Online Supplemental Material (OSM) 1: Supplementary Figures and Tables

January 30, 2025

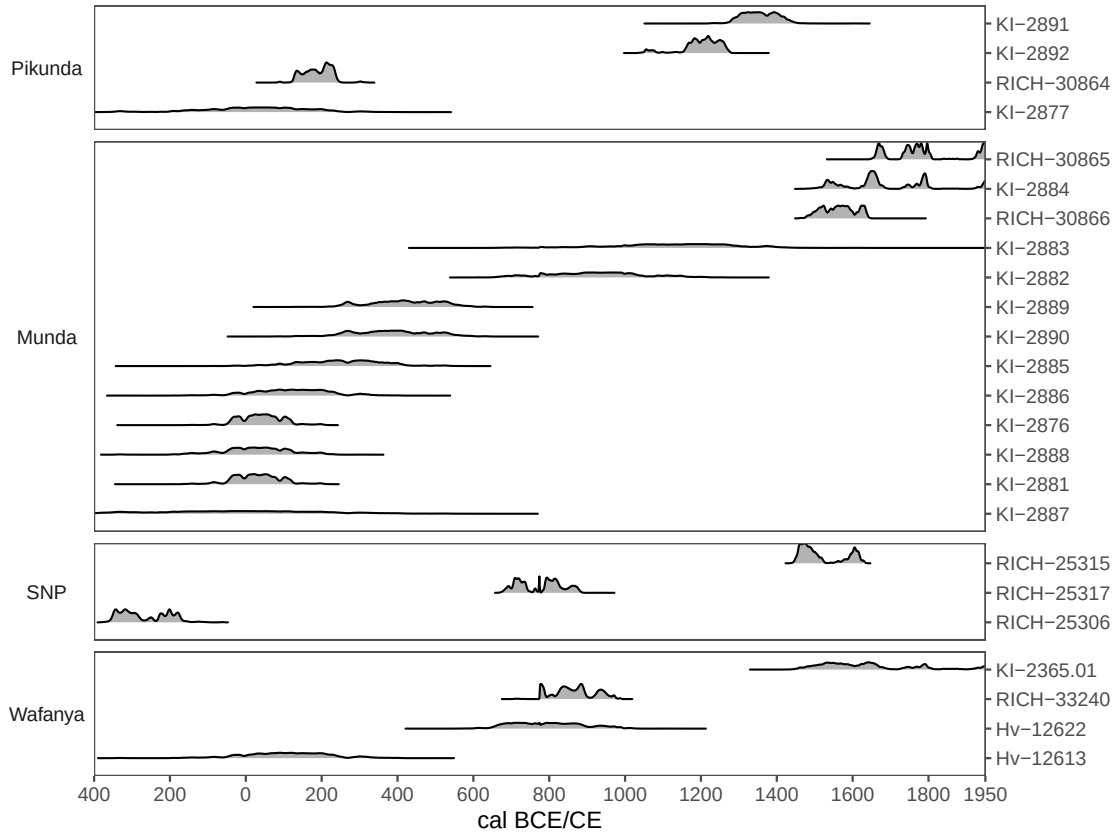
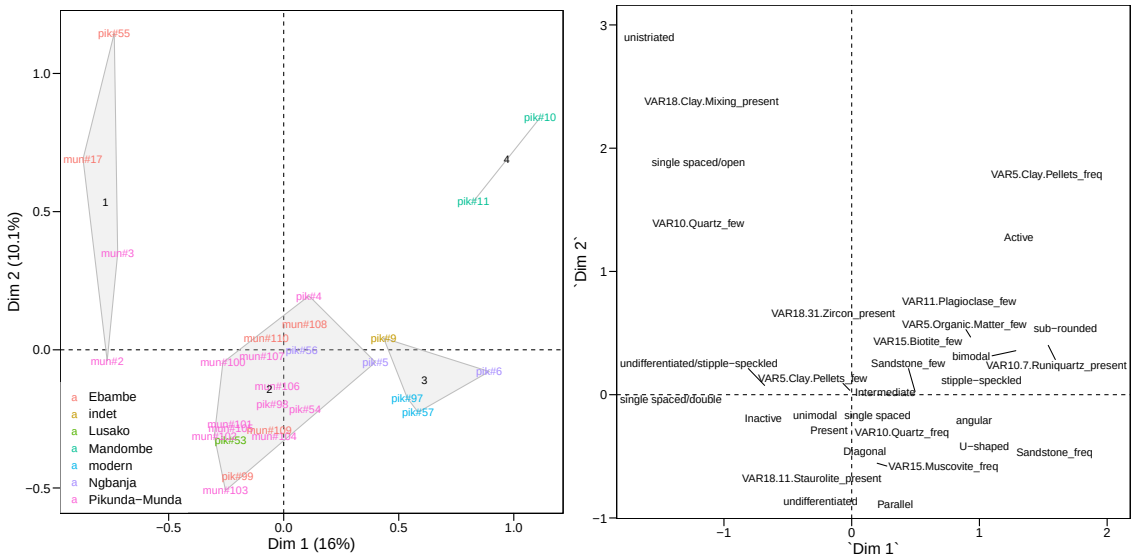
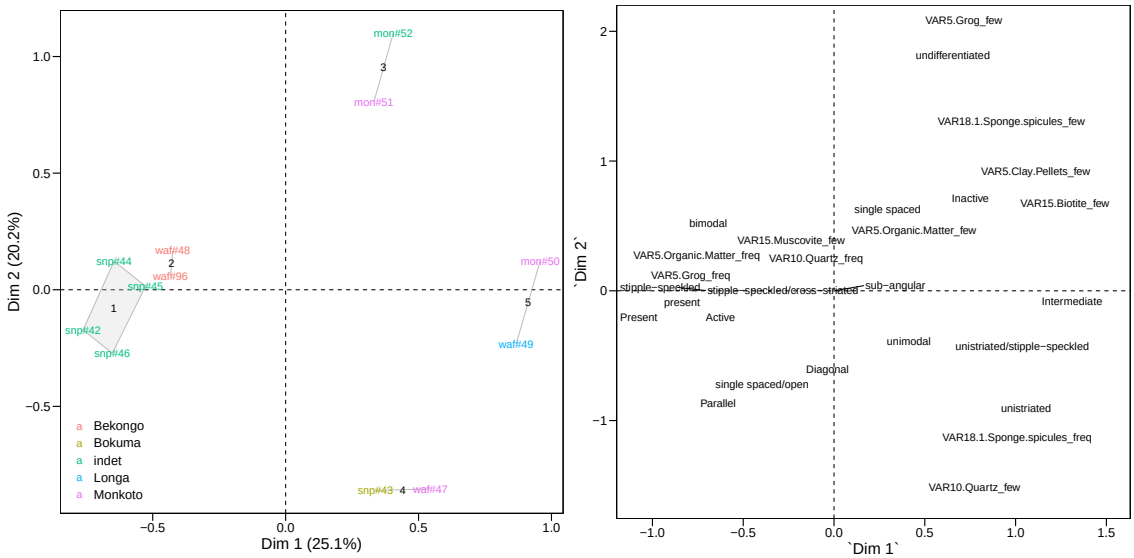


Figure S1: Calibrated radiocarbon dates from the two case studies. Details see Tab. S1.



(a) Case study I: Western Congo Basin



(b) Case study II: Luilaka

Figure S2: Score and loading plots of MCA from recorded petro-features used to differentiate qualitatively defined petrofrabrics (cf. Cau et al., 2004).

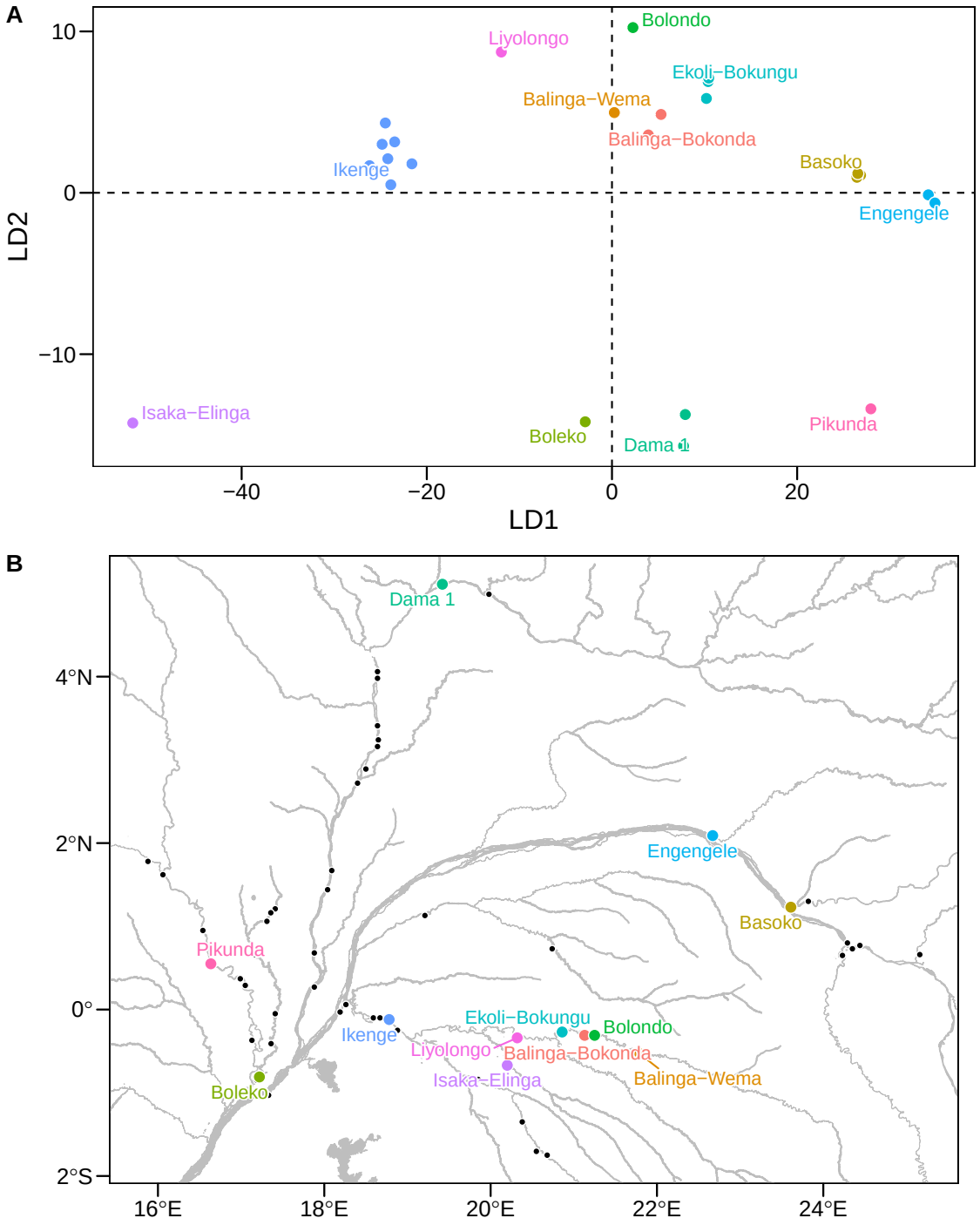


Figure S3: A: Biplot of LDA on 25 samples with known provenance originating from 12 sites and map of sites (B; individually colored). The map (B) also shows all sites in the full XRF dataset (small black dots).

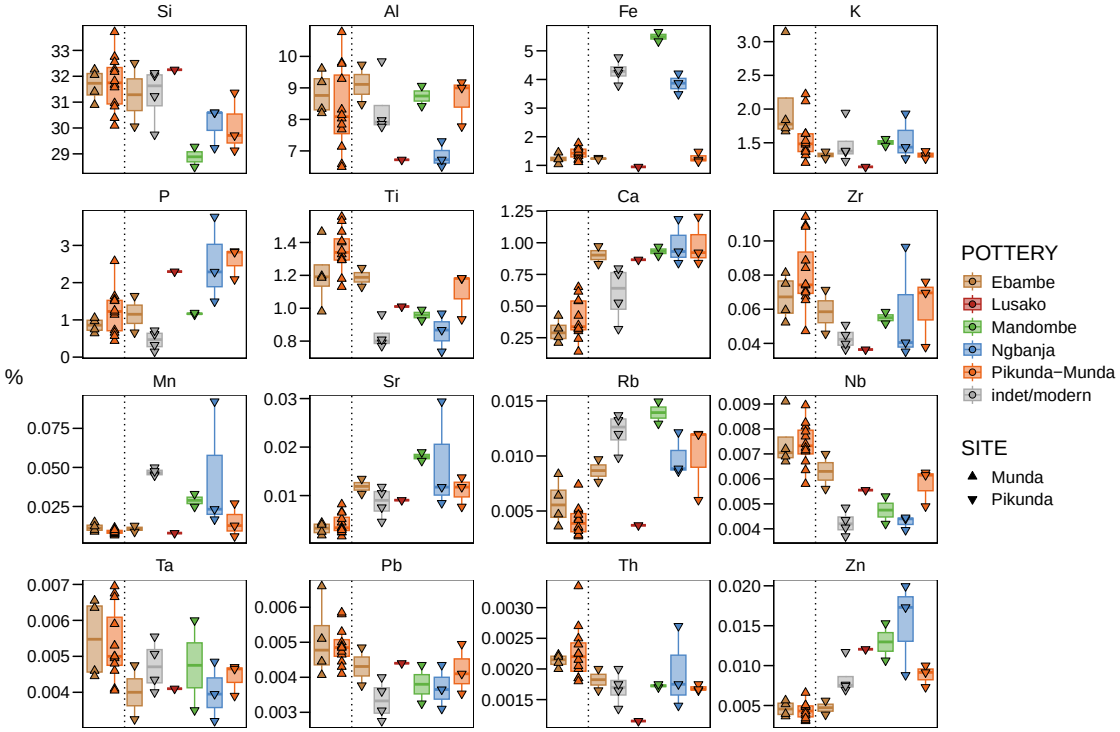


Figure S4: Elemental composition of samples from Pikunda and Munda, the two sites included in this study that are located in the Western Congo Basin. Colors represent distinct pottery styles shown in Figs. 2, S7, and S9.

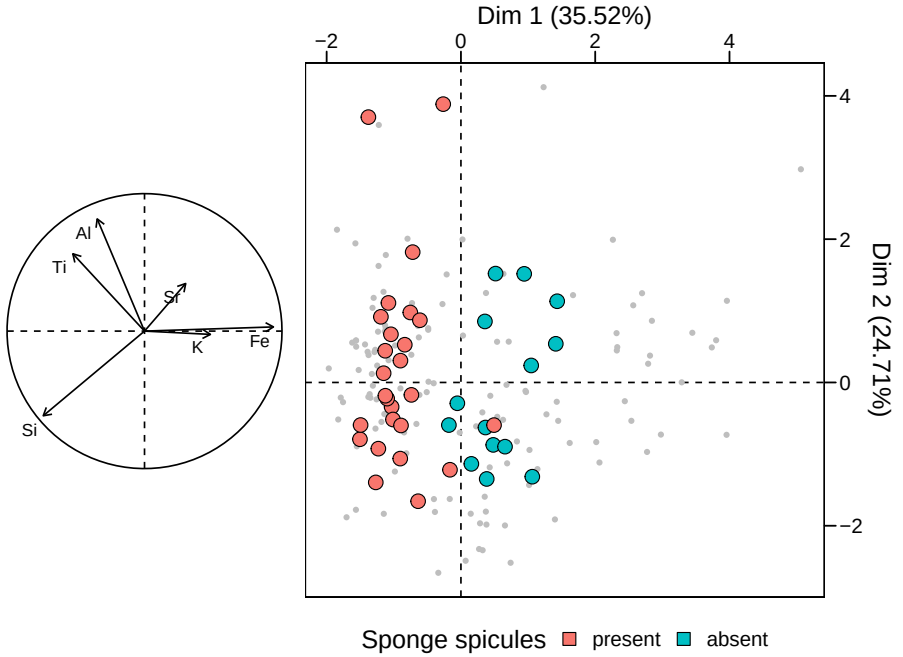
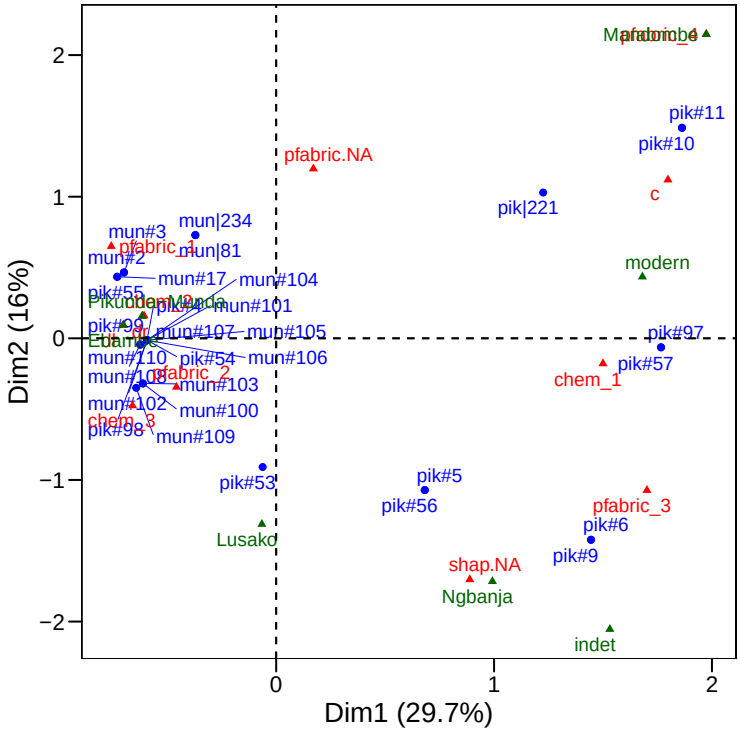
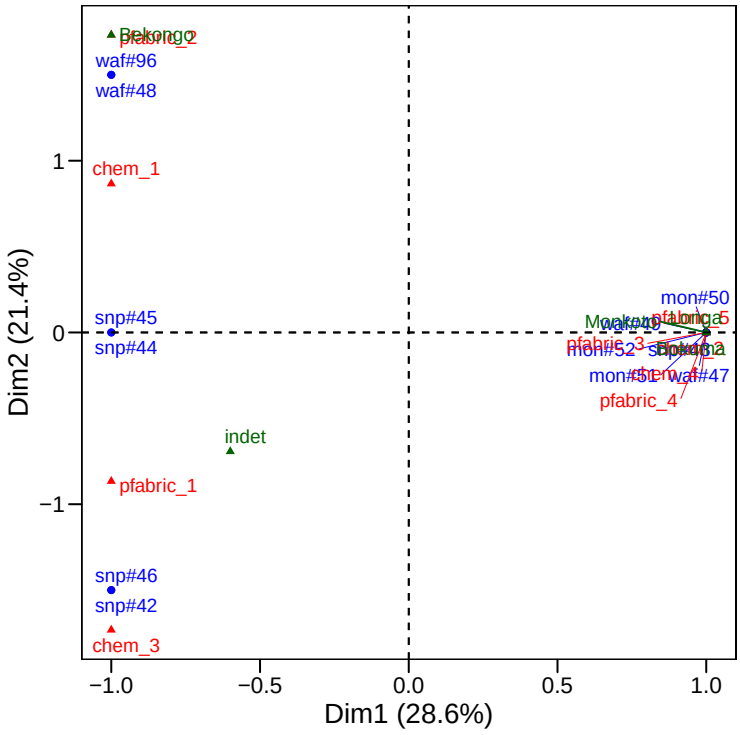


Figure S5: Score and loading plots of PC 1 and 2 from the PCA's on the X-Ray intensities of six elements obtained from 169 ceramics sherds (grey dots). Highlighted are samples originating from the two case studies discussed in this paper. The coloration is derived of the sample containing sponge spicules or not. The presence of sponge spicules can be viewed as unambiguous evidence for the source clay procured by the pottery coming from a fluvial environment.



(a) Case study I: Western Congo Basin



(b) Case study II: Luilaka

Figure S6: Score plots of MCA from sample (blue) based on the assigned petro-fabrics and grouping from XRF analysis (red) supplemented by the associated pottery style (green) highlighting the overall similarities and differences between the samples from the individual case studies.

LABNR	C14AGE	C14STD	IntCal20	SITE	FEATURE	POTTERY	REFERENCE
KI-2887	2020	180	469-435 BCE (0.6%) 423 BCE-418 CE (94.8%)	Munda	MUN 87/2-1-1	Pikunda-Munda	Eggert 1992: 16 Tab. 3; Seidensticker 2021: 328 Tab. 47
KI-2888	1990	65	151-130 BCE (2.2%) 121 BCE-207 CE (93.3%)	Munda	MUN 87/2-1-3	Pikunda-Munda	Eggert 1992: 16 Tab. 3; Seidensticker 2021: 328 Tab. 47
KI-2881	1990	45	102-66 BCE (3.4%) 61 BCE-131 CE (90.7%) 141-158 CE (1.0%) 192-200 CE (0.4%)	Munda	MUN 87/2-1-1	Pikunda-Munda	Eggert 1992: 16 Tab. 3; Seidensticker 2021: 334 Tab. 49
KI-2877	1980	100	347-315 BCE (1.7%) 205 BCE-251 CE (92.9%) 293-315 CE (0.9 %)	Pikunda	PIK 87/1	Pikunda-Munda; Lusako	Eggert 1992: 16 Tab. 3; Wotzka 1995; Seidensticker 2021: 299 Tab. 36
KI-2876	1980	41	89-81 BCE (0.5%) 54 BCE-141 CE (93.5%) 141-157 CE (1.0%) 193-199 CE (0.4%)	Munda	MUN 87/2-1-3	Pikunda-Munda	Eggert 1992: 16 Tab. 3; Seidensticker 2021: 334 Tab. 49
KI-2886	1910	80	93-76 BCE (0.9%) 55 BCE-259 CE (90.0%) 279-335 CE (4.6%)	Munda	MUN 87/2-1-1	Pikunda-Munda	Eggert 1992: 16 Tab. 3; Seidensticker 2021: 328 Tab. 47
RICH-30864	1850	24	126-240 CE (95.4%)	Pikunda	PIK 87/1	Pikunda-Munda	Seidensticker 2024: Tab. 2
KI-2885	1800	90	13-433 CE (95.4%)	Munda	MUN 87/2-1-1	Pikunda-Munda	Eggert 1992: 16 Tab. 3; Seidensticker 2021: 328 Tab. 47
KI-2890	1680	90	204-590 CE (95.4%)	Munda	MUN 87/3	Pikunda-Munda	Eggert 1992: 16 Tab. 3; Seidensticker 2021: 338 Tab. 51
KI-2889	1650	80	241-575 CE (95.4%)	Munda	MUN 87/3	Pikunda-Munda	Eggert 1992: 16 Tab. 3; Seidensticker 2021: 338 Tab. 51
KI-2882	1110	110	675-1158 CE (95.4%)	Munda	MUN 87/1-0-1	indet	Seidensticker 2021: 320 Tab. 45
KI-2883	870	180	774-793 CE (1-0%) 798-1412 CE (94.4%)	Munda	MUN 87/1-0-1	indet	Seidensticker 2021: 320 Tab. 45
KI-2892	840	41?	1051-1080 CE (5.3%) 1152-1276 (90.2%)	Pikunda	PIK 87/3	indet	Seidensticker 2021: 304 Tab. 39
KI-2891	600	75	1278-1438 CE (95.4%)	Pikunda	PIK 87/1	Mandombe	Seidensticker 2021: 299 Tab. 36
RICH-30866	328	22	1490-1639 CE (95.4%)	Munda	MUN 87/1-0-2	Ebambe	Seidensticker 2024: Tab. 2
KI-2884	250	40	1508-1594 CE (24.4%) 1618-1686 CE (41.4%) 1732-1806 CE (27.1%) 1927-1950 CE (3.5%)	Munda	MUN 87/1-0-2	Ebambe	Seidensticker 2021: 320 Tab. 45
RICH-30865	192	22	1657-1688 CE (22.2%) 1730-1807 CE (58.4%) 1925-1950 CE (14.8%)	Munda	MUN 87/1-0-2	Ebambe	Seidensticker 2024: Tab. 2

(a) Case study I: Dates from Pikunda and Munda.

LABNR	C14AGE	C14STD	SHCal20	SITE	FEATURE	POTTERY	REFERENCE
Hv-12612	3305	250	2269-2261 BCE (0.1%) 2204-916 BCE (95.3%)	Wafanya	WAF 83/16	(Monkoto); (Longa); (Bekongo); (Wafanya); (Botendo)	Wotzka 1995: 368; Seidensticker 2017: Tab. 21
Hv-12611?	2695	160	1224-396 BCE (95.4%)	Wafanya	WAF 83/16	(Monkoto); (Longa)	Wotzka 1995: 99, 127 Tab. 53, 368; Seidensticker 2017: Tab. 21
RICH-25306	2185	25	353-297 BCE (22.4%) 197-94 BCE (71.1%) 79-68 CE (1.9%)	Salonga	SNP-01 (60-70 cm)	cf. Bokuma	
Hv-12613	1920	90	60 BCE-363 CE (95.4%)	Wafanya	WAF 83/16	Monkoto; (Longa)	Wotzka 1995: 99, 127 Tab. 53, 368; Seidensticker 2017: Tab. 21
Hv-12622	1254	90	660-993 CE (95.4%)	Wafanya	WAF 83/3	(Wafanya)	Wotzka 1995; Seidensticker 2017: Tab. 21
RICH-25317	1239	25	771-894 CE (92.9%) 938-954 CE (2.6%)	Salonga	SNP-03 (30-40 cm)	indet	
RICH-33240	1169	28	882-993 CE (95.4%)	Wafanya	WAF 83/16	Bekongo	
RICH-25315	385	26	1460-1519 CE (33.9%) 1525-1628 CE (61.5%)	Salonga	SNP-01 (30-40 cm)		
KI-2365.01	280	70	1464-1471 CE (0.6%) 1481-1711 CE (59.3%) 1718-1814 CE (28.4%) 1835-1995 CE (4.7%) 1925-1950 CE (2.5%)	Wafanya	WAF 83/16	(Monkoto); (Longa); (Bekongo); Wafanya; Botendo	Wotzka 1995: 368; Seidensticker 2017: Tab. 21

(b) Case study II: Dates from Monkoto and Wafanya. Note, the samples Hv-12611 & Hv-12612 are considered not representative for the archaeological feature and finds they were associated with by Wotzka (1995, 99, 127 Tab. 53, 368) and are viewed as potential lab errors, following Geyh (1990).

Table S1: Calibrated ages of radiocarbondates from the two case studies (cf. Fig. S1). A comprehensive record of all published radiocarbon dates in Central Africa can be found in the online aDRAC repository Seidensticker and Hubau (2021). Entries in the pottery field marked in parentheses indicate that sherds of this style were found in association with the sample, but that the date was not regarded as representative for this pottery (Wotzka, 1995; Seidensticker, 2021, 193–204), potentially due to lab-errors (Geyh, 1990).

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