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ORIGINAL ARTICLE

Africa's Cultural Crossroads: Archaeological Evidence for Ritual Syncretism in Western Uganda from Western Kansyore, Transitional Urewe, and Bigo-Period Burials

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Abstract Archaeological research in the Ndali Crater Lakes Region (NCLR) in western Uganda has contributed significant insights into first millennium AD multilingual communities. These diverse communities, sharing food ways, ceramic technologies, and ritual beliefs, are traced to Bantu speakers who interacted with Sudanic speakers who made Kansyore ceramics. One of the significant exchanges of cultural beliefs was the adoption of Kansyore burial urns by Bantu makers of Transitional Urewe and Boudiné ware (Early Iron Age). This article provides additional evidence for a region of tropical Africa where burials are well preserved. These conditions allow unusual opportunities to assess syncretism in ritual treatments of the dead, using funerary practices that add significantly to evidence previously documented in the NCLR. Ritual interment of the dead on western caldera rims, where celestial renewal is assured, shows long-term continuities through documentation of later Bigo-period burials.

Résumé La recherche archéologique dans la région des lacs de cratère Ndali (NCLR), dans l'ouest de l'Ouganda, a apporté des informations significatives sur les communautés multilingues du premier millénaire après JC. Ces diverses communautés, partageant des méthodes alimentaires, des technologies céramiques et des croyances rituelles, sont attribuées aux locuteurs bantous qui ont interagi avec les locuteurs soudanais qui fabriquaient des céramiques Kansyore.

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L'un des échanges importants de croyances culturelles a été l'adoption de l'urnes funéraire du Kansyore par les fabricants bantous de céramiqués Urewe de Transition et Boudiné (Le Début de L'Age du Fer). Cet article fournit des preuves supplémentaires sur une région d'Afrique tropicale où les sépultures sont bien conservées. Ces conditions offrent des opportunités inhabituelles d'évaluer le syncrétisme dans les traitements rituels des morts, en utilisant des pratiques funéraires qui ajoutent de manière significative aux preuves précédemment documentées dans le NCLR. L'inhumation rituelle des morts sur les bords occidentaux de la caldeira, où le renouveau céleste est assuré, montre une continuité à long terme grâce à la documentation des enterrements ultérieurs de la période Bigo.

Keywords Uganda Archaeology · Burial Rituals · Rwenzori Mountains · Early Iron Age · Kansyore · Albertine Rift · Ndali Crater Lakes

Introduction and Background

Archaeological survey and excavations in the Ndali Crater Lakes Region (NCLR) of western Uganda have unveiled the complex cultural interactions between Kansyore settlers and immigrant Bantu speakers within multilingual communities (Schmidt et al., 2024a, 2024b, 2024c; Schoenbrun, 2024). Excavations of nineteen sites during five research seasons (2014, 2015, 2019, 2021, 2023) have revealed significant evidence for a settled, agropastoral, western Kansyore population that used lithic tools to initially clear dense, humid tropical forests in this volcanic zone (Fig. 1). This article examines the findings from the 2023 season, which builds on research previously published in the AAR (Schmidt et al., 2024b). With approximately 900 dry and wet calderas—about 60 distinct lakes among them—scattered over a 15×20 km area—the region's reliable rainfall—except for one period, AD 1250 to AD 1300 (Soutier-Tabot et al., 2014, 2018; Schmidt et al., 2024a), abundant floral and fauna, and rich soils attracted a variety of settlers during the first two millennia of this era.

Our findings push beyond conventional representations of the Kansyore as hunters-gatherers-fishers that arise from studies in western Kenya (e.g., Dale, 2007; Dale & Ashley, 2010; Dale et al., 2004; Lane et al., 2006, 2007), though there is early evidence of pastoralism at Wadi-Long'o in western Kenya (Karega-Munene, 2002; Prendergast, 2010). The characterizations of many sites in western Kenya as "Kansyore" (not a continuous archaeological culture, as it has long, multi-millennial chronological gaps) are

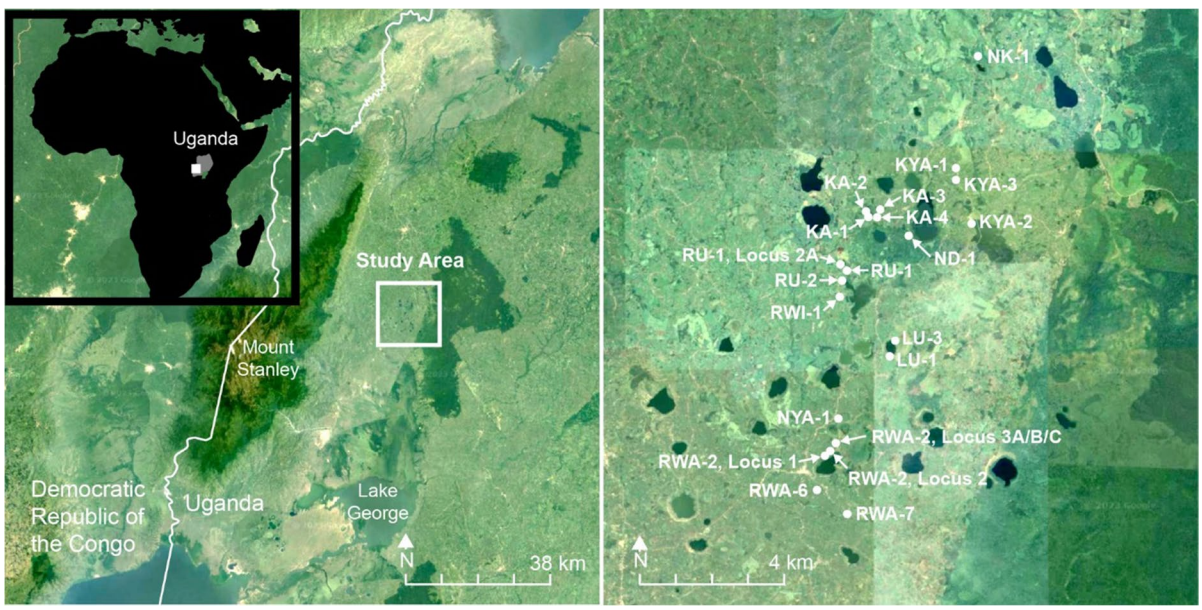

Fig. 1 Location of the NCLR in Uganda (upper left and center left panels) and the location of nineteen excavated sites (right panel)

examined against our research in the NCLR, with evidence pointing to a distinct facies (a regional expression of a ceramic tradition) in western Uganda with greater affinities to Kansyore Island (Chapman, 1967; Kyazike, 2016) and Western Equatoria in the southern South Sudan than western Kenya (David, 1982; David et al., 1981; Schmidt et al., 2024b). The western Kansyore of Uganda and the Oltome facies of Kenya, called "Kansyore" in western Kenya (Collet & Robertshaw, 1980; Robertshaw, 1982; Robertshaw et al., 1983; Robertshaw & Collet, 1983; also see Ehret, 1982, 1998) share a genesis. Both derive from Sudanic speakers, with the western facies having Central and Sog Eastern Sudanic origins and the eastern (western Kenya) Oltome facies tracing a Rub/Kuliak Sudanic linguistic history. As we have shown previously (Schmidt et al., 2024b, pp. 580–85; Schmidt, et al., 2024c, pp. 611–12; also see Schoenbrun, 2024), individuals associated with western Kansyore ceramics may be identified broadly as Sudanic speakers. The western Uganda facies stands apart from the Oltome facies, however, by vessel morphologies, decorative applications, and motifs.

Adding to the nuances of Kansyore in the Uganda context, our research captures deeper understandings of Transitional Urewe (TU), an Early Iron Age (EIA) ceramic complex derived from classic Urewe (once called "Dimple-base" ware) but distinct in its range of vessel morphology, decorative applications, and technological execution (Ashley, 2010; Ashley & Grillo, 2015). We find, similar to John Giblin's (2013) research in Rwanda, that the TU is earlier (400 calAD) in the western region of the Great Lakes than the AD 700 manifestations in Kenya (Ashley, 2010). This important observation leads us to reconsider the role of TU associated with Bantu-speaking populations in regions where there is no evidence of classic Urewe and no EIA iron production—such as the NCLR. Our documentation of TU occupations from AD 400 to 1000 provides a new perspective on the EIA of eastern Africa. This new narrative also captures significant interactions with local Sudanic speakers—the western Kansyore—when Bantu speakers first encountered the latter west of the Rwenzori Mountains and later in the NCLR where they formed multilingual communities (Schmidt et al., 2024c; Schoenbrun, 2024).

Over the ensuing centuries, these Bantu immigrants trickled around the northern and southern reaches of the Rwenzori Mountains south of Lake Albert, settling among already familiar Kansyore communities in the NCLR about AD 400. During the intervening centuries, Bantu-speaking immigrants had interacted with and learned from Sudanic speakers to the west of the Rwenzori Mountains, adopting new foodways: sorghum, finger millet, and pearl millet cultivation, though there is tentative evidence for pearl millet among Bantu speakers in the Congo Basin, both direct and linguistic (Bostoen, 2007; Clist, 2022; Kahlheber, et al., 2014), including animal husbandry—sheep and cattle (Schoenbrun, 1993, 1998). Given the significant adoption of these crops from Sudanic speakers during the late 1st millennium BC, by the time Bantu speakers arrived in the NCLR their food repertoire was well established alongside their multilingualism.

Adoption of foodways from Sudanic speakers was accompanied by the innovation of new ceramic technologies, foremost among which was the production of Boudiné ware, a little understood but significant ceramic tradition that arose from interaction between TU and western Kansyore ceramic repertoires (Schmidt et al., 2024b). The most significant illustration of the change of Urewe to TU and Boudiné comes from Soper's (1971) excavation in Murchison Falls National Park, Uganda, where he demonstrated a natural evolution of Urewe to Boudiné (which he named Chobi). These associations were also noticed by researchers in Rwanda more than six decades ago when Boudiné was observed as part of a Urewe assemblage (Hiernaux & Maquet, 1960; Nenquin, 1967), and more recently observed by Giblin (2013). We see more elaborate evidence for the development of Boudiné out of Transitional Urewe in the NCLR, where TU-related peoples adopted Kansyore ceramic technology (rough paste with large < 5 mm quartz tempering), vessel types such as flat bottom urns, and decorations applied to urn bases that mimicked Kansyore treatments (Schmidt et al., 2024b, fig. 27). The close proximity of the two populations—affirmed by neighboring settlements and multiple well-dated burials—suggests multilingual communities with shared cultural connections in domestic production, resource use, and ritual processes associated with the mortuary treatment of the dead.

The combined impact of both groups sharing the same vicinities significantly transformed a humid forest zone to a mixed savannah mosaic, a transformation manifest by significant charcoal evidence for forest clearance documented in our excavations and

environmental studies (Schmidt et al., 2024a). While people manufacturing TU ceramics persisted for several centuries into the late first millennium AD, the Boudiné component diminished with the decline of a western Kansyore presence about AD 650. This change apparently signals a declining need to affirm Bantu identities with Kansyore communities through production and use of Boudiné ceramics.

The relatively constant climatic conditions of the NCLR experienced a major disruption between AD 1250 and 1300 with a severe dry/cold spell during which time there is no evidence for human occupation or utilization of the NCLR landscape. The effects of this climate event, however, significantly changed the settlement patterns of Bigo-related peoples in west-central Uganda. The Bigo site—with its massive ditches and earthen embankments—was first investigated in 1957 by Peter Shinnie (1960), followed by Merrick Posnansky's seminal research in 1960 (1969), which defined Bigo Ware (Posnansky, 1961). Bigo ceramics were characterized by several vessel types: (1) large open bowls with thickened, rolled rims, mostly decorated by plaited rouletted and red painted stripes and sometimes displaying nicked rims, a common vessel type at Bigo-period sites in the NCLR; (2) necked vessels decorated by twisted grass rouletting on the neck, a form that is infrequent in the NCLR, except for one grave offering at Kyakatama-1, and several partial rims from Lugembe-3, reported below; (3) small, fine vessels with beaded and inverted rims, a vessel type documented in the NCLR at Kyakatama-1 (see Schmidt et al., 2024b, OSM fig. 18 A and OSM fig. 21, pp. 555–57), Lugembe-1 (see Schmidt et al., 2024b, pp. 550–51), and Lugembe-3. Reid's (1991) later investigations at Ntusi expanded the range of Bigo Ware both geographically and chronologically—pushing it back to the turn of the first to second millennium CE at Ntusi (Page, 2022; Reid & Young, 2000). Though there is an absence of significant settlement data from west-central Uganda, we are able to read an influx of Bigo-related immigrants into the NCLR seeking a refugium where there was more reliable rainfall.

Evidence of this migration into the NCLR is found at many localities (e.g., RU-1, RU-2, KYA-1, LU-1, LU-3, and RWA-6) outlined in our previously published report (Schmidt et al., 2024b). Some of these sites including RU-1 and KYA-1 provide evidence for large permanent villages by the mid-1300 s calAD. Our investigations of these multi-origin communities reveal important evidence for burial practices and an economy that differed from previous populations, with greater dependence on pastoralism and hunting of larger game animals via cooperative hunts that provided supplemental meat products (Besigye et al., 2024; Schmidt et al., 2024b). What also emerges is a deleterious impact on the environmental health of the crater lakes from nearby Bigo period communities, as there was significant runoff of nutrients from their manured fields contiguous to the steep crater lake watersheds (Russel et al., 2009; Schmidt et al., 2024a). Lake pollution during the sixteenth century AD marks the beginning of a population decline in an environment no longer able to sustain intense agropastoralism.

With this archaeological and environmental backdrop, we present new, complementary evidence that sustains and elaborates on previous interpretations and conclusions (e.g., Schmidt et al., 2024a, 2024b). In particular, we focus on observed burial practices and their associations that provide the best dated evidence for the region's different populations. Moreover, burial contexts inform hypothesized practices such as the social use of ceramics as well as interactions and entangled cultural practices. Most importantly, we gain insights into cross cultural interchange expressed in ritual syncretism—practices that illustrate how funerary rituals drew on a panoply of tropes common to both Bantu (TU/Boudiné) and Sudanic (Kansyore) worlds.

Our investigations of 2023 focused on eliciting contemporary community knowledge about the presence of burials that are often encountered during cultivation. It became readily apparent through our interviews with elders in the community that more recent immigrants to the NCLR who have immigrated from SW Uganda or the eastern Democratic Republic of Congo (DRC) during the last seven decades exhibit a lack of respect for encountered human remains in their fields and gardens. They have no ancestral ties to these individuals, often exhuming human remains, piling up the bones in their fields or crushing them with their hoes. This has led to an alarming rate of destruction to local heritage. Farmers are reluctant to reveal their engagement in such harm to the heritage of the region, as knowledge of displacement from homesteads to create what is today Kibale National Park during the 1920 s persists to today—passed

on by the few families that once resided in the region (Asiimwe, 2023). Suspicion of survey activity thus remains intense. Moreover, some residents have been involved in litigation over squatters' land rights, a condition that elicits reticence about any survey activity. Nevertheless, our prior outreach to the younger generation in these communities encouraged individuals to assist our team with locating burial sites, and our building of long-term relationships and trust has mitigated initial resistance among other demographics, such as local political leaders and elders who often participated in the NCLR research (Asiimwe, 2023; Schmidt et al., 2024b). During our initial discussions of each site, we focus on the roles of local interlocutors, privileging their contributions to this research.

Research Questions, Reconnaissance, and Preliminary Site Identifications

As this article is an integral part of the larger NCLR research project, it is pertinent to review our research goals. First, as we became aware of the extensive destruction of human burials, it also became compelling to accelerate our research aims to rescue this critical evidence—one of our primary goals. As we extended our study, we recognized that it afforded an important opportunity to examine the viability of our thesis that burials are situated on the western sides of caldera rims for celestial reasons—a location that assures the capture of the first rays of the sun, a form of ritual renewal (Schmidt et al., 2024b, 2024c). During our previous research, we had also observed and theorized that Transitional Urewe (TU) and Boudiné ritual ceramics had been influenced by Kansyore ritual ceramics in the same region. Research reported here sought to gain additional evidence for these syncretistic processes, evidence that we will present in our discussion of the RU-2 site, below.

Our studies during 2023 started with a week-long reconnaissance by two team members (R. Asiimwe & A. Niwahereza) with a deep familiarity and working relationship with NCLR communities. With the assistance of local informants and their independent observations, they mapped locales that merited immediate investigation. Of the six locales they designated as "hot-spots," two proved to be significant sites: Rusoona-2 (RU-2) and Kykatama-1 (KYA-1) (Fig. 1). The latter site, known from previous investigations, provided additional evidence for fourteenth century calAD burials associated with a Bigo period occupation (Schmidt et al., 2024b). The four remaining locales were examined but are not reported due to significantly degraded deposits or inadequate evidence to justify additional inquiries. Knowledge about Kabata-5 (KA-5) came from the local community's recovery of a burial urn, but its alleged context proved to be unrelated to burial practices. The four other locales identified during reconnaissance were as follows: (1) Rwankenzi-8 (RWA-8), which proved to be a deposit that was not in situ—fill for a church driveway to the west of Lake Wankenzi containing human teeth from another location; (2) Rwitampungu-2 (RWI-2), a random, partial human mandible without context; (3) Rwitampungu-3 (RWI-3), where a high frequency of small, fragmentary human bones were scattered over a 16 m × 8 m area associated with pulverized Kansyore and Boudiné ceramics—highly fragmented artifacts and skeletal elements marking the thorough destruction of human burials and their grave goods and thus obviating documentation beyond controlled surface collections; and (4) Rwitampungu-4 (RWI-4), a recent trash pit near the rim of a deep volcanic vent (Fig. 2).

One advantage of longitudinal research in communities where residents are familiar with archaeological research is access to local knowledge about burial locations. This played out in 2019 when the owner of the RWA-2, Locus 3 site protected a burial until our return to the region after a hiatus of four years. During our diagnostic inquiries at the RWA-8 site, this same community member passed by and informed us that he found another burial and protected it until we were available to assess it. His conscientious collaboration led to one of the most significant Kansyore burials investigated thus far, RWA-2, Locus 3 C (Fig. 1).

Methods and Ethics

Excavations were conducted using 10-cm spits until distinct stratigraphic changes were observed, at which point stratigraphic units guided excavation. All soil was sieved using 5-mm screens, and three soil samples of 0.1 L were extracted from sealed contexts within burials (e.g., beneath the pelvis, within the cranium, beneath the vertebrae) for later analysis of pollen and phytoliths. Pot burials were excavated in

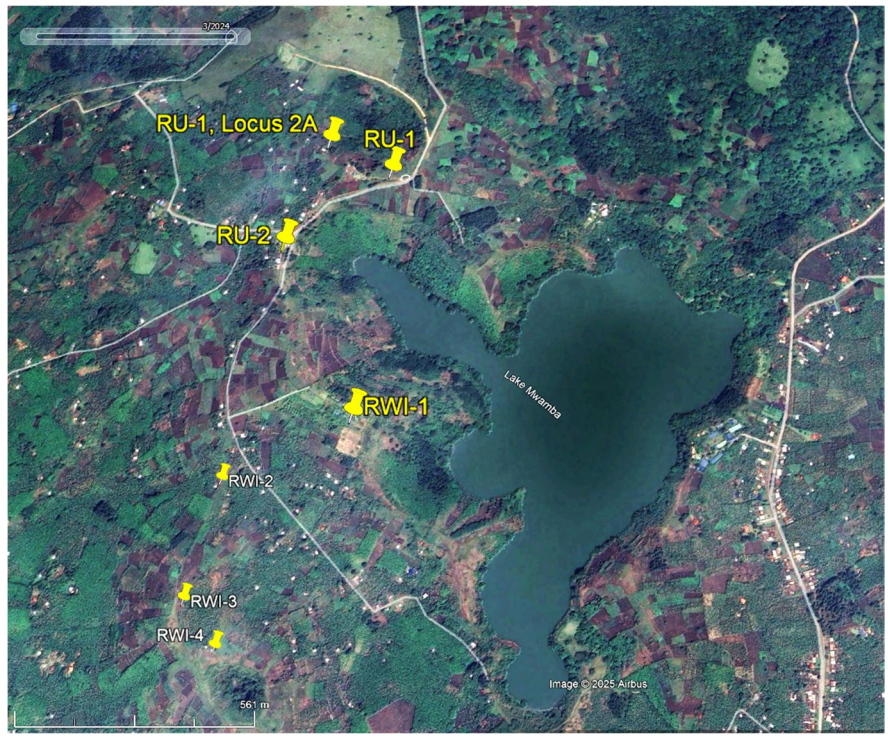

Fig. 2 The location of the RU-2 site, NW of Lake Mwamba, vis-à-vis Rusoona-1 (RU-1), Rusoona-1, Locus 2A, and Rwitampungu-1 (RWI-1); coordinates of RU-2 are Lat. 0.466298; Long. 30.267831. Also included are destroyed sites (lower left): Rwitampungu-2 (RWI-2), and Rwitampungu-3 (RWI-3)—Kansyore and Transitional Urewe/Boudiné. Google Earth image

5-cm spits, with attention to clustering of preserved remains and sieved through 5 mm and 2 mm screens. Ceramics and lithics were analyzed in the field laboratory and later curated at the Uganda Museum. All artifacts were photographed and the digital record stored at the Uganda Museum. Human remains were assessed in the field and transported in hard plastic bins to the Uganda Museum for curation; there they were immediately placed into inaccessible storage while major renovations of the museum laboratories occurred.

We have followed ethical guidelines for human remains that are sampled for AMS dating and ancient DNA analysis. Our research was approved by the Uganda National Council for Science and Technology, and we have adhered to all best ethical practices approved by the Council. We prepared a detailed plan prior to our arrival in the field, partly assisted by prior reconnaissance and including plans for preservation and curation. Following the guidelines of Alpaslan-Roodenberg et al. (2021), we selected skeletal components that would have minimal destructive impact, selecting, for example, a rib fragment rather than a tooth from well-preserved dentition for AMS dating and DNA analysis. We are committed to making our data available to other researchers after publication. Since the start of this project in 2014, we have thoroughly engaged local communities in planning our research and encouraging their participation. Our extensive outreach program continues to incorporate community members as active participants who understand and support our research goals.

Standard bioarchaeological methods were applied in the analysis of recovered remains, through careful recovery in the field and preliminary observation in the Uganda Museum, where all recovered remains are presently curated. Identification of elements followed Bass (2005) and White et al. (2012), and basic demographic assessment followed methods outlined in Buikstra and Ubelaker (1994) and Schaefer et al. (2009). AlQuahtani et al. (2010) was used to estimate individual age based on preserved dental remains observed regarding development and eruption. To assist with the identification of previously excavated sites and burials, we include a list of sites, their cultural components, their geographical locations, dates, and affiliated burials. This expands a similar list (see Schmidt et al., 2024b, pp. 526–27, Table 1).

We now discuss the primary findings about burials and their associated artifacts at four sites investigated

Table 1 List of NCLR sites with cultural components, locations, dates of occupation and use, burial dates, and cultural affiliation. Those in italics with the site name in bold were documented during the 2023 season

Site name	Site code	Primary culture component(s)	Secondary culture comp	Location in NCLR	Approximate dates: Primary listed first Burials with dates
Kabata-1	**KA-1**	1-Transitional Urewe/Boudiné; 2-Bigo	3-Kansyore	Northern, Kabata Swamp	**1.Transitional Urewe/ Boudiné Burial:** Early fifth to early sixth century calAD 1&3-Early fifth to mid-sixth century calAD 2-Mid-second millennium AD
Kabata-2	**KA-2**	1-Transitional Urewe	2-Kansyore (trace) 3-Bigo (trace)	Northern, Kabata Swamp	1&2-Mid-first millennium AD 3-Mid-second millennium AD
Kabata-3	**KA-3**	1-LSA, Kansyore; 2-Transitional Urewe/Boudiné	3-Bigo	Northern, Kabata Swamp	1-Early first century calAD to mid-sixth century calAD **2-Boudiné pot Burial:** Early fifth to mid-sixth century calAD 2-Mid-first millennium calAD 3-Mid-second millennium AD
Kabata-4	**KA-4**	1-Boudiné		Northern, Kabata Swamp	1-Mid-first millennium AD
Rusoona-1	**RU-1**	1-MSA/LSA 2-Kansyore, 3-Transitional Urewe 4-Bigo		Central, NW of Lake Mwamba	1-3600 calBC 2-Mid-first millennium AD 3-Late ninth to early eleventh century calAD 4-Mid-second millennium AD
	RU-1, Locus 2A/A1	1-Bigo	2-Kansyore	Central, NW of Lake Mwamba	1-**Bigo-period Burial**: Late thirteenth century calAD to mid-fourteenth century calAD 2-Mid-second millennium AD
Rusoona-2	***RU-2***	*1-Kansyore* *2-Transitional Urewe/Boudiné*	*3-Bigo*	*Central, NW of Lake Mwamba*	*1-Mid-first millennium AD* *2-**Transitional Urewe/ Boudiné pot Burials**: Early sixth to early seventh century calAD* *2-**Transitional Urewe tooth Burial**: Early fifth to mid-sixth century calAD*

Table 1 (continued)

Site name	Site code	Primary culture component(s)	Secondary culture comp	Location in NCLR	Approximate dates: Primary listed first Burials with dates
Rwatampungu-1	**RWI-1**	1-Kansyore–2-Intermediate period'	3-Bigo	Central, NW of Lake Mwamba	1-Mid-first millennium AD 2-**Intermediate Period Burial:** Early tenth century to early eleventh century calAD 3-Mid-second millennium AD
Lugembe-1	**LU-1**	1-Bigo	2-Kansyore (trace)	Central, Lake Lugembe	1-Mid-second millennium AD 2-Mid-first millennium AD
Lugembe-3	***LU-3***	*1-Bigo*	*2-Transitional Urewe/Boudiné* *3-Kansyore (trace)*	*Central, NE of Lake Lugembe*	*1-**Bigo-period Burial:** Mid-sixteenth to mid-seventeenth century calAD* *2&3-Mid-first millennium AD*
Kyakatama-1	***KYA-1*** **KYA-1B** ***KYA-1E***	*1-Bigo*	2-Kansyore 3-Boudiné	Northeast, east of Lake Nyinambuga	1-KYA-1B: **One Bigo-period Burial:** Fourteenth century calAD *1.KYA-1E: **Two Bigo-period Burials:** Fourteenth century calAD* 2&3-Mid-first millennium AD
Kyakatama-2	**KYA-2**	1-Kansyore 2-Boudiné	3-Middle Iron Age (trace, intrusive)	Northeast, east of Lake Nyinambuga	1&2-Mid-first millennium AD 3-Mid-second millennium AD
Kyakatama-3	**KYA-3**	1-Kansyore	2-Bigo	Northeast, east of Lake Nyinambuga	1-**Kansyore Burial**: Early to late sixth century calAD 2-Mid-second millennium AD
Ndali-1	**ND-1**	1-Bigo	2-Kansyore 3-Transitional Urewe/Boudiné	Northeast, SW of Lake Nyinambuga	1-**Bigo-period Burial:** Early to mid-fifteenth century calAD 2&3-Mid-first millennium AD
Nyakabungo-1	**NYA-1**	1-MSA/LSA 2-Kansyore	3-Bigo (trace) 4. Modern Trash	Southern, NW of Lake Wankenzi	1-Mid-fourth millennium calBC 2-Mid-first millennium AD; 3-Mid-second millennium AD 4-Recent

Table 1 (continued)

Site name	Site code	Primary culture component(s)	Secondary culture comp	Location in NCLR	Approximate dates: Primary listed first Burials with dates
Rwankenzi-2	**RWA-2, Locus 1**	1-LSA (surface lithics) 2-Kansyore (surface)	3-Intermediate Period Burial (out of context)	Southern, west of Lake Wankenzi	1&2-Mid-first millennium AD **3-Intermediate-Period Burial**; Mid-eleventh to mid-twelfth century calAD
Rwankenzi-2	**RWA-2, Locus 2**	1-Kansyore	2-Bigo	Southern, NW of Lake Wankenzi	1-**Kansyore Burial:** Mid-third to early fifth century calAD 2-Mid-second millennium AD
	RWA-2, Locus 3A	1-Kansyore	2-Bigo (trace)	Southern, NW of Lake Wankenzi	1-**Kansyore Burial:** Early fourth to early sixth century calAD 2-Mid-second millennium AD
	RWA-2, Locus 3B	1-Kansyore	2-Bigo	Southern, NW of Lake Wankenzi	**1-Kansyore Burial**: Early fifth to early sixth century calAD 2-Mid-second millennium AD
Rwankenzi-2	***RWA-2, Locus 3C***	*1-Kansyore*	*2-Bigo (trace)*	*Southern, NW of Lake Wankenzi*	*1- **Kansyore Burial**: Sixth century calAD* *2-Mid-second millennium AD*
Rwanwenzi-6	**RWA-6**	1-Boudiné 2-Bigo	3-Kansyore 4-Trans. Urewe (trace)	Southern, south of Lake Wankenzi	1, 3, and 4-Mid-first millennium AD; 2-Mid-second millennium AD
Rwankenzi-7	**RWA-7**	1-Kansyore 2-Boudiné		Southern, south of Lake Wankenzi	1-Mid-first millennium AD
Rwankenzi-9	***RWA-9***	*1-Bigo trace*	*2-Mid-first millennium AD*	*Southwest of Lake Wankenzi*	*1-Mid-secind millennium AD* *2-**Burial:** Mid-seventh century calAD*
Nkuruba-1	**NK-1, Locus 2A/A1**	1-Bigo	2-Kansyore; 3-Transitional Urewe; (traces)	North, near Lake Nkuruba	1-**Bigo-period Burial**: Mid-seventeenth century calAD 2-Mid-second millennium AD

during 2023. We begin with RU-2, first observed during our reconnaissance and our first point of inquiry during the 2023 research season.

Rusoona-2 site (RU-2)

The RU-2 site is located 300 m SW of the RU-1 site, which was investigated in 2014, 2019, and 2021 (Figs. 1 and 2). RU-2 was identified by the exposed, horizontal cross-sections of two pots embedded in a road connecting Rusoona to Rwitampungu. Besides rescuing critical information from threatened or exhumed burials, one of our primary goals, as noted earlier, was to locate pot burials to further our hypothesis for admixture of Sudanic-speaking people with immigrant Bantu speakers. This site was designated as high priority, as our earlier documentation of a single infant burial at the KA-3E site—buried in a large

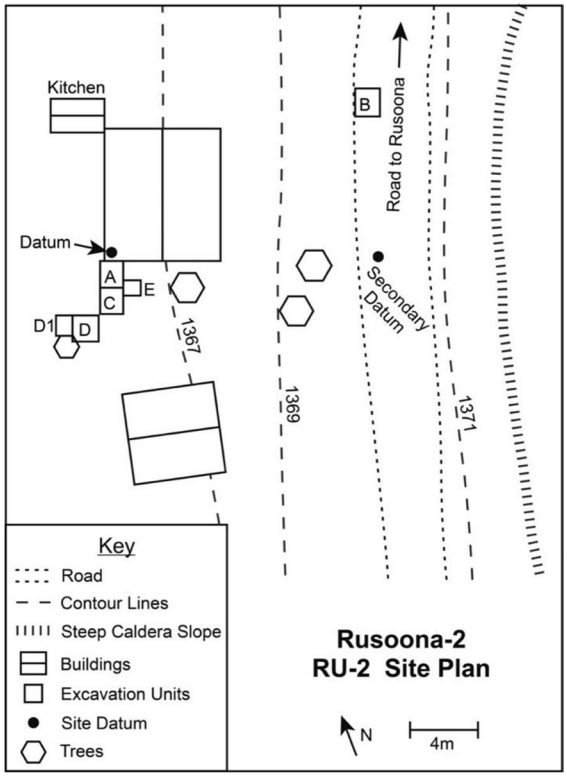

Fig. 3 Site plan for RU-2: Two vessels were documented in Unit B, situated in the roadway

Boudiné vessel—showed that pot burials allow us to date accurately the age of associated vessels (Schmidt et al., 2024a, 2024b, pp. 538–39 and fig. 10; 2024c).

As we examined the vessels embedded in the roadway, a woman living in the adjacent house drew our attention to an exposed pot near the back corner of her house, located within excavation Unit A (Fig. 3). She had previously interacted with our reconnaissance team and later realized that this feature was possibly important. Indeed, it was.

Once the surrounding black top soil (5–10 cm deep) was removed to define the vessel within a 1.5 × 1.5 m excavation unit, its attributes indicated a TU affiliation. A collapsed portion of the rim, lying within the vessel (Fig. 4a), showed hatching—a common decorative application on TU rims in addition to a single facet on the outside of the rim (a remnant of multi-beveled classic Urewe rims). As we excavated around the vessel, documenting its context and form, its urn-like morphology became apparent, affirmed by a flat base when removed from its setting. Such characteristics add significantly to our prior interpretations that Boudiné developed out of TU, drawing on characteristics of earlier Kansyore funerary vessels, an interpretation sustained by multiple examples at the KA-1 site: one Boudiné vessel associated with Transitional Urewe, with a flat base and applied decorations similar to the Kansyore funerary vessel at RWA-2, Locus 3 A (Schmidt et al., 2024b, p. 530, fig. 4, and pp. 567–69, figs. 27 and 28). Moreover, there are two additional Boudiné vessels—associated with TU—from KA-1D with flat bases and decorative applications, one of which has identical finger impressions to the earlier Kansyore vessel documented at RWA-2, Locus 3 A (Schmidt et al., 2024b, p. 513, fig. 8a). Thus, these interrelated ceramic complexes, TU and Boudiné, both show parallel changes in

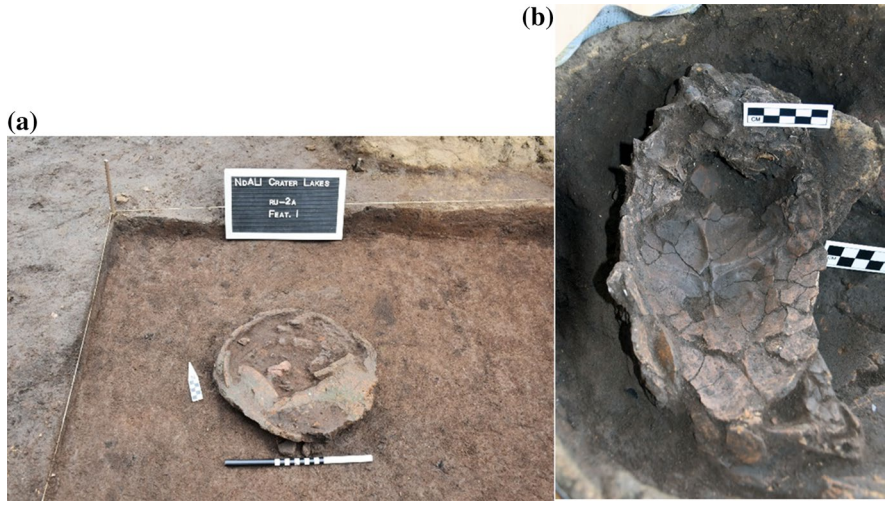

Fig. 4 **a** (Left) The in situ burial vessel at RU-2A, with a collapsed rim decorated with hatched incisions (TU); **b** (right) after excavation to – 13 cm depth inside the vessel contents, the interior of the posterior portion of a young child's skull was exposed. Photos by author

attributes, incorporating Kansyore ceramic practices, particularly an urn-like base—seen here as antecedent to Boudiné urns, given that the partial remains of an individual recovered from inside this vessel have an AMS date that predates the infant associated with the Boudiné urn at KA-3E (Schmidt et al., 2024b, pp. 538–39, fig. 10).

The RU-2 funerary vessel contained secondary, partial remains of a young child estimated to be 5 years(±16 months) in age, based on development/eruption stage of 19 deciduous and permanent teeth, loose and in situ in the mandible (AlQahtani et al., 2010). The posterior portion of the cranium was relatively intact, but the facial skeleton was very poorly preserved, with associated maxillary dentition and an intact partial (left) mandible with in situ deciduous teeth (roots complete) and erupting permanent crowns. Beneath the skull were several fragmentary postcranial elements and associated epiphyses identifiable as portions of the pelvis, femur, and tibia/fibula, consistent with the osteological age estimate of this individual (Schaefer et al., 2009). The partial inclusion of skeletal elements is consistent with the foot burial of a TU-period adult at the KA-1 site and the upper torso of a female EIA burial in Rwanda (Giblin et al., 2010).

A deciduous canine tooth from this individual was AMS dated to 1550±25 bp; (520 calAD to 640 calAD). This date falls in the sixth century AD (Table 2, row 1), which places the burial later than the TU foot burial at Kabata-1 but well within the range of TU-associated populations in the region. Immediately beneath the skull was a *Grewia* sp. fruit seed. The sealed context confirms that this is not an intrusive or incidental addition but purposeful—a potent inclusion given the known healing properties of *Grewia* in Africa (Fig. 5).

This pot burial presents the opportunity to explore the relationships among different contemporaneous groups during the mid-first millennium in the NCLR. We know that Kansyore urns, Boudiné urns, and TU urns share similar morphologies and functions, a point we emphasize above when discussing multiple Boudiné vessels associated with TU ceramics at the KA-1 site. Kansyore vessels were used in earlier dated burials—as when an adult female was buried alongside broken sections of a large urn (in a crib-like fashion) dated to the fourth to fifth century calAD (Schmidt, 2024b, p. 566, fig. 26). Boudiné and TU funerary vessels date to the sixth century calAD, showing their near contemporaneity and their common origins, with one small TU-associated urn dating to several decades earlier than Boudiné (Schmidt et al., 2024b, p. 532).We

Table 2 AMS radiocarbon dates from RU-2A and RU-2B

Item # and Lab # All GAAMS dates calibrated using Reimer et al., 2020	Site and year collected	Sample ID and source	14C age uncalBP	68% low/high	95% low/high
1 GAAMS 67470	Rusoona-2 2023	RU-2A, Feature 1 child burial *(dec. incisor)*	1559±25	539 to 594 calAD	478 to 490 calAD@0.014; 497 to 509 calAD@0.020 522 to 637 calAD@0.966
2 GAAMS 67472	Rusoona-2 2023	RU-2A-3 *(perm. Canine)*	1590±25	441 to 449 calAD@0.061; 473 to 511 calAD@0.394; 520 to 547 calAD@0.357; 559 to 575 calAD@0.188	429 to 579 calAD
3 GAAMS 67471	Rusoona-2 2023	RU-2B, Pot 1 *(charred residue)*	620±25	1324 to 1345 calAD@0.588; 1391 to 1404 calAD@0.412	1318 to 1356 calAD@0.562 1384 to 1417 calAD@0.438

Fig. 5 Both outside portions of a *Grewia* sp. seed interred in the funerary vessel at RU-2A. Photo by author

may say that secondary partial burials—inside and outside urns—appear to be a trait of Bantu-speaking people during the mid-first millennium CE in the greater western Uganda and Rwanda (Giblin et al., 2010) region where they encountered Sudanic speakers who produced western Kansyore ceramics and practiced distinctive ideologies of cosmic encapsulation of their dead.

Outside of the burial urn feature, and at the same level as its base, we recovered two teeth, an isolated upper third molar and a permanent canine, which appeared to be "adult" (based on apical wear and size of interproximal facet(s)). The canine tooth was AMS dated to 1590 ± 25 bp (429 calAD to 579 calAD)—the mid fifth to mid-sixth century calAD (Table 2, row 2). The AMS date of this tooth is older than the AMS date of the child buried inside the urn. Ongoing ancient DNA analyses may indicate if the young child represented inside the burial urn was related to the adult individual tooth outside the funerary vessel. This was not an isolated ritual practice. At the KA-1 site, approximately four km to the northeast of RU-2, a foot burial was associated with two adult teeth (Schmidt et al., 2024b, pp. 532–34). Now that the RU-2 evidence has come to light, the KA-1 teeth have taken on a greater meaning than we had once imagined, that is, possibly a personalized ritual offering made as an integral part of funerary rites in the mid-first millennium.

As mentioned earlier, there is another example of a pot burial at the KA-3 site, where a large, flat-based Boudiné urn was used for an infant burial of West African, Bantu-speaking origin (Brielle et al., 2024; Schmidt et al., 2024b; fig. 10b). This closely fixes the association of Bantu speakers with Boudiné ceramics. The foot burial at KA-1 was associated during the 400 to 540 calAD period with plain ritual urns, Boudiné urns, and TU sherds (Schmidt et al., 2024b; fig. 8a).

Other RU-2 Findings

Sixty-five cm to the southeast of the burial vessel, there was a half burial urn, similar to those documented at KA-1 and KA-4 (Schmidt et al., 2024b). This partial vessel—associated with a decorated Boudiné rim sherd—lacked inclusions, not surprisingly, as it had been broken open during a later disturbance (Fig. 6).

Twenty centimeter south of this broken urn (straddling Units A and C) were the remains of a partial left foot with all epiphyses fused on preserved elements, that include the distal portion and shaft of a third metatarsal without its head (~ 5 cm long), a fragmentary metatarsal base (1st?), two first row (proximal phalanges), one second row (middle) phalanx, and one distal phalanx (~ 1 cm in length). These elements are not duplicative and are similar in overall color and size, with joint surfaces that confirm association (i.e., consistent of a single individual). It is possible that these bones were once inside the nearby urn and spilled out when the urn was broken and displaced; it is also possible that the two teeth were once part of the funerary treatment. Similar partial funerary urns were documented at the KA-1 site (Schmidt et al., 2024b, OSM fig. 7).

Fig. 6 A partial Boudiné-associated urn located 65 cm to the SE of the burial urn. Photo by author

Discussion: Ritual Processes

Two key observations arise from these different sources of evidence: (1) TU and Boudiné pot burials were contemporary, similar in vessel morphology and technology, and created by the same social group; (2) the treatment of the individual interred within the RU-2A pot and tooth and foot remains outside of that feature testify to what might be called relationship ontologies based on contiguity and associative identity, whereby different social actors take on the attributes of those in contiguous relationships, in other words, what Ricoeur calls relational identity (Ricoeur, 1977; Schmidt, 2006, 2018). In this setting, the person with teeth (and possibly, foot bones) associated in this burial setting perhaps ritually avowed a social identity with the deceased through principles of contiguity, likely based on close kinship (testable with ancient DNA). Also significantly, this vessel was placed on the western rim of a caldera, where the first rays of the sun illuminate the landscape each morning, amplifying the interpretation of celestial renewal—previously identified as an expression of ritual renewal linked to celestial cycles, a ritual practice known in several cultures of eastern Africa (Roscoe, 1915; Schmidt, 2017; Schmidt & Arthur, 2018; Schmidt et al., 2024b). Adding to these ritual interpretations, based on multiple sites, is the inclusion of a *Grewia* sp. seed, apparently intended ritually to infuse the burial with its properties (Fig. 5).

The placement of the seed raises questions about its ritual intentions, considering its use throughout Africa for medicinal purposes. It is a tasty, nutritious fruit growing on a 4–5 m hardy shrub and is known for its resiliency in low rainfall environments (Elhassan & Yogi, 2010; Medley et al., 2020; Murray et al., 2001). It is also known to favor black cotton soils in moist settings, as found on the slopes of calderas in the NCLR. As the NCLR in the mid-first millennium AD had been remade into a forest-savannah mosaic, this fruit would have fit nicely into the grasslands/scrub/remnant forest environment.

Most importantly from our interpretative perspective are several potential medicinal uses. The high iron content would have been ideal for treatment of anemia (Elhassan & Yogi, 2010), and it is widely used to cure diarrhea and dysentery: "…the species *G. villosa*, for example, is multi purposed can be used to produce fibre, used in the treatment of diarrhoea, dysentery, wounds etc." (Sanvitha et al., 2022:137). Diarrhea has long been a child health issue and remains a significant scourge among children in Africa, leading to high morbidity (Demissie et al., 2021). *Grewia* may have been used as a remedy for the interred child's physical afflictions. Its properties point to a ritual process that employs principles of contiguity—its placement contiguous to the child's skull imparts healing powers into a new state of being, a ritual use that parallels the application of healing herbs by Barongo iron smelters to ensure life-renewing forces (Schmidt, 1996, 2013). The healing properties of *Grewia* rise significantly into the panoply of ancient healing technologies in this funerary setting.

We posit that secondary burial and the dismemberment of bodies and perhaps separate ritual treatments of specific body parts are an integral part of a mid-first millennium ontology in which partial body parts represent the whole (synecdoche, a form of metonymy)—a trope when in play with other funerary items, such as heritage vessels, ensures identity with a larger, continuous social unit. The envelopment of bodies—whole and partial—within ceramic vessels associated with specific social groups may indeed have its origins in Kansyore funerary practices (Schmidt et al., 2024b, 2024c; Schoenbrun, 2012).

RU-2 Excavations: Units C, E, D, and D1

To gain additional understanding of the context of the RU-2A findings, we opened Units C and E, east of Units A and C. Unit C, noted above to contain bones of a partial adult foot, held little material evidence, nor did Unit E yield more than several sherds. These trenches were followed by Units D and D1 SW of Unit A (Fig. 3). Like other excavation units—all 1.5 × 1.5 m at RU-2—a shallow top soil of black loam (varying between 5 to 10 cm in depth) transitioned to a very dark brown (7.5 YR, 2.5/2) sandy loam that continued, in color and texture, beyond the culture-bearing horizon of approximately 30 to 45 cm below surface. In the western side of Unit D, the culture-bearing horizon sloped westward from − 30 to − 45 cm, with a concentration of Kansyore ceramics along the western edge of Unit D and into the D1 (1 × 0.9 m) extension to

the west. The frequency of ceramics (other than urns, and using only rims and decorated sherds vis-a-vis all excavation units) in Units A, C, and E was insignificant ($n=10$): Kansyore (2.2%, $n=1$), TU/Boudiné (8.8%, $n=4$), and Bigo (11.1%, $n=5$). The presence of Bigo ceramics is not surprising given the dense Bigo period settlements in the immediate area.

If we consider Units D and D1 as "separate" assemblages ($n=36$), then a different picture emerges, with Kansyore ceramics deriving mostly from the culture-bearing dark brown sandy loam that dipped westward. Kansyore ceramic frequencies were dominant (38.9%; $n=14$) vis-à-vis TU/Boudiné (33.3%; $n=12$) and Bigo (27.7%; $n=10$), clearly affirming a Kansyore occupation that pre-dates the Transitional Urewe, given the location of most Kansyore sherds in deeper spits in the very dark brown stratum of D and D1. This affirms, like other NCLR sites, a consistent stratigraphic profile for a Kansyore presence (Fig. 7).

Though small, this assemblage adds to our understanding of the variability of Kansyore ceramics in the NCLR. The presence of comb stamping with punctates in panels on open bowls departs from previously observed treatments (Fig. 7a), yet differs noticeably from the eastern facies of Kenya, where panels are predominantly contiguous (e.g., Collett & Robertshaw, 1983; Robertshaw et al., 1983). Finally, the presence of converging and crisscrossed comb stamping shows the regional distribution of a decorative application often associated with large vessels with flat bases and seen at sites such as KYA-2, RU-1, and the RWA-2, Locus 3 burial (Schmidt et al., 2024b, fig. 27). Other artifacts were modest in number: faunal remains were a small part of the artifact inventory, with 5 small unidentifiable fragments recovered from Unit C and 3 fragments from Unit E. Lithics were also few in number, with 1 quartz cobble and 1 quartzite flake (debitage) in Unit E, and 3 quartz flakes in Unit C, all debitage. One small, 10 cm iron spear was documented in the topsoil of Unit D.

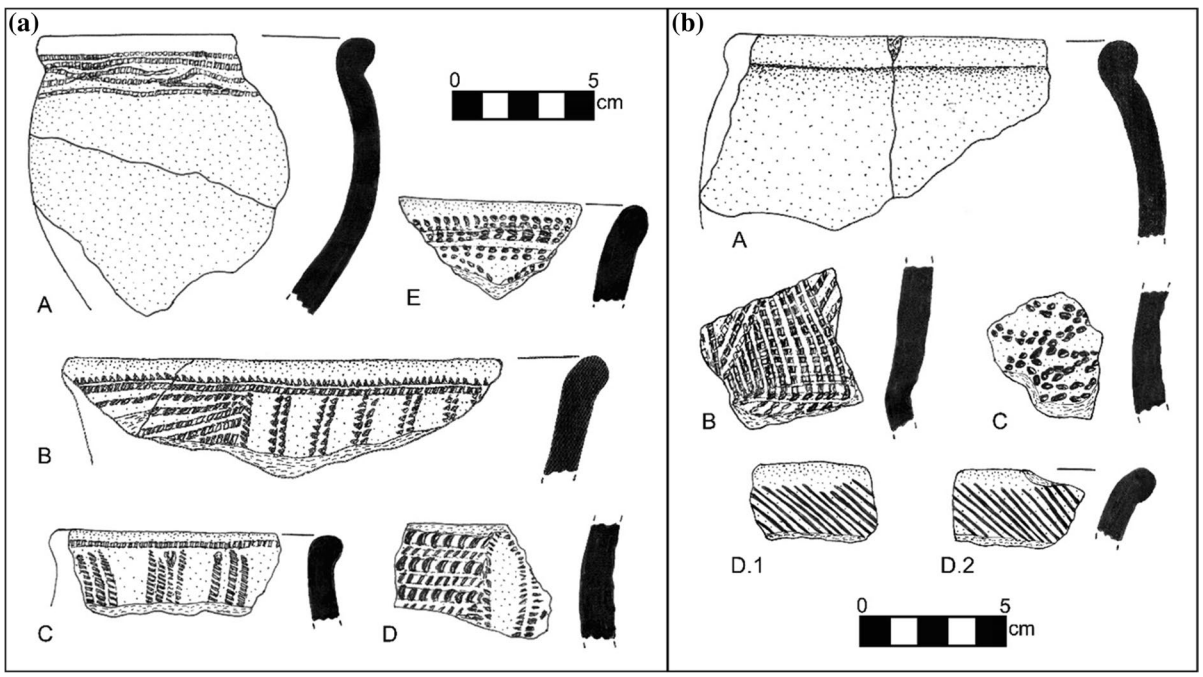

Fig. 7 **a** (Left) Kansyore ceramics from RU-2 and KYA-1: A is a narrow-mouth Kansyore bowl with converging and crisscrossed stamping; B is a punctate-treated rim of an open bowl, in panels—an exceptional example; C is similar, but the decorative treatment is by stamping in vertical and horizontal patterns; D is a sherd with mixed punctate and stamping around an oval void; E is a punctate rim of a small bowl from KYA-1E. **b** (Right) A is a narrow-mouth Kansyore bowl; B has contiguous stamped panels, C is a diamond-patterned punctate-decorated sherd, also found at the RU-1 and KYA-2 sites; D1 and D2 are TU rim sherds from the same vessel, from −5 cm below datum in Unit D

Rusoona-2B (RU-2B)

The vessels embedded in the road (see Fig. 3) presented a challenge—to document them while vehicles used the road. We completed this task as a rescue excavation, quickly removing and sifting the matrix immediately surrounding the ceramic vessels. Once the vessels were pedestaled and the surrounding matrix documented, we removed each vessel for transport to the field laboratory. Our field observations confirmed that Pot # 2, in the northwestern corner of a 1.5 m × 1.5 m excavation unit, had associated Kansyore sherds, an urn-like morphology, and a thick, flat base (Fig. 8-C and 8-C.1; Fig. 9a and b).

When later excavating the interior of this vessel, we found some of the upper part of the vessel. The rim of the vessel had collapsed inward, with approximately half of it captured inside the urn. Comparisons of color, paste, temper type, and temper size (quartz < 5 mm) confirmed that the decorated upper portion of the vessel—stamped with carved cylinders in converging and crisscrossed patterns—was very similar to the funerary vessel documented at RWA-2, Locus 3 A (see fig. 26a and 26b, Schmidt et al., 2024b). This Kansyore vessel had a clearly vertical rim and lacked the slight neck of the vessel at RWA-2, Locus 3 A (Schmidt et al., 2024b, fig, 27).

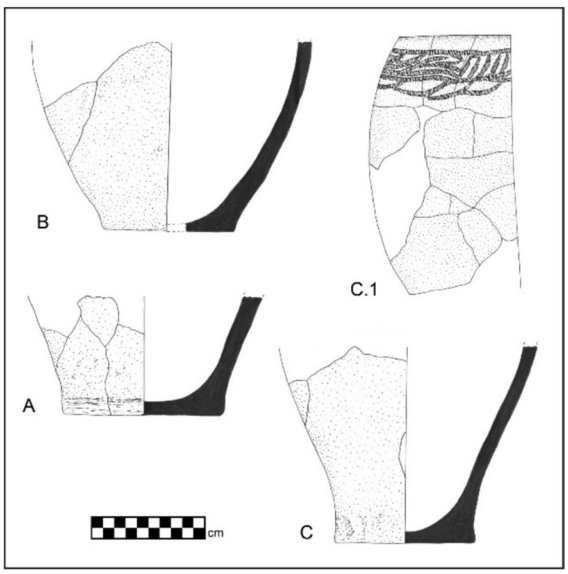

Fig. 8 Urn bases documented at the RU-2 site: A is the base of the Transitional Urewe urn containing the partial remains of a young child; B is the partial urn near the left foot bones of an adult, the base of which is decorated by light finger impressions—a trait documented at RWA-2, Locus 3 A, a Kansyore burial; C is the base of a Pot # 2 in Unit B, a Kansyore vessel, the upper portion of which is depicted in C.1; its superstructure is decorated with converging and crisscrossed stamping, also a trait observed at RWA-1, Locus 3A

Within the vessel fill were six fragments of animal bones, two of which are bovid. We observed that road fill brought from a different locale had contaminated the matrix with foreign lithic material.

Given the date of a similar vessel at RWA-2, Locus 3A—early fourth century to early sixth century calAD—this evidence supports the interpretation that Kansyore vessels were models for later TU/Boudiné pottery making and ritual practices using ceramic vessels. At RU-2, there is a striking continuity in the selection of sacred space—on the western rim of a caldera lake. This continuity is captured in the neighboring vessel, Pot # 1 of Unit B. This vessel did not contain human remains, nor did it provide clues to its cultural identity. This pot was damaged, with the lower half of the vessel displaced. It had cooking char on its exterior and significant deposits of charred food inside, the latter AMS-dated to 620 ± 25 bp (1318—1417 calAD; Table 2, row 3). This fourteenth century calAD date places this vessel as contemporaneous with the Bigo-period settlements at RU-1 and KYA-1. What captures our attention is the close spatial relationship between the Kansyore and Bigo vessels, all the more remarkable in the absence of other Bigo-like material culture. It appears that this vessel—perhaps associated with a food offering to the ancestors—was purposefully and knowingly placed near the Kansyore burial vessel. Bigo-period vessels—not sherds—have been documented within the sacred spaces of graves. Like the sacred ritual space at Ndali-1 (the ancient *Ficus*), described in Schmidt et al., (2024b, p. 562), this locale—with its TU, Boudiné, and Kansyore burial vessels—may have been held in social memory across the centuries as a sacred place where appropriate offerings were conducted, valorizing ancestors and with little overlap and/or disturbance of burial/ritual features.

It is apparent that the RU-2 site merits more extensive investigations, as our excavations are a small sample of the western rim of Lake Mwamba, where archaeology has significantly increased understanding of both Kansyore and TU burial practices and the vessels used in rituals of death.

Fig. 9 **a** (Left) The upper portion of the Kansyore vessel (Pot # 2, RU-2B) decorated with stamping in a band on the upper rim, with converging and criss-crossed patterns; **b** (right) the vessel has a heavy, flat base with an urn morphology. Photos by author

Rwankenzi-2, Locus 3 (RWA-2, Locus 3 C)

RWA-2, Locus 3 now designates a site with a suite of three Kansyore burials clustered within a radius of 20 m (Fig. 10; see Fig. 1 and Schmidt et al., 2024b, fig. 23 for exact location). First defined during our 2014 survey, excavations in 2015 at Locus 3 A exposed a well-preserved young adult female burial of possible southern South Sudan affinities (Brielle et al., 2024). To reprise, that burial occurred in association with large sherds of a highly micaceous clay with pyrite inclusions and an urn morphology (Schmidt et al., 2024b, figs. 26 and 27); this ritual treatment—on the western rim of the caldera—replicates other burial placements where the rising sun first strikes, in this case an interment enclosed in ceramic pieces that had highly reflective sun-like particles that amplified its ritual placement.

In 2019, we excavated a burial at RWA-2, Locus 3B, identified as Kansyore—based on an associated Kansyore ceramic and by its context as part of a Kansyore burial complex, and dated to the 5th to early sixth century calAD. This burial was dated later than the individual documented in 2015. Fortuitously, we again met the owner of the homestead in 2023 (having assisted in 2019) and identified a burial he had protected since clearing a courtyard behind his new house. He admitted that he accidentally hit the skull with his hoe, and told us, "I have been waiting for you to return and have kept the burial safe." He had done exactly that.

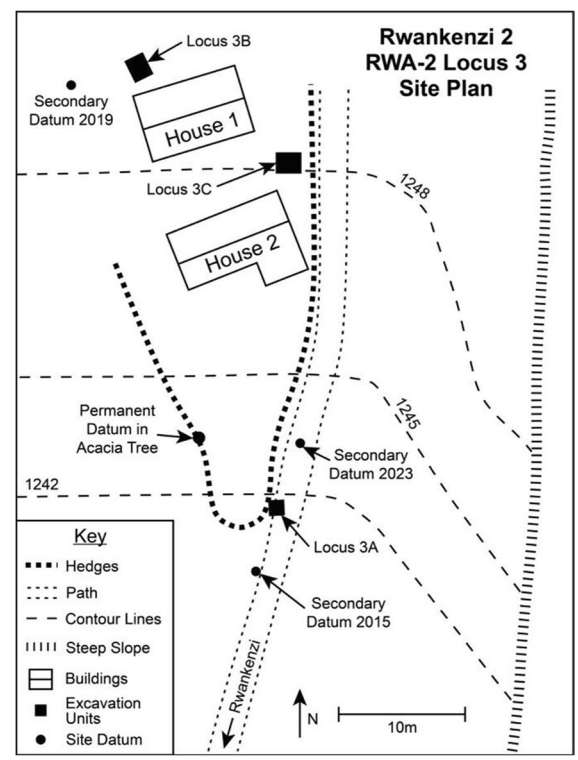

Fig. 10 Map of the RWA-2, Locus 3 site. house 1 was razed in 2022 and replaced with house 2 in early 2023

The burial was bordered by a small northern wall of purposefully placed gneiss. The grave was excavated through a 2–4 cm layer of tufa; the soil texture was a sandy clay, brown (7.5 YR, 4/4) in color throughout, with small (5 to 10 mm) pieces of tufa (Fig. 11). In order to access the burial during the final stages of excavation, it was necessary to remove the gneiss wall to the north and the tufa on the west and to extend an initial 1.5 × 1.5 m excavation unit 1 m to the east. The grave was exceedingly cramped—only 79 cm long by 30–36 cm wide. The legs were tightly flexed and elevated, and the torso twisted with the posterior spinal processes oriented west, not downward. The head, displaced from its original position (either facing upward or slightly to the east) was facing west, with the mandible resting on the left-lower face, and the body oriented North to South, with the head situated South. The positioning of the postcranial skeleton is not consistent with the orientation of the cranium. The left arm was crossed over the chest, with the hand clasped in a fist on the right shoulder. The right arm was bent back along the rib cage with the right hand resting near the left hand. The preservation was excellent, similar to the condition of the adult female recovered in 2015 at Locus 3A. Artifacts associated with this burial were few, with one Kansyore sherd and three ceramic fragments > 2 cm.

The individual is a young adult female based on the overall gracile nature of the cranium and facial skeleton including orbits and brow ridge. Dental wear is minimal, and an AMS date of 1560 ± 25 bp (439 to 604 calAD; Table 3) was obtained on an associated foot phalanx. A sixth century calAD date attests to a continued presence of Kansyore people in the NCLR. The date is congruent with a sixth century dates on a male individual at RWA-2, Locus 3B—just several meters to the west. As we gain more evidence for Kansyore settlement history, we can see a broad outline for settlement starting in the late first millennium calBC when Kansyore agropastoralists began to alter

Fig. 11 The Locus 3 C young adult female buried in a short and narrow grave, twisted eastward, but with her face displaced toward the west, with a displaced mandible to lower right. Photo by author

Table 3 AMS Radiocarbon date for RWA-2, Locus 3 C individual

Item # and Lab #	Site and year collected	Sample ID and source	14 C age uncalBP	68% low/high	95% low/high
1 GAAMS 67467	Rwankenzi 2, Locus 3 2023	RWA-2, Locus 3 C *phalanx*	1560 ± 25 bp	532–589 calAD	519–604 calAD@0.843 570–513 calAD@0.098 617–635 calAD@0.047 439–452 calAD@0.021

the forest environments by use of lithic tools. Thus, five to seven centuries before Bantu speakers entered the NCLR, Kansyore settlers permanently established a presence, according to historical linguistic evidence, that lasted for generations and deep into the first millennium AD (Schoenbrun, 1993, 1998).

Discussion—Cultural Preferences and Tooth Modification

The facial skeleton of the individual at RWA-2, Locus 3 A presents a dramatic illustration of the dilemma of identifying the cultural affiliations of this young adult female individual, possibly from the southern South Sudan and a Sudanic speaker, given the historical linguistic evidence for the region being populated by Central Sudanic speakers at this time (Schoenbrun, 1993, 2024). Most vivid are the culturally modified upper incisors in what was a complete and well-preserved facial skeleton (Fig. 12). The distinctive cultural treatment by filing the upper incisors in what is otherwise a healthy dentition presents a dilemma in attributing any particular social-linguistic group as a point of origin. Among the Nuer and Dinka of the southern South Sudan, for example, bottom incisors of males were commonly modified in historic times during coming-of-age rituals through tooth ablation—a practice documented in ancient Kerma, Sudan, as well as Meroe (Bolhofner, 2017). In the southern South Sudan, removal of bottom incisors continued—for both aesthetic and ritual reasons—well into the twentieth century (Seligman & Seligman, 1932; Willis et al., 2005; Willis et al., 2007; see Kabiru, 2009 for examples from older excavated sites in Kenya); and, in historic times in the Kingdom of Bunyoro in western Uganda see Roscoe, 1915:78).

The filing of teeth is widespread in Africa (Insoll, 2015; Irish, 2017), occurring during the EIA in South Africa (Owens et al., 2023). Filing and chipping of the upper incisors—in different ways—were practiced by many Bantu-speaking peoples, such as the Kamba of Kenya and the Hutu of Rwanda as well as Nilotic speakers such as the Bari of northern Uganda and also among Cushitic speakers like the Karrayyu Oromo of Ethiopia (Aseffa et al., 2016.). The Bakiga of Kigezi Region in SW Uganda, who today make up the majority of immigrants in the NCLR, practiced filing of the central upper incisors (Pindborg, 1969). A group known as the Baamba or Aamba, living

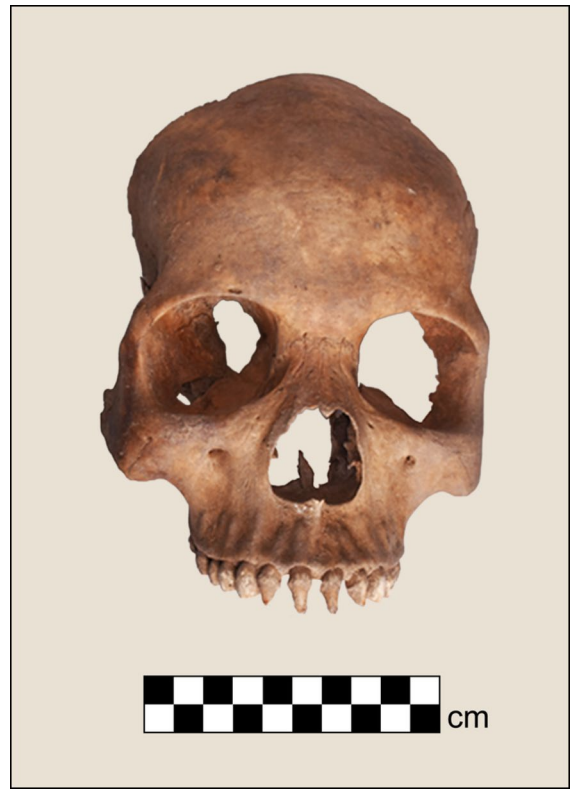

Fig. 12 All four upper incisors were filed to points in the adult female individual documented at RWA-2, Locus 3C. Photo by author

on the northwestern slopes of the Rwenzori Mountains—only several days trek from the NCLR—once practiced tooth filing: "…it was the custom for every member of the tribe to file the incisors to points, but by no means do all the Baamba do this to-day" (Wayland, 1929, p. 520). Wayland doubts the notion that the Baamba (known today as Aamba) were cannibals, a characterization made uncritically by Singer (1953, p. 119), who referenced the "cannibals" of the Congo Basin as practicing tooth filing. Given the variability of tooth filing across linguistic groups, gender, economic lifeways, and huge time spans, a specific ethnic group is exceedingly risky to identify as a possible analog. Any assumption of continuity to the present would be inappropriate.

We would be remiss, however, not to highlight that Central Sudanic speakers populated the western slopes of the Rwenzori Mountains as well as the NCLR during the first millennium BC and the early second millennium AD (Schmidt et al., 2024b;

Schoenbrun, 1993, 1998, 2024), leaving a legacy of Central Sudanic speakers among the Mbuti (Blench, 2007). The tooth filing that we see in the RWA-2, Locus 3C individual may prove to be a cultural marker for Sudanic speakers whose legacy of their interaction with peoples of the western and northern reaches of the Rwenzori Mountains includes, among other items, grain crops, domestic ruminants, language, and tooth filing.

Kyakatama-1E: (KYA-1E)

The Kyakatama-1 site, located on a high ridge to the east of Lake Nyamabungo, initially drew our attention during the 1995 survey when Boudiné pot burials were documented on its northern margins. A multicomponent site with Kansyore, TU/Boudiné, and Bigo period occupations, KYA-1 was the focus of excavations in 2015 and 2019, with an emphasis on the Bigo period settlement (see Fig. 1 and Schmidt et al., 2024b, fig. 18 for location). During November 2023, our reconnaissance team revisited the site after learning that human bones lay in a path where a burial had previously been documented in 2019. This exposure was 5 m East of the KYA-1B burial excavation (Schmidt et al., 2024b). A 2×2 m excavation unit was opened on the northern periphery of the path, large enough to expose what proved to be two burials, both oriented North to South with their heads to the South and within the contemporary path (Fig. 13).

The NE burial, a young adult female accompanied by ceramic grave goods, was much better preserved than its counterpart to the NW. Although her skull had been crushed and associated elements scattered, much of her post-cranial skeleton was intact, having been interred in a supine posture, legs extended and slightly flexed. A pottery vessel was placed below her feet and another on her chest (Fig. 14). A lower canine was AMS dated to 600 ± 25 bp (1322 to 1427 calAD), a mid-fourteenth century calAD date (Table 4, row 1).

The much more fragmentary NW burial, an adult individual, with all epiphyses fused and mature, and fragmentary pelvis with what appears to be a shallow sciatic notch. Cranial remains include very small skull fragments (> 10 mm). The lower and upper limbs were relatively intact but the axial skeleton including the vertebrae and ribs had degraded. The torso of the NW burial was buried deeper than its neighbor, which rested on a thin tufa layer. This deeper placement may have been subject to water run-off downhill under the tufa, explaining the differential preservation of the two burials. No grave goods were associated with the NW burial. Though the skull was crushed, some teeth were recovered, including an

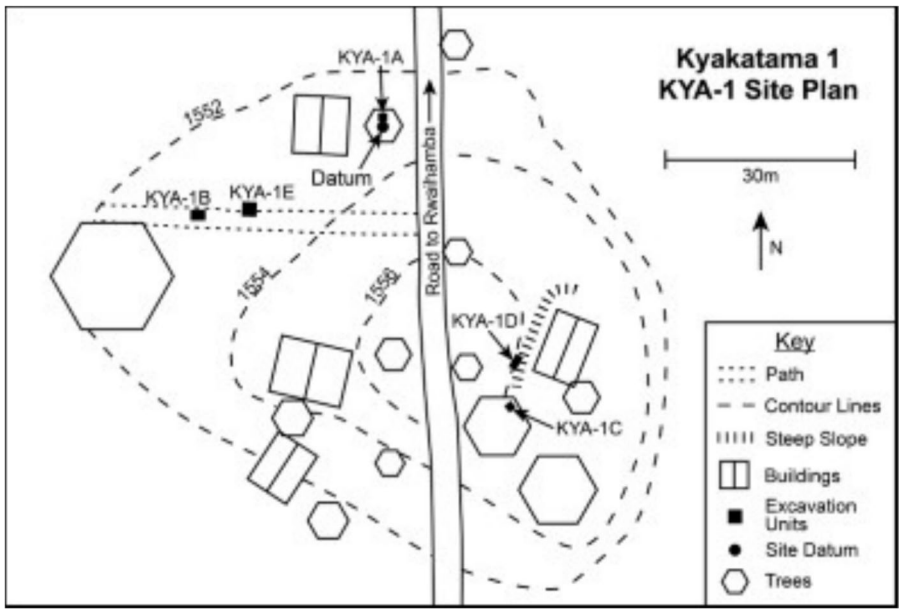

Fig. 13 Site plan of KYA-1, with KYA-1E excavation to the west of the road

Fig. 14 Two burials at KYA-1E, The NE individual (right) was an estimated young adult female with Bigo-period pottery; the NW individual (left), an adult, possible male individual, extended on their left side. Photo by author

Table 4 AMS radiocarbon dates from KYA-1E individuals

Item # and Lab #	Site and year collected	Sample ID and source	14C age uncalBP	68% low/high	95% low/high
1 GAAMS 67468	Kyakatama-1 2023	KYA-1E, NE *lower canine*	600 ± 25	1327 to 1336 calAD@0.211; 1393 to 1416 calAD@0.789	1322 to 1350 calAD@0.308; 1388 to 1427 calAD@0.692
2 GAAMS 67469	Kyakatama-1 2023	KYA-1E, NW *canine tooth*	650 ± 25	1520 to 1553 calAD@0.799; 1586 to 1595 calAD@0.201	1300 to 1364 calAD@0.747; 1379 to 1403 calAD@0.253

associated canine that was AMS dated to 650 ± 25 or 1300 to 1403 calAD (Table 4, row 2). The range of variation at 95% probability places this and the neighboring burial in the mid-fourteenth century calAD, dates that are congruent with previous dating of the KYA-1B burial and the Bigo-period occupation at KYA-1. There was a paucity of ceramics in the overburden—13 sherds, including part of the rim to the vessel on her chest and a Kansyore rim sherd from an open bowl (see Fig. 7a-E); there were few other artifacts—2 small fauna fragments, and no lithics. The entire overlying deposit had been deeply disturbed by a Euphorbia fence; thus, the sloped overburden was treated as a single stratigraphic unit based on soil color (very dark brown: 7 YR, 2.5/2) and texture.

Previous research shows that the KYA-1 community was large, measuring 2 to 3 ha in size (Schmidt et al., 2024b, pp. 551–59). It was initially occupied during the fourteenth century by settlers from the east, who experienced a severe drought from AD 1250 to AD 1300 (Soutier-Talbot, 2014, 2018; Schmidt et al., 2024a, 2024b). Ceramic studies from a large garbage pit indicate that there may have been two different social components at KYA-1 that originated from different parts of west-central Uganda. The evidence from KYA-1E adds significantly to what we know about Bigo-period life and death in the NCLR. In this case, there are two individuals buried side by side (KYA-1E) approximately 5 m east of a male buried in the same path at KYA-1B (Schmidt et al., 2024b, OSM 3.13 for picture). Compared to other Bigo-period burials, the KYA-1E (NE) individual has significant similarities to a female burial at Rusoona-1, Locus 2 A, where a young female was also buried in a supine posture, and where the grave goods included several ceramic

vessels, one of which was a red-slipped and highly burnished pot placed near her pelvis (Schmidt et al., 2024b et al., fig. 22; also OSM, fig. 14).

The vessels buried with the NE individual are remarkably intact, especially given the degree of disturbance that occurs throughout this region due to deep hoe agriculture. The open bowl at her feet was complete (save for a nick in the rim) and exhibited a band of fine twisted grass roulette (TGR) on the upper rim (Fig. 15a), a vessel type identified by Posnansky (1961) at Bigo. Like the pots buried with the woman at RU-1, Locus 2 A, this vessel is distinctive from the everyday ware that we see on Bigo-period sites and also documented in the trash pit at KYA-1D (Schmidt et al., 2024b, pp. 547—58, OSM fig. 18 and OSM fig. 21). The vessel placed on her chest was damaged, but half of it was reconstructed to capture its morphology and superb finishing (Fig. 15b). As with its counterpart at RU-1, Locus 2 A, also a red-slipped and burnished vessel (Schmidt et al., 2024b, fig. 17), this is not everyday ware. A necked vessel is exceptional in the ceramic assemblages at such sites. We conclude that ceramic grave goods that accompany female burials (two other female burials have ceramic grave goods: RU-1, Locus 2A/A1, mentioned above, and Nkuruba-1, Locus 2 A (Schmidt et al., 2024b, pp. 573–74) depart from the ordinary and represent a higher intrinsic value and might be recognized as prestige or high value to personal identity—perhaps by the individual who passed or by the community that participated in her interment. No other vessels commonly documented in Bigo-period occupation sites, such as Kyakatama-1 and Lugembe-1, bear affinities to these vessels placed as grave goods (also see Schmidt et al., 2024b, pp. 550–51, OSM fig. 18).

Lugembe-3 (LU-3)

This site was brought to our attention by the residents of Rusoona, who learned that a construction team working for Volcano Safari Company had purportedly removed human remains to the NE of Lugembe Lake. During 2015, we investigated a Bigo-period site along the SW shore of the Lugembe caldera (see Fig. 1 and Schmidt et al., 2024b, fig. 12 for location). Survey evidence from 2015 showed that this sub-region was rich in both Kansyore and Bigo period sites; however, despite our prior documentation and Uganda's environmental law requiring survey before ground disturbance, the construction company ignored the law and failed to report their repeated encounters with human remains.

A team was dispatched to investigate and encountered a restricted work site. Eventually, we gained permission to enter and examined several exposed burials. Upon returning the next day, one obvious burial remained in situ, while others had been removed and discarded by company workers. The remaining burial—on the edge of a foundation trench and contiguous to the wall of an older building—was excavated using a 1.5×1.5 m unit by one of our project teams. The individual is a partial skeleton of an adult (all epiphyses fused), with its right upper torso, right arm, and axial skeleton well preserved. Although no lower limb bones were recovered,

Fig. 15 **a** (Left) open bowl with a faint band of twisted grass roulette (TGR), and a nick on the rim; this vessel was 14.5 cm high, with a mouth opening of 23 cm; **b** (right) a necked pot with three bands of TGR bordered by impressed twisted grass applied to the neck; a red slip and burnish highlight this as a specialized vessel, with a mouth diameter of 9.5 cm. Photos by author

the individual appeared to have been buried slightly flexed in an extended supine position on their left side (with their right side more exposed). The axial skeleton includes thoracic/lumbar vertebrae and associated ribs (mainly right ribs), sacrum, and a partial pelvis. Biological sex is assessed as female based on assessment of the preserved pelvis, the partial right innominate having a wide sciatic notch. Appendicular portions of the right shoulder girdle and arm are well preserved, and the right forearm is flexed at the elbow and lays with wrist/hand atop the abdomen. The skull had been removed during the company's excavation of the trench along with the left arm and hand; the orientation of the body was North to South, with the head at the South (Fig. 16).

After four spits of 10 cm each into black, greasy soil (7.5 YR, 2.5/1), the skeletal elements were exposed within a cultural matrix that included mostly Bigo-period ceramics. While this is a Bigo-period burial—affirmed by an AMS date to the late sixteenth century AD on a disassociated tooth (Table 5), it became apparent upon the recovery of 2 Boudiné and 2 TU sherds in spits 1 to 3—just before the burial was exposed—that the grave had been excavated into deeper, earlier cultural deposits that were later used as backfill; moreover, 2 Boudiné sherds and 1 Kansyore sherd were documented contiguous to the burial, suggesting, again, that earlier materials were used as fill for the burial (Table 6: spits 2, 3, and 4). At − 90 cm below the truncated surface and below the stratigraphic range of other artifacts, there was a large, rectangular grindstone (62 × 36 × 14 cm at largest dimensions) made of sandstone. Contiguous to the grindstone was a large hand grinder of igneous rock. Initially, these items appeared unrelated to the interment of this individual. However, given the significant upward movement of mid-second millennium AD artifacts, the grinding stone and grinder appear purposeful, acting as a foundational grave offerings (Fig. 17).

This female individual did not, like other Bigo-period women, have ceramic grave goods included in her grave. She was buried, however, with two

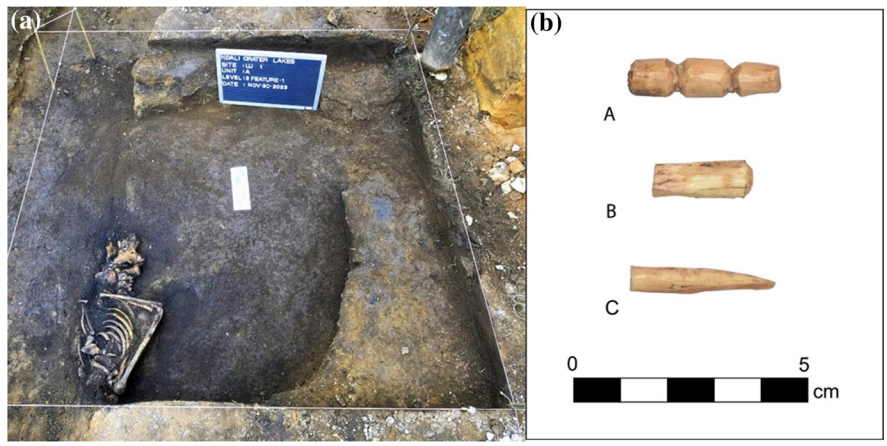

Fig. 16 **a** (Left) partial Bigo-period adult female burial at the LU-3 site—not LU-1 as per photo board; the pit (mottled black and brown) to the right of the individual is part of an earlier construction feature; **b** (right) carved bone beads found above the pelvis of the interred female: A and B are perforated, and C may have been tied at the thick end or stuck into another, ephemeral item, such as a wooden object. Photos by R. Asiimwe (left panel) and (right) by author

Table 5 AMS Radiocarbon date on LU-3 individual

Item # and Lab #	Site and year collected	Sample ID and source	14C age uncalBP	68% low/high	95% low/high
1 GAAMS 67466	Lugembe 3 2023	LU-3A *tooth*	320 ± 20	1512–1545 calAD@0.509 1625–1649 calAD@0.491	1508–1586 calAD@0.602 1621–1652 calAD@0.398

Fig. 17 Large sandstone grindstone placed 40 cm below interred female; scale is in 10 cm increments. Photo by author

ornamental beads, and possibly a small pendant made of bone that lay on her pelvic girdle (Fig. 16b). Female waist beads once were widely worn in east and central and southern Africa, usually from the time a woman marries but also during other rites of passage such as circumcision (e.g., Mashiyane, 2006; Richards, 1956). These markers of female maturity and social standing in the community add key knowledge to death rituals 450 years ago in eastern Africa.

The artifact frequencies at Lugembe-3 were higher than other sites excavated during the 2023 season. Table 6 presents data about the assemblages, including ceramics, and lithics; the few faunal remains were small, unidentifiable bone fragments. The ceramic assemblage derives from a Bigo-period midden into which the grave was excavated, reaching 40 cm below the lowest skeletal elements in soil that remained black and dense throughout, with the notable absence of artifacts from spit 7—a sterile deposit that may signal a purposeful sealing of the grinding stones below.

Table 6 Artifacts from Lugembe-3

Spit #	Decorated ceramics by component	Rims and vessel Type. Bigo Period	Lithics
	Bigo: TGR = T PGR = P Slash Incised = S Red Paint = RP; Carved Roulette = CR **Boudiné = B** **Trans. Urewe = TU** **Kansyore = K**	Narrow-Mouth = NM Open Bowl, vert. rim = OB Necked = NK	
1	T = 3 P = 4; S = 2 **B = 1**	NM = 2	1 chert bec 1 quartzite and 6 quartz debitage
2	T = 2; P = 4; CR = 1 **TU = 1** **B = 1**	OB = 3	2 chert core scrapers 1 chert debitage
3	T = 4; P = 3; S = 2 CR = 1 **TU = 1**	NM = 3 OB = 1	1 quartz crescent
4	T = 27; P = 29; P/RP = 1; S = 7' CR = 1 **K = 1; B = 2**	NM = 10 OB = 9 NK = 4	
5	T = 3; P = 3; S = 2	NIL	
6	T = 3; P = 2; S = 2	NM = 1 OB = 1	
7	Sterile		
8	T = 2; P = 4; S = 2	NM = 2	
9			1 grinding stone 1 grinder
	See Schmidt 2024c for explanation of appropriate use of TGR and PGR		

The ceramic assemblage resembles the Bigo assemblages documented at LU-1, a sister site across Lake Lugembe, and KYA-1, where slash incisions occur in the NCLR, a decorative variation that we have previously interpreted as a socially distinctive Bigo-period community (Schmidt et al., 2024b, pp. 556–57).

The Bigo ceramics are consistent with other NCLR sites, with 37.4% ($n=49$) of the sherds and rims decorated with PGR, 41.5% ($n=54$) with TGR, 13% ($n=17$) with slash incising, 2.3% ($n=3$) plain rim sherds, and 1.5% ($n=2$) with carved roulette—a Middle Iron Age decorative application common to western Tanzania (Schmidt, 1997); 3.8% ($n=5$) of the ceramics were decorated but highly weathered.

Vessel types were dominated by diminutive pots with narrow mouths and beaded rims, 50% ($n=18$), followed by thin-walled open bowls with vertical rims, 38.9% ($n=14$), and necked vessels decorated with TGR on the neck, 11.1% ($n=4$). The significant presence of diminutive pots resembles Bigo-period ceramics at KYA-2D, where similar pots were used for cooking (Schmidt et al., 2024b, p. 547, OSM fig. 21). This ceramic assemblage was distinctive in its absence of large open vessels with thickened, rolled rims, suggesting a midden with more specialized activities, such as cooking.

The small lithic assemblage replicates other Bigo-period sites in the NCLR, with a higher frequency of chert artifacts than earlier, mid-first millennium components (Schmidt et al., 2024b, Supplementary Files 1.3 and 2). Three of the four tools—1 bec and 2 core scrapers—were chert, alongside a quartz crescent (spit 3) and mixed debitage of 8 pieces: 1 chert, 1 quartzite, and 6 quartz; all lithics were documented in the first three spits.

Rwankenzi-9 (RWA-9)

As part of the community outreach conducted by our reconnaissance team, we learned about a burial that had been exhumed along the southwestern rim of Lake Wankenzi. A team visited the site, located on the edge of a precipitous drop to the lake. The owner related that she had encountered a burial when cultivating and was vexed by the thought that she would encounter a dead person each time she cultivated.

She removed what she thought were mostly long bones and reburied them in a pit on the edge of the caldera. We elected to excavate the disturbed "reburial," given that the designated burial area was covered in crops and that there was no assurance that significant skeletal elements remained in situ. Exhumation of these remains confirmed that she had removed long bones as well as vertebrae, ribs, fragments of maxilla and mandible, teeth, skull fragments, feet, and other miscellaneous skeletal elements. We recovered approximately 60% of the skeletal elements and conducted an intensive survey of the surrounding field to establish possible cultural affiliation. Several Bigo period sherds were located 30 m to the SW, scant evidence in an intensively surveyed zone of 50×40 m and insufficient to sustain any designation that this was a Bigo-period burial. An AMS date on a metatarsal from the recovered remains affirms that this individual dates to the mid-seventh century calAD (Table 7), when western Kansyore populations were diminishing on this landscape. Future ancient DNA analysis may provide insights into the origins of this individual.

A review of the burial evidence is presented in Table 8, with a summary of the burial data by location, AMS dates, Minimum Number of Individuals (MNI), estimated age, sex, and cultural affiliation. This chart complements evidence presented elsewhere (Schmidt et al., 2024b).

Table 7 AMS Radiocarbon date for RWA-9 individual

Item # and Lab #	Site and year collected	Sample ID and source	14C age uncalBP	68% low/high	95% Low/High
1 GAAMS 70111	Rwankenzi 9 2023	RWA-9 *metatarsal*	1370 ± 20	638–650 calAD	641–675 calAD @0.994 614–616 calAD @0.004 611–612 calAD @0.002

Table 8 Summary burial evidence

Site	Minimum number of individuals: MNI	AMS date: at 95% confidence	Estimated age	Sex	Cultural affiliation
RU-2A Rusoona-2	**Two:** 1:A pot burial 2: $n=2$ isolated permanent teeth	**1**: 478 to 490 calAD@0.014; 497 to 509 calAD@0.020 522 to 637 calAD@0.966 **2**: 1300 to 1364 calAD@0.747; 1379 to 1403 calAD@0.253	1: young child (ca. 5 years ± 16 months) 2: Adult	1: N/A 2: N/A	1.Transitional Urewe 2.Transitional Urewe/ Boudiné?
RWA-2, Locus 3C; Rwankenzi-2, Locus 3C	**One**	519 to 604 calAD@0.843 570 to 513 calAD@0.098 617 to 635 calAD@0.047 439 to 452 calAD@0.021	Young adult, (21 to 35 years)	Female	Kansyore
KYA-1E; Kyakatama-1	**Two:** 1.NE individual 2.NW individual	1: 1322 to 1350 calAD@0.308; 1388 to 1427 calAD@0.692 2: 1300 to 1364 calAD@0.747; 1379 to 1403 calAD@0.253	1: Adult 2: Adult	1: Female 2: Possible male	1.Bigo 2.Bigo
LU-3A; Lugembe-3	**One**	1508 to 1586 calAD@0.602 1621 to 1652 calAD@0.398	Adult	Female	Bigo
RWA-9; Rwankenzi-9	**One**	1: 641 to 675 calAD@0.994 614 to 616 calAD@0.004 611 to 612 calAD@0.002	N/A	N/A	Unknown; possible Kansyore, given other burials in this sub-region

Synthesis and Syncretism

The archaeological evidence documented from the 2023 NCLR field investigations adds significantly to our knowledge about the social relations between different populations and the complexities of ritual practices in this cultural crossroads of Africa. Evidence from the Rusoona-2 site is highly nuanced. It provides additional insights into burial rites that use partial body parts, similar to the foot burial documented at the KA-1 site. These archaeological observations allow us to posit the power of ritual tropes where the part stands for the whole, a ritual process often witnessed when burial goods represent the prestige, the history, and the work life of the deceased. Instead, body parts are ritually constituted as the individual, buried inside urns, contiguous to urns, or wrapped in pieces of urns.

We also see a pattern of deep time ritual practice of burial on the western side of calderas or on the tops of prominent hills, evidence that sustains our proposition that funerary rites are oriented by celestial phenomena. Such placement ensures that the burial locale receives the first rays of the rising sun, thus infusing the dead with celestial renewal. The RWA-2, Locus 3A, western Kansyore interment is foundational, but

also joins five other Kansyore burials and ceremonial urns in its orientation: RWA-2, Locus 2; RWA-2, Loci 3B & 3C; KYA-3; and RU-2B, Pot 2. The same practice is observed later during Transitional Urewe/Boudiné burials, for example, the foot burial at Kabata-1 and the pot burial at RU-2A. Burial placement on western caldera rims continues into the Bigo period at Kyakatama-1B and 1E, Ndali-1, Lugembe-3, and Rusoona-1, Locus 2A. This burial practice pertains to all cultural periods, ranging from AD 250–600 for the western Kansyore, AD 430–640 for the Transitional Urewe/Boudiné, AD 990 to 1260 for Intermediate transhumant African pastoralists (Schmidt et al., 2024b), and AD 1290 to 1570 for the Bigo period. The one exception is a late seventeenth century AD Bigo period burial at Nkuruba-1 (Schmidt et al., 2024b).

Syncretism is a process that arises from interchange and contiguity of multilingual communities, precisely the conditions that arose in the NCLR when Bantu speakers immigrated into the region and settled among Sudanic speakers who we identify as western Kansyore. Sharing the same landscape, crops, animal husbandry, and ceramic technology in a multilingual setting, they also engaged cosmologically infused burial rites that used established tropes of enclosure in ritually charged vessels. We see the material manifestations of ritual tropes activated by the Kansyore population passed on to contemporaneous settlers of West African origin (those making TU/Boudiné pottery). This syncretism occurred when these later populations adopted large, flat-bottom ritual urns. Our proposition about this process was affirmed by the TU and Boudiné burial urns at the RU-2 site. This is a deep time practice that hints at the potency of sacred space on this human-managed landscape over many generations.

The burial rites documented during the late Holocene of the NCLR are testimonies about how different, multilingual populations share semiotic worlds and blend cultural ontologies that give vitality to their lives during times of stress and reformulation—when death requires affirmations of renewal. That burials were sometimes partial tells us that the ancients of the first millennium AD with West African origins in the NCLR held to an ontology that saw partial, individual bodies as transitions to being in another state—a hallmark of a multi-cultural experience at Africa's crossroads where the mixing of cultural bits and pieces and different ways of seeing the spiritual and social world also marked every day, quotidian life.

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