cowrie shells, and beads. Some of the less frequently documented trade items include animal hides (Dueppen & Gokee, 2014) and ivory (Stahl & Stahl, 2004). However, the accounts collected by Roberts (1987) and the Markadugu project (Gestrich & Keita, 2017) suggest that the emphasis, at least in recent centuries, was on dried fish, the fermented tree-pod spice *sunbala*, horses, tobacco, re-exported desert salt, and cotton cloth. From a seventeenth-century source, we also know that grain was exported from the area of Ségou to Timbuktu (Houdas, 1964, p. 406). Gold is nowhere mentioned, though we do know from Mungo Park (1858) that there was a trade in gold 250 km further upstream at Kangaba in the late eighteenth century.

On the present evidence, we assume that the population of Togu Missiri was involved in trading forest zone items further northwards, into the Niger's Inland Delta and its margins, and to the desert edge. This trade network intersects with others and feeds into a complex and high-volume network of exchange centered on the middle reaches of the Niger. The often-cited geological and environmental differences in the West African interior appear to have been the basis for the development of high-volume long-distance trade in basic provisions, especially salt and tools, by the mid-first millennium AD. This can be seen from growing imports and less local manufacture in metropolitan areas such as Jenné-jeno (McIntosh, 1995) and increased evidence of large-scale, market-oriented manufacturing in peripheral regions (Gestrich, 2013; Gestrich & MacDonald, 2018). Long-distance but low-volume trade in nonessential items had existed in the region since the Late Stone Age. That trade was fundamentally different from the high-volume trade that began in the first millennium AD. It included cash crops, large-scale manufacture for export, specialist traders with established networks, and above all, the dependency of large populations on the availability of traded items such as iron tools and grinding stones (for a description of this system of growing specialization and regional interdependency, see R. McIntosh, 1998). Societies along the Niger were already used to buying and selling things regularly by the mid-first millennium AD, probably

with a socioeconomic system that was sufficiently monetarized to cope with the large scale and high frequency of transactions. The earliest known cowrie shells from the region also date from the mid-first millennium and were clearly used as currency by the beginning of the second millennium (Haour & Christie, 2019). The regular trade in basic items and the concurrent development of specialist traders and long-distance routes will have opened up the possibility for any item to be traded in any volume along the same routes. The fact that forest zone safou fruits were brought to Togu Missiri, apparently regularly during three centuries, may therefore act as an example of how economically connected the entire interior of West Africa was in the late first and early second millennium AD.

It is, therefore, interesting to note the absence of kola nut and safou remains in the pre-tenth-century layers at Togu, although midden deposits were equally abundant there. Of course, this is not evidence that the trade in kola nuts did not exist during this period, but it might not have had the same volume, or it might not have used Togu Missiri as a regular stop. In any case, we must suppose other items to have traveled along the same routes until a market for kola nuts was established. By then, specialized traders had well-established relationships along their trading routes.

It remains to discuss the sociocultural and economic contexts within which such specialized traders operated. A large number of historical and archaeological writings have focused on the structure of trade in West Africa, emphasizing the establishment of trade diasporas, the importance of shared cults, or a shared and exclusive Muslim identity as key factors in the establishment of trade links (Brooks, 1993; Wilks, 1961). Following Levtzion (1973), these trade diasporas are often linked to the Empire of Ghana and its downfall. This link has become cemented in the historical literature of the area due to the identification of the Ghana of the medieval Arabic sources with the Wagadu polity of Soninké historical traditions (see Gestrich 2018). Across many parts of West Africa, Soninké individuals and communities have functioned as long-distance traders and have set up diaspora communities over a remarkably wide geographic area. Many of them link their existence in diasporic communities to the "scattering" (*saanxi*) event that marks the fall of Wagadu in oral traditions. In fact, many local populations regard it as received wisdom that all Soninké are traders. Due to this, it has become usual for authors on the past of Sahelian West Africa to associate all trade with the Soninké, and with the Empire of Ghana, a desert-edge polity engaged in Saharan trade. Both R. McIntosh (1998) and Lovejoy (1980), for example, assume that Soninké networks must be behind the early kola trade. At first glance, our results would support this identification. Togu is, and is claimed to always have been, a settlement of the Maraka population group, and *maraka* is the Bambara word for those who call themselves Soninké. This has led to the assumption that the Maraka settlements of the Ségu area were founded as part of the Wagadu polity or as part of its dissolution and the scattering of its population (e.g., Pageard, 1961). However, a closer look reveals that the term Maraka nowadays describes people of very varied ethnic backgrounds. They share a certain number of cultural practices, by which their identity is defined in opposition to the Bamana who also settle in this area (Bazin, 1985). A Maraka is supposed to be Muslim, engage in trade, and not take part in wars. For the Maraka of the Ségu area, this is not overtly a profound cultural difference, and becoming Maraka often simply denotes the addition of Islamic religious practices or a change of clothing style (Bazin, 1972). Anyone could and can become Maraka, but men engaging in these activities would have been excluded from their communities of origin to a certain degree. They would no longer have been part of initiation societies, the family farming enterprise, or the strict scheme of succession within the family unit. A male Maraka's work and life are incompatible with male identity in most agricultural societies of Sahelian West Africa, including the Soninké. While the Maraka are known far and wide as traders, engaging in this activity means leaving behind the ties of the sedentary agricultural lineages. The word *maraka*, for us, thus equates with a set of practices that include, but are not limited to, trade. It has become attached to the Soninké by virtue of the high number of them engaged in commerce.

We have focused on this argument to make explicit that there is no dependable link of the early kola trade to either the Soninké ethnicity or the Wagadu polity/the Empire of Ghana. Secondly, we want to stress the extent to which traders in Sahelian West Africa were a professional group, yet one with such pronounced

social distance from others that they could be considered almost like an ethnic group. In contrast to some other West African occupational specialists, membership is open, and there are no strict rules regarding endogamy. The degree to which individuals in such groups engaged in commerce, however, could be highly variable. There were surely those who plied long-distance trade routes several times a year, as well as those for whom joining a trading caravan was a one-off when they found themselves in a position to do so and those who engaged only in resale. We cannot be certain how far back in time Maraka identity existed and whether the inhabitants of Togu Missiri would have understood themselves as being Maraka or even belonging to a trading group, separate from the surrounding population. For the moment, the integration of traders into local society in this area is still an open question, but one we hope to address in future studies.

Conclusions: Early Kola Trade Into the Middle Niger

Lovejoy's history of the West African kola trade appeared in a themed issue of the *Cahiers d'études africaines*, alongside an article by Roberts (1980) which criticized some fundamental points of Hopkins' *Economic History of West Africa*. Hopkins had seen African societies as largely self-sufficient before the nineteenth century, a view that is frequently repeated to this day (e.g., Eltis, 2013), often in the first chapter of historical overviews focused on later periods. For Hopkins, local exchange was limited because everyone was producing the same goods under the same conditions. Long-distance trade, for him, was limited to luxury items destined to individuals with high buying power. In addition to criticizing Hopkins' static picture of the pre-nineteenth-century past, Roberts pointed out that several important long-distance trade goods, such as salt and kola, were accessible to ordinary buyers because the quantities required were small. People bought when they could. He further showed how the market limitations identified by Hopkins were overcome by transporting surpluses into areas beyond the limits of local markets where that product was in demand. He argued that ecological differences strongly influenced precolonial West African trade and that this, in turn, aided specialized production when coupled with long-distance trade. While the four contributions that discussed Lovejoy's and Roberts' papers mainly focused on the role of polities and slavery as depending on or creating trade links, several important further points were raised which continue to be topical now. Amselle (1980), for instance, pointed out the uncertain causality between trade, polity, and slavery and that ecological factors alone were somewhat too weak to explain the development of long-distance trade. According to him, the growers in kola-producing areas needed to make a conscious decision to plant and tend to the plants, harvest and pack them, and thereby make a seasonally abundant crop of limited sale value into a product for export. At the time, Amselle came to the rather vague conclusion that the West African subcontinental economy was a globalizing system in which everyone had their role to play. Based on the archaeological work of the intervening 40 years and with the arguments presented here, we might add some precision to this debate.

By the end of the first millennium AD, the West African interior was connected by trade routes. These occasionally transported luxury goods but regularly moved all sorts of materials between the different geological and ecological zones. Some of these materials were moved in high volumes. It is now apparent that the environmental differences that Roberts underlined did more than just present opportunities for trade. Rather, they made trade inevitable: there are strong indicators that the large population living in and around the Inland Niger Delta from the mid-first millennium AD would not have covered its needs without a medium- to long-distance, high-volume movement of nonluxury items. The archaeological data indicates that the populations of such ecological and economic niche areas drove high-volume exchange and regional economic specialization and the development of internally differentiated specialized traders and craftspeople. Over time, this had an integrating effect on the broader region and, from the mid-first millennium onward, led to societies in which specialization and the buying and selling of goods were commonplace. The end product is the situation that Amselle described, a globalized economy in which everyone had their place — that is, everyone produced something to sell. Although some communities may have been able to cover their basic needs

for food, clothing, and shelter, almost all would have also been able, and were willing, to produce something that traders would buy from them on a regular basis.

The find of *Cola* sp. and *Dacryodes edulis* remains at Togu Missiri shows that the regional trading networks that included the Middle Niger region were well-organized by the early second millennium and ran from the West African forest zone through the Savanna and Sahara to North Africa. Much research has concentrated on the trans-Saharan portion of this trade, to the detriment of the sub-Saharan portion, though the latter is likely to have been economically far more important. That kola nuts reached Arab traders in Walata in the mid-thirteenth century is a testament to how efficient these networks were (Levtzion & Hopkins 2000, p. 307). Even more impressive is that fresh tropical fruit appears to have been brought from the forest to at least the southern margins of the Inland Niger Delta.

Previous research on early sub-Saharan trade in West Africa tends to concentrate on archaeologically more visible items such as iron, and on gold destined for North Africa. Other goods are often assumed to have also been part of long-distance trade, such as salt, sandstone, wood, clothing, and slaves. Yet our results show that we must in the future envisage this trade to have incorporated a much larger pallet of perishable items, especially foodstuffs. And in the face of such a regular, high-volume trade, we must also consider the entire subcontinent to have been closely and regularly connected, at least from the late first millennium AD.

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