SUPPLEMENTAL INFORMATION

The origins of Amazonian landscapes: plant cultivation, domestication and the spread of food production in tropical South America

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MATERIALS AND METHODS

Archaeological sites

SW Amazon sites.

El Triunfo site (-12.71/-63.44) is located in the Itenéz Province, Bolivia on the western bank of Laguna Versalles. Annual rainfall is ~1500 mm. Two profiles were analysed from the site: an ADE profile (P1) and an ABE profile (P2). The ADE profile extends to a depth of 110 cm, the dark earth transitions to Ferralsol at a depth of 100cm, ceramics have been identified in the top 45cm of the profile. The profile has been dated between ~2.3ka (~310 BCE) and ~1.2ka (~720 CE). The ABE profile is located 200m from the ADE and is sampled to a depth of 75cm, the brown earth transitions to ferralsol at 55cm, ceramics have been identified in the upper 45cm, and the basal date for this profile is ~3.4ka (~ 1490 BCE). Three cultural phases based on ceramics have been identified including: Chocolatal (400 BCE- 400 CE), Versalles Temprano (900-1200 CE) and Versalles Tardio (1200-1700 CE) (Figs. 4 and 7) (Robinson et al. under review.) (Fig. 4). Percentage phytolith data is presented in Supplemental Table 6.

The Teotônio site (-8.87, -64.06) is located in Rondônia state, Brazil, on the right bank of the Madeira River. Annual rainfall of 1800-3500 mm. Data from four ADE profiles were included in the analysis: P1 from McMichael et al (2015) and N10049/E9956 from Watling et al. (2020) and, N9882/E10022 and N9877/E10022 from Watling et al. (2018). P1 profile was sampled up to a depth of 120 cm b.s., where ADE soils correspond to 0-110 cm b.s. Two dates have been obtained from the profile: ~3.4ka (~320 BCE) at 100-100 cm bs and ~1.5ka (~470 CE) at 50-60 cm b.s. Pre-Polychrome pottery is identified in the upper 30cm and charcoal is also present (Piperno et al., 2015). N10049/E9956 profile is 380 cm deep b.s. and has three radiocarbon ranges: ~3.0-1.0ka (~1050 BCE - 950 CE) between 160-375 cm. b.s., ~1.7-0.8ka (~250-1150 CE), and ~1.3-0.4ka (~650-1550 CE). N9882/E10022 profile is 130 cm b.s. deep with a date of ~6.5ka (~4500 BCE) at 100-110 cm b.s. N9877/E10022 is 130 cm b.s. deep and has three dates: ~9.5ka (~7510 BCE), ~5.8ka (~3850 BCE) at 30-40 cm and ~5.7ka (~3760 BCE) at 10-20 cm (see Fig. 5). Percentage phytolith data is presented in Supplemental Table 9. Santa Paula is in front of the Teotônio site in the north bank of the Madeira River. Profile 1 is 240 cm b.s. deep and has one age of ~1.6-1.5ka (~350-450 CE) (see Kater et al., 2020; Watling et al., 2020) (Fig. 4). Percentage phytolith data is presented in Supplemental Table 6.

Central Amazon sites.

Couro Velho (-4.38, -61.09) is located in Amazonas state, Brazil, the middle Purus-Madeira interfluve along the Igapó-Açu River. Annual precipitation varied from 2000 to 2400 mm. Four profiles, all sampled to a depth of 80 cm b.s. were included in the analysis: P1, P2, P5 and P7. The P1 and P2 profiles have ABE sediments to 45cm b.s. and pottery recovered to a depth of 40cm b.s. The P5 profile has ADE sediments with ceramics to 45cm b.s. and is dated at 35-40cm to ~1.1ka (~870 CE). Profile P7 contains ADE sediments with ceramics up to 50cm and the deposit directly below the ADE at 50-55 cm b. s. was dated to ~3.6ka (~1630 BCE) (see Gonda, 2018 for detailed information about these sites) (see Fig. 5). Percentage phytolith data is presented in Supplemental Table 6.

Caldeirão (-3.24, -60.24) is located in Amazon state, Brazil, on the north bank of the Amazon River. Annual rainfall of 2100mm. Two ADE profiles were included in this analysis, P1 and P2. Profile P1 was excavated to 200cm with the ADE depth to 130cm, ceramics were recovered to 95cm and the profile was dated between 70-105cm to ~1.7ka (~250CE), between 40-40 cm b.s. ~1.6ka (~350 CE), and 0-40 cm b.s. ~1.0ka (~1000CE). Profile P2 was excavated and sampled to a depth of 170cm, and the ADE starts at a depth of 50cm b.s. This profile is dated ~1.9ka (~70 CE) at a depth of 30-45cm (see Macedo, 2014 for detailed information about these profiles) (see Fig. 5). Percentage phytolith data is presented in Supplemental Table 6.

Trevisan (-9.81, -57.82) is located in Mato Grosso state, Brazil on the Rio São João da Barra. Annual precipitation is ~2100 mm. One 60 cm depth profile was analysed from the site with a date of ~0.5ka (~1410 CE) at 45-50 cm. ADE comprised the first 50 cm of the profile (Fig. 5) (see de Souza et al., 2018 for more detailed information about this site) (see Fig. 5). Percentage phytolith data is presented in Supplemental Table 6.

Eastern Amazon sites.

Porto, Maguari and Cedro are located in Pará state, Brazil at the confluence of the Tapajós and Amazon rivers. Annual precipitation in the region is 2000 mm.

Porto (-2.41,-54.73) is a large 500 ha site, and theorised as the political centre of the Tapajos society. Profile 1 was included in this analysis and was sampled to a depth of 125cm b.s., the ABE transitioning to ADE ate 55cm b.s., the profile dates between ~3.5ka (~1550 BCE) at 110-115 cm and ~09.ka (~1080 CE) at 50-55 cm b.s. The two cultural phases identified in Porto based on ceramics are Pocó (~1550-1100 BCE) and Santarém (1080 CE) (see Alves, 2017 for details) (Fig. 8). Percentage phytolith data is presented in Supplemental Table 6.

Maguari (-2.79, -55.02) is located over the edge of the Belterra plateau, 5km east of the Tapajos River. Three profiles were included from this site which were located in areas of anthropogenic soils, which extend for ~15 ha. Two of the profiles included in this analysis are from profiles which transition from ADE to ABE (test pit 1 and test pit 2), the third profile contains only ABE (test pit 3). Test pit 1 was sampled to a depth of 75cm, the ADE extends to 65cm, the ADE was darker in colour from 0-35cm, and lighter in colour 40-65cm and the remaining 10cm sampled was the natural ferralsol. Ceramics were identified in Test Pit 1 to a depth of 65cm at the base of the ABE dated to ~140 CE. Test pit 2 was sampled to a depth of 45cm, the ABE extends to 25cm, the remaining 20cm sampled was natural ferralsol, and the ABE was darker in colour 0-15cm, and lighter 20-25cm. Ceramics were recovered from the upper 25cm. Test pit 3 was also sampled to 45cm, with the upper 15cm only identified as anthropogenic ABE and ceramics only identified from the top 15cm. Preliminary ceramic data identified two cultural phases on Maguari site including Pocó (~140 CE) and Santarém (~1430-1630 CE) (see Alves, 2017 for details) (Figs. 6 and 8). Percentage phytolith data is presented in Supplemental Table 6.

Cedro (-2.65, -54.95) is located further inland from the Tapajos river, northeast of Maguari and southwest of Porto. Four profiles are included here which were sampled in an area of ABE extending approximately 5ha. In all four test pits (test pits 2, 3, 4, and 5) samples were taken to a depth of 45cm. In three test pits (2, 3 and 5) the ABE soil was 15cm deep, and the remaining 30cm sampled was natural ferralsol, of this 15cm the upper 5cm of ABE is darker than the remaining 10cm of ABE. In test pit 4 the darker ABE was observed in the upper 15cm, with 10cm of lighter ABE beneath this totalling 25cm of ABE, the remaining 20cm sampled was natural ferralsol. This site is culturally associated to the Santarem phase (~ 1290-1450 CE) (see Alves, 2017 for details; Troufflard and Alves, 2019) (Fig. 6). Percentage phytolith data is presented in Supplemental Table 6.

Belterra (-2.63, -54.94) is located north of Maguari, also slightly inland (east) of the Tapajos river. The site is located in a well-known area of ADE and ABE (Sombroek, 1966). The profile included in this analysis was excavated to a depth of 165cm, however, only divided and sampled in three units (0-35cm, 35-70cm and 70-165cm). The anthropogenic ADE was observed to a depth of 70cm and ceramics were only recovered from the upper 35cm (see Kondo and Iwasa, 1981 for details) (Fig. 6). Percentage phytolith data is presented in Supplemental Table 6.

Palaeoecological sites.

Lake Versalles (-12.70, -63.42) is a flat-bottom, close basin lake of ~ 18 km^2 located ~5 km from the Itenez River. Lake Versalles was selected because our archaeological survey documents several ADEs in their shore making it an ideal location to reconstruct changes in human land use. Two sediment cores were collected using overlapping drives from a Livingston drive rod piston corer (Wright, 1967) with a modified Bolivia surface corer to collect the sediment–water interface. One in the centre of the lake to reconstruct regional vegetation history in the catchment area and another in the shore ~300-m from the Triunfo ADE site to detect land use changes associated with this site (e.g., detect heavy crop pollen). The core is the centre of the lake is >4m deep and dates to >50ka and is currently under analysis. In this paper, we only present the preliminary results of the Versalles short shore core for the last 1.8ka (Maezumi et al. in prep). Cores were transported back to the University of Exeter, UK, for cold storage. Full results and methodology is reported in (Maezumi et al. in preparation). Lake Caranã is reported in detailed in Maezumi et al. (2018).

Methods.

Soil phytoliths. Phytoliths from ADE soil profiles were analysed at 5 cm (Triunfo, Trevisan, Couro Velho, Caldeirão, Maguari, Cedro and Porto), 10 cm (Teotônio and Santa Paula) and 35 cm (Belterra) intervals. Radiocarbon dates constraining these soil sequences are plotted in Figure 5-9. Phytolith extraction followed standard protocols (Piperno, 2006). Subsampled material (200 g) was deflocculated by shaking for 24 h in 900 ml warm water with sodium hexametaphosphate (NaPO36). Clays were removed by gravity sedimentation and separated into silt (< 50 μ m) and sand (> 50 μ m) fractions by wet sieving. Carbonates were removed with 10% HCl and organic matter with nitric acid (HNO3). Phytoliths were floated in a heavy metal solution (ZnBr2) and drawn off by pipette. Slides were mounted using Entellan. Identification was carried out using an Axiovision 40 microscope at × 200 (> 50 μ m) and × 500 (< 50 μ m) magnification, respectively. The identification was based on the comparison with the reference collection of the Archaeobotany Laboratory at the University of Exeter and by consulting an extensive comparative literature (e.g.,Dickau et al., 2013; Piperno, 2006; Watling and Iriarte, 2013). Phytolith analysis of the Teotonio and Santa Paula sites took place at University of São Paulo using the method of Lombardo et al. (2016). In addition to the edible palms (Arecaceae), we included all of the phytolith taxa identified to the genus level that are ethnographically used as food resources in the Americas in the edible plants category (Clement, 1999; Hanelt et al., 2001; Levis et al., 2017).

Soil macrocharcoal. Charcoal from ADE soil profiles were analysed at 5 cm (Triunfo, Couro Velho and Porto) and 10 cm (Cedro, Maguari) intervals. Radiocarbon dates constraining these soil sequences are plotted in Figure 5-9. Subsamples were taken using a 5 cm^3 syringe and sorted into 50 ml test tubes. To disaggregate the charcoal particles from the sediment, the samples were placed in a hot water bath (80 °C) with 45 ml of potassium hydroxide for 30 minutes and stirred with a wooden stick occasionally. The samples were washed in a 125 μm sieve under a low-pressure water stream (to avoid breakage) until clean and transferred into petri dishes with 1x1 cm grid lines on their undersides. The samples were kept submerged in water during analysis to limit particle movement. Counting was carried out using an Olympus 5761 magnifier. All charcoal was counted in the petri dish and the number of pieces was recorded in particles cm^{-2}.

Sum of the calibrated probability distributions. The sum of the calibrated probability distributions (SPDs) can be a reliable method to assess relative population dynamics in the past (Shennan et al., 2013). SPDs are a standard method for representing chronological trends in radiocarbon datasets. They are produced by calibrating each independent date in the sample and adding the results to produce a single density distribution. This has the advantage of including the full range of probabilities associated with calibrated dates, instead of using single-point estimates (Downey et al., 2016; Goldberg et al., 2016; Shennan et al., 2013; Timpson et al., 2014). For the lower Tapajos, a total of 82 AMS dates in 39 bins (Fig. 8). From the southwestern Amazon, a total of 27 dates in 22 bins) were calculated (Fig. 9). SPDs were built with the R package rcarbon 1.3.3 and the IntCal20 calibration curve (R Core Team, 2018; Hogg et al., 2020). Calibrated dates were not normalized in order to minimize artefacts of the calibration curve on their shapes (Bevan et al., 2017). A binning procedure was applied to account for sites that have multiple dates within a phase (Goldberg et al., 2016; Shennan et al., 2013; Timpson et al., 2014). Dates within sites are ordered and those occurring within 100 years of each other are grouped into bins and merged. Each bin had a maximum width of 100 years. The binning procedure was necessary to account for sampling bias across sites that have multiple dates obtained for a phase (bin window), as a sum of the calibrated dates assumes that observations are independent.

Supplemental Texts.

Supplemental Text 1: The Formative Period

The term 'Formative' has a long history in American archaeology. It is generally used to denote a number of aspects of pre-Columbian cultures, notably, the process of becoming more sedentary, increasing dependence on domesticated foodstuff (many of which were storable for a substantial portion of the annual cycle), acquiring ceramics, building monuments, and the appearance of more marked social differentiation. It is clear that the appearance of these traits does not co-occur, they do not diffuse as a package (see Neves, 2007). Here, we use the term Formative as a tool to provide a comparative framework to investigate and compare historical trajectories of emergent complexity across Amazonia focusing on their land-use systems. This concept is useful if it is employed broadly and used to emphasise major changes in the social, political, and economic organisation that occurred in Late Holocene Amazonian societies displaying high organisational variability and not simply focus on the appearance or disappearance of specific archaeological correlates (e.g., ceramics, villages, prestige goods).

Supplemental Text 2: Interpretation of canopy cover in phytolith soil-depth profiles

The extent of canopy cover is also likely to be underrepresented in the phytolith record, specifically the arboreal phytoliths, as monocotyledonous species (e.g. grasses, herbs and palms) produce an order of magnitude more phytoliths than dicots (Tsartsidou et al., 2007). Different plants can have very different phytolith concentrations per unit weight of dry organic material and this needs to be considered when estimating the relative proportions of dicotyledonous species to monocotyledonous species when interpreting phytolith assemblages. Based on studies in other regions analysis has shown that grasses produce on average 20 times more phytoliths than wood and bark, and the dicotyledonous leaves four times (Albert and Weiner, 2001). In other studies it was found that many wood samples contain no phytoliths at all and the edible parts of trees (fruits, nuts) produce extremely small amounts of phytoliths (Tsartsidou et al., 2007). Therefore canopy cover could be underrepresented in the phytolith record.

Supplemental Text 3: Interpretation of canopy cover in the lake pollen records

Recent simulation experiments by Whitney et al. (2019) show that pollen records from large lakes (>1-km diameter) in closed canopy rainforest are more sensitive to detecting forest clearance than similar sized lakes in forest-savannah mosaics. They demonstrated that, although pollen records from these large rainforest lakes are, by and large, insensitive to detecting patterning (i.e. size of forest clearings) within the landscape, they are sensitive to detecting small changes (>5%) in the overall proportion of forest versus non-forest, as long as the baseline catchment was predominantly forested. This study indicates that it is difficult to estimate exactly the percentage of forest opening around Versalles Lake based on pollen. However, since the core taken from the centre of Versalles Lake shows that the catchment around the lake was predominantly forested since the Pleistocene and throughout the Holocene (Maezumi et al in preparation), we are confident that if there was some changes in the overall proportion of forest versus non-forest cover, we would have been able to detect even minor changes in the forest cover. Therefore, our data shows that Versalles Lake was forested during the late Holocene and continued to be so even after the development of Amazonian anthrosol polyculture agroforestry land-use system.

Supplemental Table 1. Inventory of analysed Amazonian anthrosols.

Site (n=10)	**Region**	**Number of Profiles (n=23)**	**ADE or ABE (ADE n=14, ABE n=11)**
Triunfo	South Western Amazon	2	1 ABE, 1 ADE
Teotônio	South Western Amazon	4	4 ADE
Santa Paula	South Western Amazon	1	1 ADE
Couro Velho	Central Amazon	4	2 ABE, 2 ADE
Trevisan	Central Amazon	1	1 ADE
Caldeirão	Central Amazon	2	2 ADE
Cedro	Lower Amazon	4	4 ABE
Maguari	Lower Amazon	3	2 ABE, 1 ADE
Porto	Lower Amazon	1	1 ADE
Belterra	Lower Amazon	1	1 ADE

Supplemental Table 2. Canopy cover in Amazonian Anthrosols.

	Percentage of Phytoliths Indicating Closed Canopy	**Number of profiles**	**Profiles**
ABE	Whole profile >40% Closed Canopy	3	Cedro, 3, 4, 5
	Whole profile >50% Closed Canopy	2	Triunfo ABE, Cedro 2
	Whole profile >60% Closed Canopy	1	Maguari 2
	Whole profile >70% Closed Canopy	3	Couro Velho CAST1 (P2), Couro Velho CAST2 (P1), Maguari 3
ADE	Whole profile Closed Canopy >35%	1	Belterra
	Whole profile >40% Closed Canopy	2	Teotônio N10049 E99565, Santa Paula
	Whole profile >50% Closed Canopy	3	Triunfo ADE, Trevisan, Porto
	Whole profile >60% Closed Canopy	2	Teotônio N9882 E10022, Couro Velho TP 1 (P7)
	Whole profile >70% Closed Canopy	3	Maguari 1, Teotônio N9877 E10022, Couro Velho TP1 (P5)
	Whole profile >80% Closed Canopy	3	Teotônio P1 (McMichael), Caldeirão P1, CaldeirãoP2

Supplemental Table 3. Presence of crops and edibles in Amazonian anthrosols.

Profile	**ADE/ ABE**	**Trend**	**Crops**	**Edibles**
Triunfo, (ABE)	ABE	Canopy; High Arboreal throughout	*Zea mays*, *Manihot* sp., *Calathea* sp.	Arecaceae, *Celtis* sp., *Chusquea* sp., Olyreae
Triunfo, (ADE)	ADE	Canopy; High Arboreal throughout	*Zea mays*, *Manihot* sp., Calathea sp.	Arecaceae, *Celtis* sp., *Chusquea* sp., Olyreae
Teotônio, (McMichael et al 2015)	ADE	Canopy: High arboreal (older) to mixed arboreal/palm (newer)		Arecaceae
Teotônio, (N9877 E10022) (Watling et al 2018)	ADE	Canopy; High Arboreal throughout	*Cucurbita* sp.	Arecaceae, Olyreae
Teotônio, (N9882 E10022) (Watling et al 2018)	ADE	Canopy; High Arboreal throughout	*Cucurbita* sp., *Manihot* sp., *Calathea* sp.	Arecaceae
Teotônio, (N10049 E9956) (Watling et al 2020)	ADE	Canopy: Mixed arboreal/palm with high grass/herb (oldest) to arboreal/palm dominated (newer) to arboreal dominated (newest)	*Cucurbita* sp., *Zea mays*, *Manihot* sp., *Calathea* sp., *Maranta* sp.	Arecaceae, *Chusquea* sp.
Santa Paula, (Watling et al 2020)	ADE	Canopy: High arboreal (older) to mixed palm/arboreal (newer), grass/herb peak in newest deposits	*Zea mays*, *Maranta* sp.	
Trevisan (2)	ADE	Canopy; High Arboreal throughout	*Cucurbita* sp., *Manihot* sp.	Arecaceae, *Celtis* sp., Olyreae
Couro Velho, CAST2 (P1)	ABE	Canopy; High Arboreal throughout	*Cucurbita* sp., *Calathea* sp., *Maranta* sp.	Arecaceae, *Celtis* sp., Olyreae
Couro Velho, CAST1 (P2)	ABE	Canopy; High Arboreal throughout	*Calathea* sp., *Maranta* sp.	Arecaceae, Olyreae

Couro Velho, TP1 (P5)	ADE	Canopy; High Arboreal throughout	*Cucurbita* sp, *Calathea* sp., *Maranta* sp.	Arecaceae, *Celtis* sp., Olyreae
Couro Velho, TP1 (P7)	ADE	Canopy; High Arboreal throughout	*Cucurbita* sp., Zea may, *Calathea* sp., *Maranta* sp.	Arecaceae, Celtis sp., Olyreae
Caldeirao, (P1) (Rodrigo 2011)	ADE	Canopy: High arboreal (older) to mixed arboreal/palm (newer)	n/a	n/a
Caldeirao, (P2) (Rodrigo 2011)	ADE	Canopy: High arboreal (older) to mixed arboreal/palm (newer)	n/a	n/a
Maguari, (Test Pit 1)	ADE	Canopy; High Arboreal throughout	*Cucurbita* sp., *Zea mays*, *Calathea* sp.	Arecaceae, *Celtis* sp., Olyreae, *Pharus* sp.
Maguari, (Test Pit 2)	ABE	Canopy; High Arboreal throughout	*Cucurbita* sp., *Zea mays*, *Calathea* sp.	Arecaceae, *Celtis* sp., Olyreae, *Pharus* sp.
Maguari, (Test Pit 3)	ABE	Canopy: High arboreal (older) to mixed arboreal/palm (newer)	*Cucurbita* sp., *Zea mays*, *Calathea* sp.	Arecaceae, Olyreae, *Pharus* sp.
Cedro, (Test pit 2)	ABE	Canopy; High Arboreal throughout	*Maranta* sp.	Arecaceae, *Celtis* sp., Olyreae, **Pharus** sp.
Cedro, (Test pit 3)	ABE	Canopy; High Arboreal (with high grass/hebs)	*Cucurbita* sp., *Maranta* sp.	Arecaceae, *Celtis* sp., Olyreae, *Pharus* sp.
Cedro, (Test pit 4)	ABE	Canopy; High Arboreal throughout	*Zea mays*, *Maranta* sp., *Calathea* sp.	Arecaceae, *Celtis* sp., Olyreae, *Pharus* sp.
Cedro, (Test pit 5)	ABE	Canopy; High Arboreal (with high grass/hebs)	*Zea mays*	Arecaceae, *Celtis* sp., Olyreae, *Pharus* sp.
Belterra (Kondo and Iwasa 1981)	ADE	Canopy: Palm dominated	n/a	n/a
Porto, (Profile 1)	ADE	Canopy; High Arboreal throughout	*Cucurbita* sp., *Zea mays*, *Calathea* sp.	Arecaceae, *Celtis* sp., Olyreae, *Pharus* sp.

Supplemental Table 4. Differences in canopy cover in Amazonian anthrosols.

Trend	**Profiles**	**#ADE/ #ABE**
Closed Canopy: Arboreal dominant throughout, >40% Arboreal types	9 profiles: Ced 5, Ced 3, Ced 2, Ced 4, Trevisan, Porto, Triunfo ABE, Triunfo ADE, Teotônio N9882 E10022	4 ADE, 5 ABE
Closed Canopy: Arboreal dominant throughout, >50% Arboreal types	3 profiles: CV TP1 (P7), Mag 2, Caldeirao P1	2 ADE, 1 ABE
Closed Canopy: Arboreal dominant throughout, >60% Arboreal types	4 profiles: CV TP1 (P5), CV CAST 1 (P2), Mag 1, CV CAST2 (P1)	2 ADE, 2 ABE
Closed Canopy: Palm dominant throughout,, >30% Palm types	Belterra	ADE
Closed Canopy: Palm dominant throughout, >40% Palm types	Teotônio N9877 E10022	ADE
Closed canopy: Changing vegetation patterns: arboreal dominated to mixed arboreal/palm	Mag 3	ABE
Closed canopy: Changing vegetation patterns: arboreal dominated to palm dominated with arboreal	Teotônio (McMichael), Caldeirao P2	2 ADE
Closed canopy: Changing vegetation patterns: Mixed arboreal/palm with high grass/herb (oldest) to arboreal/palm dominated (newer) to arboreal dominated (newest)	Teotônio N10049 E99565	ADE
Closed Canopy: Changing vegetation patterns: High arboreal (older) to mixed palm/arboreal (newer), grass/herb peak in newest deposits	Santa Paula	ADE

Supplemental Table 5. Detailed inventory of plants from late Pleistocene-middle Holocene, middle Holocene, and late Holocene contexts (attached).

Supplemental Table 6. Phytolith percentages and raw charcoal counts from the Triunfo, Teotônio, Santa Paula, Trevisan, Couro Velho, Caldeirão, Maguari, Cedro, Belterra and Porto sites.

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