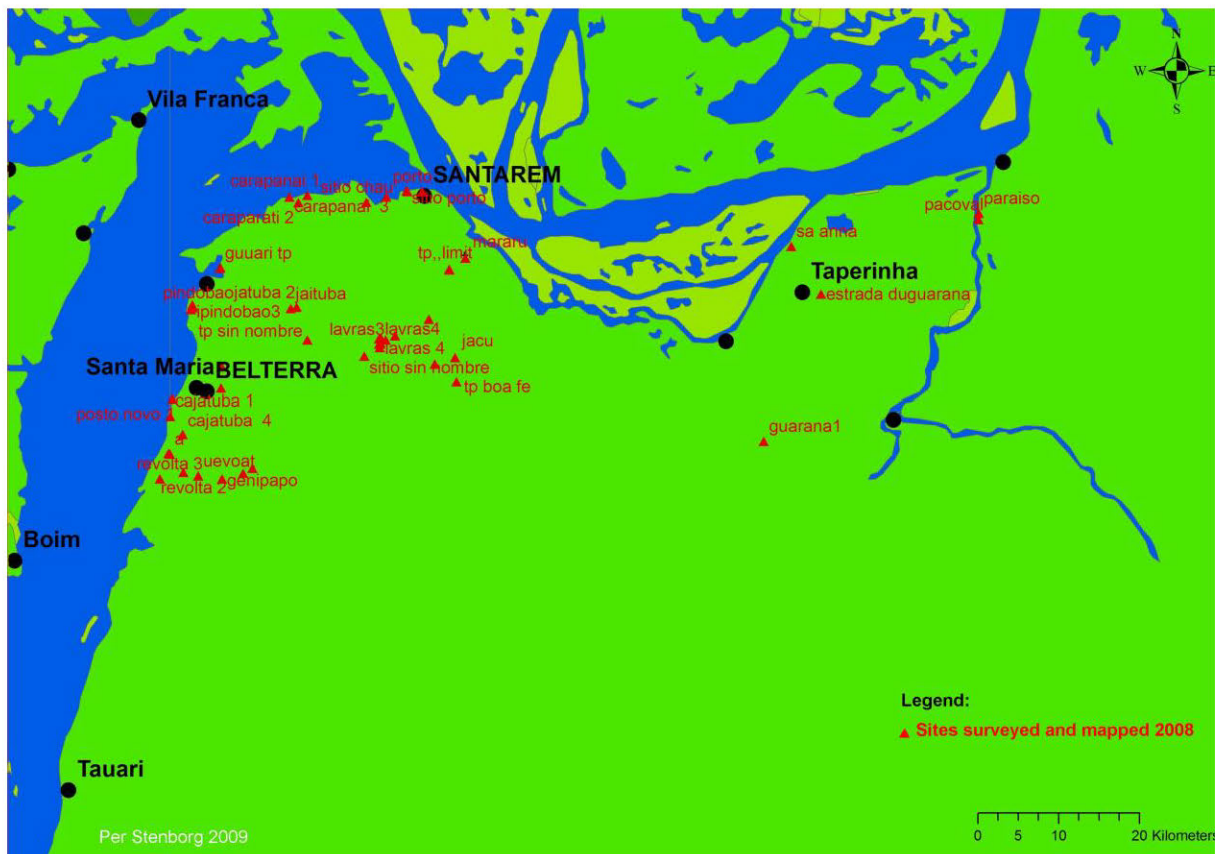


First Report from the project *Material Culture and Change in the Lower Amazon*

By Per Stenborg 2009



Department of Historical Studies
University of Gothenburg
Gotarc Series D No. 82

First Report from the Project *Material Culture and Change in the Lower Amazon*

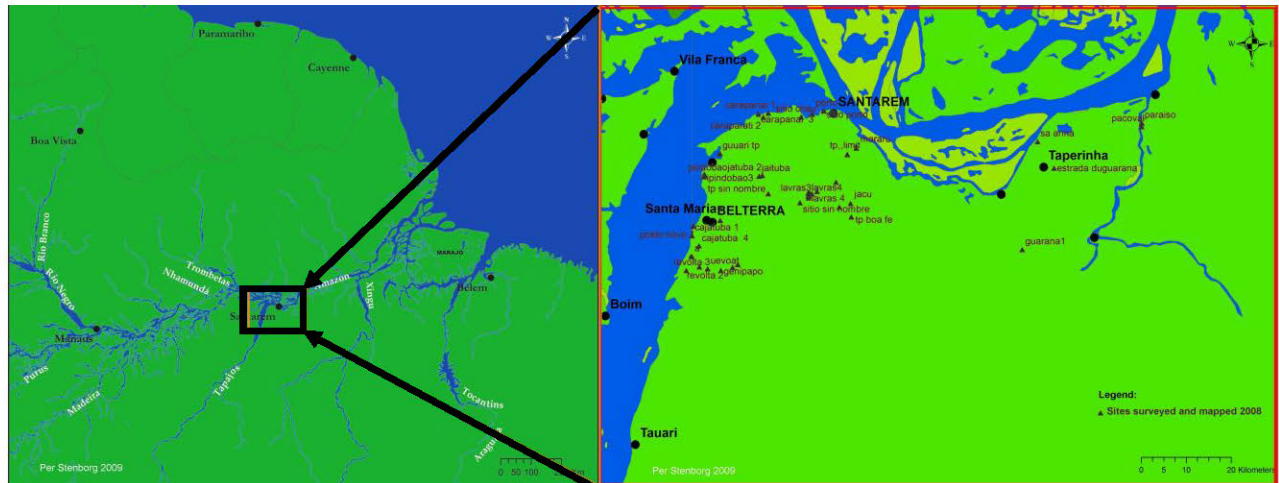
Per Stenborg 2009

Contents

Abstract	3
Background	3
The Fieldwork carried out in 2008.....	11
References	18

The Santarém Region

The later prehistory of the Santarém Region in the lower Amazon is characterized by the emergence of two related but distinct ceramic complexes: Santarém (mainly distributed south of the Amazon River) and Kondurí (found to the north of the Amazon River). There are very few C14 and TL dates associated with Santarém and Kondurí pottery (Gomes 2001; Hilbert & Hilbert 1979; Pouguet 2002), but both complexes have been preliminary dated to the period AD 1000-1700.



The sites covered by surveying in 2008 are situated in the Santarém area in the state of Pará, Brazil. By Per Stenborg 2009.

In Amazonia, archaeological sites are often associated with Amazonian Dark earths, “Terra Pretas”, fertile anthrosols rich in organic matter and nutrients. Interest in Terra Preta has recently increased (e.g. Glaser & Woods 2004; Lehmann et al. 2004; Woods 2008) owing to their role in the debate on complex polities in Amazonia (e.g. Heckenberger et al. 1999; Meggers 1992; Petersen et al. 2001), agricultural productivity (Madari et al. 2004) and in demonstrating that the Amazonian landscape is to a considerable extent anthropogenic (Oliver 2001). A peculiar quality about these soils is their stability. Although the settlements that once somehow produced them in most cases vanished in the 16th and 17th centuries, the soils have not become leached or decomposed. In fact their fertility implies that they are the most coveted soils for agricultural purposes in the Amazon today, and as a consequence, the archaeological record is being destroyed at an alarming rate. A key issue for the project is to analyze the formation and distribution of Terra Preta in the Santarém Region in relation to sustenance and settlement systems and socio-economic organization.

The existence of large-scale social networks in Amazonia is indicated by the emergence of similar stylistic traits in pottery distributed over wide areas. Two main periods of establishment of pan-Amazonian ceramic traditions can be distinguished. The first, c. 1000 BC-AD 500, is characterized by the Barrancoid tradition. Later, beginning c. AD 500, the distribution of the Amazonian Polychrome tradition over large portions of the lowland Neotropics again demonstrates the existence of ties linking together enormous areas. The majority of the material presently available from the Santarém Region can be associated with the second millennium AD. Belonging to the so-called Incised Punctuated tradition, the influence of the AP tradition in the available assemblages from Santarém- and Kondurí-dominated sites is limited (Petersen et al. MS). Currently, AP pottery has been documented west as well as east of the Santarém Region (Goes Neves 1998; Lathrap 1970; Heckenberger et al. 1999; Meggers and Evans 1957; Petersen et al. MS; Pahl Schaan 2001).

Trade routes and networks for communication may directly and indirectly have linked enormous areas together. These routes of communication along waterways would have involved key points, particularly in the junctions between north-south and east-west connections. A tentative theory is that interruptions of the reasonably homogenous pattern of material culture found along the Amazon, exemplified by the dominance for Santarém and Kondurí pottery in the investigation area may reveal the positions of particularly important routes of communication along the tributaries. In this scheme, the Santarém Region would form a key area for investigation.

Curt Nimuendajú

The Germano-Brazilian researcher Curt Unkel Nimuendajú was a central figure of Brazilian ethnography, and to a lesser extent, also archaeology during the first half of the 20th century. Various previously unpublished texts by Nimuendajú have recently been issued (Nimuendajú 2000, 2004). These publications have, among other things, provided important information about Nimuendajú's archaeological research and his collecting of materials. The greater part of the archaeological investigations by Nimuendajú was undertaken as part of his collaboration with the Gothenburg Museum in Sweden.

By the time of the accomplishment of Nimuendajú's investigations, the knowledge about the archaeological record concerning many parts of the Amazon and Guyana regions was extremely low. The Gothenburg Museum established its collaboration with Nimuendajú in 1922 (Rydén 2004) and was at the time becoming an important centre for Amerindian studies. Apart from the archaeological collections, the museum also obtained important ethnographical collections from Nimuendajú. In 1924 Gothenburg housed the 21st International Congress of Americanists, an occasion that provided the Museum's director, Erland Nordenskiöld, the opportunity to present the material that had till then arrived at the museum. The Santarém material received particular attention at the time. Nordenskiöld apparently had his doubts concerning the cultural circumstances behind the emergence of the pottery styles from this area, suspecting they might have resulted from post-contact European cultural influences. Nimuendajú, however, assured him — providing comprehensive arguments — that these ceramic styles had, undoubtedly, an entirely Amerindian background (cf. Góes Neves 2004:6; Nimuendajú 2000:73–74, 2004:151–153). Taken together, Nimuendajú's archaeological collections and reports (most of which remained unpublished until 2004, usually referred to as “A Survey of Amazon Archaeology”) have provided material for a number of publications by other authors during several decades (e.g. Linné 1928; Linné and Montell 1925; Meggers and Evans 1957; Nordenskiöld 1930; Palmatary 1939, 1960; Wassén 1934).

He usually kept his studies of the written record apart from the discussion of archaeological remains. Still, his method resembles that of several other early 20th-century researchers and might be described as a “direct historical”, or “horizontal” approach. In many cases, such approaches ascribed only limited time-depth to the archaeological remains, assuming that the vast majority of the cultural traditions they encountered had survived until the time of European contact and that their “bearers” had been recorded by missionaries, early explorers and representatives of the colonial powers. Given these premises, the researcher could geographically correlate the identified areas of distribution of particular traits of material culture (often pottery styles and complexes) with the early written record and thereby associate these traits with historically known populations (tribes, ethno-linguistic groups etc.). Taking Nimuendajú's ethnohistorical reading and research into consideration it appears



*Archaeological sites investigated by Nimuendajú in the 1920's in the Santarém and Alter do Chão areas. After Nimuendajú (2004).
By Per Stenborg 2007.*

Nimuendajú consciously selected decorated pottery and fragments in the shape of figures and applications. These frequently occur in the Santarém pottery. He characterized the Santarém pottery as: “An abundance of anthropomorphic and zoomorphic motifs, mainly in the shape of heads, but also half and full figures” (Nimuendajú 2004:124). Plastic décor clearly dominated, although it sometimes occurred combined with polychrome painting ((Nimuendajú 2004:130). Apart from the pottery, the material includes lithic objects, such as hoes, stone spindle whorls, Muyrakytās and stone-idols. He ascribed the material to the historically known Tapajó and Urucucú populations and particularly commented upon the absence of

burial urns in this area.¹ Although at this point he had only but begun the work in the region, he nevertheless sketched out the distribution of the Santarém pottery and its relation to other materials. He found the Santarém material (“the Tapajó culture” in Nimuendajú’s terminology) to be bordered by another between lat. 3° and 4S°, which he ascribed the Sapupé. To the South-West the Santarém material was replaced by that of the Maué and to the West by that of the Tupinambarana and the Aroagui. To the North the area of the Santarém material was limited by that of the Káriban populations of the rivers Nhamundá and Trombetas. To the East a material, which he held to be that of the Aritú, was markedly differed from that of the Tapajós/Santarém area (Nimuendajú 2004:125).



Pottery from the Santarém area. From Nimuendajú (2004). Photography by Ferenc Schwetz.

His work in 1924 revealed additional sites in the Santarém area. He also found indications of contacts between this area and that of the Kondurí pottery (the area of Rio Nhamundá and Rio Trombetas) to the North. Also pottery resembling that found further west, along the Rio Arapiúms, which meet the Tapajós River from the West some distance above the mouth of the latter, was found. He also carried on further work in the Lago Grande de Villa Franca area where the material was very similar to that of the Santarém. On a shell bank at Ilha do Taperebá he found pottery fragments. According to local information, material such as Muyrakytãs and stone-idols had previously been found at the site. The layers were quite different as compared to those of the Terra Pretas in the same region, indicating a different use of this location. At Serra Bananal, west of Lago Grande de Villa Franca he encountered what appeared to be the limit between the distribution of the Santarém pottery and that of the Kondurí pottery on the southern side of the Amazon. He later specified this limit as situated at long. 56°W (Nimuendajú 2004:155). To the South, he found Santarém pottery as far as Aramanahy, but was convinced it was to be found also further south, along the Tapajós River. He found the similarity between individual items of the Santarém pottery quite remarkable. This “standardisation” of particular types indicates a highly specialized craftsmanship.

In discussing the existing information on the languages spoken in the Santarém area, Nimuendajú (2004:120) found it most reasonable to suggest that the carriers of the Santarém pottery spoke a Káriban language.

¹ Ethnohistorical information indicates that rituals including mummification and also ceremonial consumption of pulverized remain of deceased occurred in the region (cp. Quinn 2004:45f). Observing similarities with Maracá-phase funerary urns, Gomes (2001:143) nevertheless suggested that the large anthropomorphic vessels found in the Santarém area may have served as funeral vessels apart from their use as containers for storing liquids.

The different “areas” identified by Nimuendajú represent differences concerning material culture between contemporaneous societies, as well as chronological differences. The lack of stratigraphic documentation and classification of the material considerably complicates any attempt to evaluate the local chronologies of the sites. The majority of the material from the Santarém and Trombetas–Nhamundá areas may, nevertheless, be associated with the last millennium B.P. and with the so-called Incised-Punctuated tradition (Meggers and Evans 1961). The related Kondurí and Santarém complexes are both held to temporally cover the period A.D. 1000–1700. There are, however, so far very few radiocarbon and luminescence dates from the Santarém and Trombetas–Nhamundá areas, why the more precise temporal extension is yet to be established. Luminescence dates on Santarém material from Museu de Arqueologia e Etnologia of the University of São Paulo undertaken by Gomes (1999, 2001) ranged from A.D. 900 to 1200. One radiocarbon dating from a Kondurí-context gave 490 ± 130 (Hilbert and Hilbert 1979:448), calibrated to A.D. 1260–1630 (Pouquet 2002). It is interesting to note, as did Nimuendajú, the limited influence of the so-called Amazonian Polychrome tradition visible in the Santarém and Kondurí material (cf. Petersen et al. MS:21). Polychrome material is found west, e.g. Guarita and Paredão in the Central Amazon/Rio Negro areas (Góes Neves 1998; Heckenberger et al. 1999; Hilbert 1968; Lathrap 1970; Petersen et al. MS) and east, e.g. Marajoara (Meggers and Evans 1957; Pahl Schaan 2001) of the Santarém and Trombetas–Nhamundá areas. The above-mentioned pottery-styles are considered coarsely contemporaneous, their similitude held to reveal direct or indirect contacts over large parts of the Amazon. The divergence from this general pattern (also involving the absence of burial urns in the Santarém and Trombetas–Nhamundá areas) may indicate that contacts along the tributaries (Trombetas and Nhamundá) were of particular importance. Several authors have pointed out (usually from a diffusionist standpoint) stylistic similarities between the Santarém pottery and pottery found in, for example, Venezuela and Suriname (e.g. Corrêa 1965; Palmatary 1939, 1960). Trade routes and networks for communication may directly and indirectly have linked enormous areas together. These routes of communication along waterways would have involved key points, particularly in the junctions between north-south and east-west connections. If these assumptions are correct, interruptions of the reasonably homogenous pattern of material culture found along the Amazon may reveal the positions of particularly important routes of communication along the tributaries.

Nimuendajú found materials that markedly differed from the Santarém and Kondurí complexes only some seventy km to the East (Monte Alegre), as well as some fifty km to the West (Rio Arapiúms) of Santarém. He also discovered little known pottery complexes further west (e.g. at Remanso, Paura, Catanhal etc.). The existence of a number of different ceramic complexes within a relatively limited area poses important questions concerning the development of pre-contact intercultural relations in these regions. As stated above, the chronological relations between several of these materials are yet to be established. It should be remembered, however, that societies of quite different socioeconomic organisation are likely to have existed side by side in late prehistoric Guyana and Amazon. Long distance contacts and trade have undoubtedly been of critical importance for the overall cultural development in lowland South America. It should be pointed out, however, that the areas of cultural interaction, i.e. the borders between socio-cultural units largely have been overlooked as scenes from which innovation and change originate. An enormous challenge awaits the archaeologists when it comes to analysing aspects such as land use, economy and settlement structure and their variation in space and time. The emergence of distinct, although related, ceramic complexes, such as Santarém and Kondurí, needs to be analysed and related to earlier material, e.g. Pocó in the same areas. It is highly gratifying that several research projects have

recently been initiated in the Tapajós and Trombetas areas, something which will substantially improve our knowledge concerning the issues mentioned above.

In many parts along the Amazon River, the Natives withdrew their settlements from the immediate surroundings of the river as a response to early European activity in those areas. Already Carvajal received reports that large settlements and densely populated areas were to be found further inland (e.g. Carvajal 1942[1549]). It is reasonable to assume that, generally, the increasing interaction with the Europeans in the decades that followed upon Orellana's voyage implied process of resettlement of villages and people and a depopulation of the interface of this interaction (i.e. the riverbanks and their environments). As European–Native relations evolved trade and other activities motivated Native groups to once again settle in the vicinity of the rivers.

The populations by the mouth of the Tapajós River had made themselves respected by the Europeans who feared their poisonous arrows; and because of this they were initially left in peace to a greater extent than other Native populations (Acuña 1891[1641]:181). These circumstances should be kept in mind when we compare the information on population numbers and sizes of settlement in various parts of the region dating from the period following the initial contact-period. After being defeated by the Portuguese in 1639 their number rapidly declined and they appear to have vanished entirely within less than a century (Nimuendajú 2004:118, 132).

As mentioned above, Nimuendajú (2004:122–123) discussed the Terra Preta phenomenon as early as 1923. In recent years these anthrosols, or “cultural soils” have received increasing attention from a number of disciplines (e.g. Glaser and Woods 2004; Lehman et al.2003). His discussion is also somewhat related to the recent view of the Amazon as a cultural landscape, where human activity through time has come to modify the environment.

In spite of propositions of long distance relations — such as those mentioned above — it is the intercultural contacts and relations on the more limited scale of the Amazon Basin and neighbouring regions, such as the Guyanas, that may be considered vital for our understanding of cultural processes and cultural development, not only concerning the regions in question, but also at a more general level.

The Fieldwork carried out in 2008.

This field campaign consisted in surveying and mapping a large number of archaeological sites over an area covering the regions from the city of Santarém at 54°43' W and 2°26'S and approximately 100km to the east on the southern side of the branch of the Amazon River to longitude 54°05'W and southward about 40km to latitude 2°40'S south of the city of Alter do Chão (cp. Nimuendajú 2004:131, 153f) at the right bank of the Tapajós River. This fieldwork was facilitated by grants from the Rausing Foundation, Gothenburg University and the University of Pará, and was carried out as a form of rescue work, in the view of a rapid increase in the destruction of the archaeological record of this key region for the understanding of the lowland South American history. The record is being destroyed for a number of reasons, such as mining activities, road and pipe-line construction, and (as mentioned above) in particular for agricultural purposes.

The surveying and extensive GPS-mapping of archaeological sites may be summarized as follows:

A. 2008-11-07-08. Sites mapped in the region south of Santarém

1. Mararu: An area of Terra Preta, considerably damaged by modern, small-scale agricultural activities. One modern house has been constructed on the remains of the site. No cultural material visible on the surface.
2. Mararu 2
3. Cuiarana: Heavily damaged Terra Preta site. Most of the black soil has been cultivated away, and today only small areas of Terra Preta soil remain
4. Lavras 1: Very large Terra Preta area, partly damaged by modern agriculture. Large quantities of pottery, predominately of Santarém type, is visible on the surface of the ground.
5. Boã Fe: Terra Preta area.
6. Comunidad Terra Preta: Terra Preta area.
7. Jacú: Area used for modern cultivation. The limit between the Terra Preta and surrounding, poorer soils is easily seen as a distinct change in colour.
8. Lavras 2. Terra Preta site, most of which is presently used as cultivation camps.
9. Lavras 3: Terra Preta site similar to TP2 to which it may in prehistoric times have been an extension.
10. Fin de Lavras: Situated on a high/slope. Distinct border between Terra Preta and Terra Morata soils,
11. Santa Maria?; Polychrome pottery of the incised/punctuated tradition found on the surface

B. Sites situated in the region near the western shore of the Tapajós River. (2008-11-8)

12. Villa Americana:
13. Cacaoaliño:
14. Aramanahy
15. Jacaré
16. Marjana (Situated close to the city of Santarém)

C. (2008-11-9) Sites near Alter do Chão

17. Pindobao, sandy terra preta soil, by the Tapajós River
18. Sitio Sidrodei. Distinct pottery (non- Tapajoid)
19. Sierra de Mocotó
20. Carpiranga

D. 2008-11-10 Sites in the environs of Santarém City

21 Santarém Aldea

22 Sítio del Porto

23. Vera Paz (rims of Funeral urns was here visible in the hard-packed surface of the ground)

E. 2008-11-11 Sites in the Region East of Santarém

24 Guarana 1

25 Estade Guarana

26 Guarana 2



Santarém pottery collected by local inhabitants at Guarana. Photo by Per Stenborg 2008.

27 Santa Ana

28 Pacoval

29 Agua boa

30 Paraiso

F. 2008-11-12 The region South of Alter do Chão

31 Posto Noevo Small TP on hilltop of thr road

32 Cajatuba: Large Terra Preta area, now heavily damaged by modern construction. The central portion of the terra preta covering various km. Indications of agriculture, such as a stone axe

33 Cajatuba 4

34 Cajatuba 5/Revolta 1 similar to Lavras. Extensive Terra Pretas, only interrupted by minor areas of poorer soil

35 Revolta 2 Large area of dark Terra Preta, including much cultural material Extending some 800m further to the south

36 Revolta 3 Large Terra Preta with very hard packed soils. This is the finding place of the muryraquita (frog figure) depicted below.



Muyrakyatã from Revolta 3. Photo by Per Stenborg 2008.

37 At the Reserva Tapajós we had to turn back as the guard did not let us pass through.

38. Genipapo 1 (Nimuendajú 2004:Plate 081)

39. Genipapo 2 Small Terra Preta with carbon in the surface, some pottery

40. Bom Futuro The existence of an ancient artificial well had been indicated by Nimuendajú (2004). This information could be supported by the finding of an excavated well in the Bom Futuro zone. The outer perimeter of the reservoir measuring some 15 to 20m in diameter and was mapped.

G. Sites in the Region west of Santarém (2008-11-13)

41. Sitio Chão: Large Terra Preta site at the shore extending ca. 1 km along the shore and 200-300 m inland. Similar to Alter do Chão (above). May have had particular functions tied to agriculture as well as exploitation of aquatic resources.

42. Carapanai 1 (6780-):

Elongated Terra Preta at “hilltop”. Great concentrations of archaeological material, including tapajoid pottery.

43. Carapanai 2: Relatively extensive Terra Preta site. Has been damaged by road construction. The Terra Preta Strata is about 1,5m deep. Situated on height.

44. Carapanai 3. Similar to C2, but situated in a less pronounced high position.

45. Jaituba 1.

46. Jaituba 2. Terra Preta, in elevated position, but heavily damaged by road construction debris. Have formerly probably extended far beyond the measured areas, indications of farming, such as hoes and axes.

A total of 46 archaeological were mapped using a Trimble GeoXH GPS. Real-time differential correction was not available on site, but could be applied during post processing of the GPS data in Sweden using data from the SOPAC, Kourou, base-provider situated some

895km from the area of investigation. The quality of the collected data could thereby be improved from an average precision of about 20m to about 1m.



The area surveyed in November 2008. Mapped sites are indicated. By Per Stenborg 2009.

As had been anticipated, the majority of the sites of the survey area are at present in a state of rapid destruction, mainly owing to large-, and small-scale expansion of modern agricultural activity. Of the 46 sites about 20 could with certainty be identified as the same sites that had been visited and initially investigated by Curt Nimuendajú in the 1920's, during his fieldwork for the Ethnographic Museum in Gothenburg. Today this material forms part of the collections at the Museum of World Culture in Gothenburg.

In addition to the fieldwork in November 2008, the Brazilian colleagues have surveyed further areas in the projected region of investigation. In November 2006 Denise Pahl Schaan and Marcio Amaral Anderson surveyed areas to the south of Santarém not covered by the 2008 survey (cp. Pahl Schaan 2006). In December 2008 and January 2009 Marcio Amaral Anderson have continued the field surveys, expanding the area of investigation further east by including the Monte Alegre area (cp. Nimuendajú 2004:140–143, 147–150) on the northern side of the Amazon River, as well as further to the west by covering vast region surrounding the Lago Grande de Villa Franca (Ibid. :134f, 155). Being born and grown up in the Lago Grande de Villa Franca district, Marcio Amaral Anderson possesses a unique and invaluable knowledge about the research area and its archaeological record.

The total number of archaeological sites recorded and mapped during these surveys amount to approximately 80. It is estimated that the collections at the Museum of World Culture in Gothenburg include material from 50% of these sites. The total number of items collected by

Nimuendajú for the museum in Gothenburg is 8234 and approximately half of these have provenance from sites situated within the projected geographical area of investigation.

The great majority of the surveyed sites are remains of settlements situated at typical Terra Preta soil, particularly fertile anthrosols, rich in organics matter and contrasting sharply with the otherwise poor soils found in the Amazon. The sizes ranges from 0.1ha (Guari) up to 16ha (Santarém Aldea) and the depth of the Terra Preta strata varies from 0.2m (Pindobao 1) to 2m (Villa Americana and Santarem Aldea).



Terra Preta stratigraphy displayed as a result of road construction at Cajatuba 2. Photo by Per Stenborg.

Preliminary results of these initial investigations reveal the existence of at least three types of settlements inside the area of investigation:

1. The first category consist of large sites situated at low altitudes featuring high concentrations of archaeological material, deep Terra Preta deposits and proximity to the main watercourses of the region. These sites, exemplified by Santarém Aldea, Sitio Porto (one of very few site where recent archaeological investigations have been carried out), Lavras I, Revolta II, Revolta III and Villa Americana, can tentatively be interpreted as large population centers.



The extension of the Terra Preta anthrosol area at Villa Americana. By Per Stenborg 2008. Background image credit: Google et al. 2008.

2. A second type of sites are of similar size, but contain much lower concentrations of cultural material, thinner Terra Preta strata (in many cases of lighter color, referred to as *Terra Morata*) and, although situated near water resources, their distribution is not limited to the proximities of the main waterways. These sites include Sitio Chão, Alter de Chão, Jacú, Pindobao, Lavras II, Lavras III, Cajatuba I, Cajatuba IV and Cajatuba V. A working hypothesis is that these sites were primarily tied to agriculture. An alternative interpretation is that their period of occupation was considerably shorter than that of the first category of settlements. In some cases, such as that of Alter do Chão, historical sources indicate the existence of settlement (“Aldêa Boarary”, cf. Nimuendajú 2004:131) in post-contact times.

3. The third category consists of smaller sites, displaying Terra Preta deposits of medium depths and often located to hills, with limited access to surface water. The concentration of archaeological material is relatively high. Genipapo I, Genipapo II, Bom Futuro and Posto Novo belong to this category. The prehistoric use of these areas is unknown, but their secluded locations suggest they may have been associated with specialized resource management. Another possible interpretation is that they either pre- or post-date the sites belonging to other categories. At earlier stages population numbers may have been comparably low, with considerably less integration into regional political and economic systems, reducing the importance of juxtaposition to the main waterways. In post-contact settings, processes of change, involving dramatic reduction of population numbers, as well as relocations of settlements to remote and sheltered positions, have been demonstrated for other Latin American regions (Stenborg 2002). At Genipapo the existence of an artificial well reported by Nimuendajú (Nimuendajú 2004:Plate 203) was verified. The outer perimeter of this well, measuring some 15 to 20m in diameter, was mapped.

At present rate of destruction a large number of these site will have vanished within a few years (the logging and destruction of forest land in the Santarém region is easily discernible

on satellite pictures, for example at Googleearth), a circumstance increasing the need of documenting and investigating these archaeological remains as soon as possible.



Sites mapped near the eastern shore of Rio Tapajós; the conjunction between prehistoric settlement remains and areas selected for modern agriculture is clearly discernable. By Per Stenborg 2009. Background image credit: Google et al. 2008.

References

Acuña, P. Christovão de

1891 *Nuevo Descubrimiento del Gran Rio de las Amazonas*. Colección de Libros que Tratan de América, Raros y Curiosos, tomo 2. Imprenta de Juan Cayetano García, Madrid. First published in 1641.

Bhabha, Homi K.

1994 *The Location of Culture*. Routledge, London.

Campbell, Lyle

1997 *American Indian Languages: The Historical Linguistics of Native America*. Oxford Studies in Anthropological Linguistics. Oxford University Press.

Carvajal, Gaspar de

1942 *Relación del Nuevo Descubrimiento del famoso Rio Grande que descubrió por muy gran ventura el Capitán Francisco de Orellana*. Transcripciones de Fernández de Oviedo y Dn. Toribio Medina y estudio crítico de descubrimiento. Quito.

Childe, Gordon V.

1950 *Prehistoric Migrations in Europe*. Instituttet for Sammenlignende Kulturforskning, H. Aschehoug & co., Oslo.

Corrêa, Conceição Gentil

1965 Estatuetas de cerâmica na cultura Santarém; classificação e catálogo das coleções do Museu Goeldi. *Publicações Avulsas* 4. Museu Paraense Emílio Goeldi, Belém.

Glaser, Bruno and William I. Woods (eds.)

2004 *Amazonian Dark Earths: Explorations in Space and Time*. Springer, Berlin.

Góes Neves, Eduardo

1998 *Paths in Dark Waters: Archaeology as Indigenous History in the Upper Rio Negro Basin, Northwest Amazon*. Ph.D. Dissertation, Department of Anthropology, Indiana University.

2004 Introduction: The Relevance of Curt Nimuendajú's Archaeological Work. In *In Pursuit of a Past Amazon: Archaeological Researches in the Brazilian Guyana and in the Amazon Region by Curt Nimuendajú*, edited by Per Stenborg, pp. 2–8. *Etnologiska Studier* vol. 45, Världskulturmuseet i Göteborg, Göteborg.

Google, DigitalGlobe and CNES / Astrium

2008 Satellite images of Santarém and Belterra, Pará, Brazil.

Gomes, Denise Maria

2001 Santarém: Symbolism and Power in the Tropical Forest. In *Unknown Amazon*, edited by Colin McEwan, Cristina Barreto and Eduardo Neves, s. 134–155. The British Museum Press, London.

1996 *War and Peace in the Shadow of the Empire: Sociopolitical Change in the Upper Xingu of Southeastern Amazonia, A.D. 1400–2000*. University of Pittsburg, Pittsburg.

2005. *The Ecology of Power: Culture, Place and Personhood in the Southern Amazon, A.D. 1000–2000*. Routledge, New York.

Heckenberger, Michael J., James B. Petersen and Eduardo Goés Neves
1999 Village Size and Permanence in Amazonia: Two Archaeological Examples from Brazil. *Latin American Antiquity* 10(4):353–376.

Hilbert, Peter Paul
1968 *Archäologische Untersuchungen am Mitteren Amazonas. Beiträge zur Vorgeschichte des Südamerikanischen Tieflandes*. Marburger Studien zur Völkerkunde. Dietrich Reimer Verlag in Berlin. Berlin.

Hilbert, Peter Paul and Klaus Hilbert
1979 Archäologische Untersuchungen am Rio Nhamundá, Unterer Amazonas. In *Beiträge zur Allgemeinen und Vergleichenden Archäologie* Band 1:439–450. C.H. Beck'sche Verlagsbuchhandlung, München.

Kaufman, Terrence
1994 The Native Languages of South America. In *Atlas of the World's Languages*, ed. Christopher Morseley and R. E. Asher, pp. 46–76. Routledge, London.

Lathrap, Donald W.
1970 *The Upper Amazon*. Thames and Hudson, London.
1977 Our Father the Cayman, Our Mother the Gourd: Spinden Revisited, or a Unitary Model for the Emergence of Agriculture in the New World. In *Origins of Agriculture*, edited by Charles A. Reed, pp. 717–751. Mouton Publishers, The Hague.

Lehmann, Johannes, Dirse C. Kern, Bruno Glaser and William I. Woods (eds.)
2003 *Amazonian Dark Earths: Origins, Properties, Management*. Kluwer Academic Publishers, Dordrecht.

Linné, Sigvard
1928 Les recherches archéologiques de Nimuendajú au Brésil. *Journal de la Société des Americanistes de Paris* (nouvelle série) XX: 71–91. Paris.

Linné, Sigvard and Gösta Montell
1925 *Från Brasiliens Indianer i Forntid och Nutid. C. Nimuendajús arkeologiska och etnografiska forskning*. Göteborgs Museum, Etnografiska Avdelningen, Göteborg.

Madari, Beata Emöke, Wim G. Sondroek and William I. Woods 2004
Research on anthropogenic Dark Earth Soils. Could it be a solution for a sustainable agricultural development in the Amazon? In *Amazonian Dark Earths: Explorations in space and time*, edited by Bruno B. Glaser and Willian I. Woods, pp. 169–181. Springer, Berlin.

Meggers, Betty C.

1992 Tropical Forest Environment and Archaeology: A View from Amazonia. In Environment and Archaeology: New World Conference on Rescue Archaeology. ed. Gus A. Pantel K. Schneider and G. Loyala-Black, pp. 208–222. U.S. Department of Agriculture.

Meggers, Betty J. and Clifford Evans
1957 *Archaeological Investigations at the Mouth of the Amazon*. Smithsonian Institution. Bureau of American Ethnology. Bulletin 167. Washington.

Nimuendajú, Curt
2000 *Cartas do Sertão de Curt Nimuendajú para Carlos Estevão de Oliveira*. Museu Nacional de Etnologia, Assíro and Alvim, Lisbon.

2004 *In Pursuit of a Past Amazon: Archaeological Researches in the Brazilian Guyana and in the Amazon Region*, edited by Per Stenborg. Etnologiska Studier vol. 45, Världskulturmuseet i Göteborg, Göteborg.

Nordenskiöld, Erland
1930 *Ars Americana I: L'Archéologie du Bassin de L'Amazone*. Les Éditions G. van Oest, Paris.

Oliver, José R.
2001 The archaeology of forest foraging and agricultural production in Amazonia. In *Unknown Amazon: Culture in nature in ancient Brazil*. Edited by C. McEwan, C. Barreto & E. Neves, pp.50-85. The British Museum Press, London.

Pahl schaan, Denise

2001 Into the Labyrinth of Marajoara Pottery: Status and Cultural Identity in Prehistoric Amazonia. In *Unknown Amazon: Culture in nature in ancient Brazil*, edited by Colin McEvan, Cristiana Barreto and Eduardo Neves, pp. 108-133. The British Museum Press.

2006 *Diagnóstico do Patrimônio Arqueológico na Área de Influência da Rodovia BR-163 – Techo: Santarém-Rurópolis*. Belém.

Palmatary, Helen Constance
1939 Tapajó Pottery. *Etnologiska Studier* vol. 8, pp. 1–136. Göteborgs Etnografiska Museum, Göteborg.

1960 The Archaeology of the Lower Tapajós Valley, Brazil. *Transactions of the American Philosophical Society* vol. 50[3] Philadelphia.

Petersen, James B., Eduardo Góes Neves and Michael J. Heckenberger
2001 Gift from the past: Terra Preta and prehistoric Amerindian occupation in Amazonia. In *Unknown Amazon: Culture in nature in ancient Brazil*, edited by Colin McEvan, Cristiana Barreto and Eduardo Neves, pp. 86-105. The British Museum Press.

Petersen, James B., Eduardo Góes Neves and R. Bartone

MS. An outline of a chronology for the central amazon region.

Pouguet, Martial

2002 *Chronologie de la Période Céramique de l'Achéologie Amazonienne: Réflexions Théoriques et Méthodologiques*. Pontificia Universidade Católica do Rio Grande do Sul, Porto Alegre.

Quinn, Ellen R.

2004 *Excavating "Tapajó" Ceramics at Santarém: Their Age and Archaeological Context*. University of Illinois at Chicago.

Rydén, Stig

2004 Introduction. In *In Pursuit of a Past Amazon: Archaeological Researches in the Brazilian Guyana and in the Amazon Region by Curt Nimuendajú*, edited by Per Stenborg, pp. 9–11. *Etnologiska Studier* vol. 45, Världskulturmuseet i Göteborg, Göteborg.

Schmidt, Max

1917 *Die Aruaken: Ein Beitrag zum Problem der Kulturverbreitung*. *Studien zur Ethnologie und Soziologie*, Herausgegeben von Professor Dr. A. Vierkandt. Veit&Comp., Leipzig.

Spinden, Herbert J.

1922 *Ancient Civilizations of Mexico and Central America*. American Museum of Natural History. Handbook Series No.3. American Museum Press, New York.

Stenborg, Per

2002 *Holding Back History: Issues of Resistance and Transformation in a Post-Contact Setting, Tucumán, Argentina c. A.D. 1536–1660*. GOTARC, series B, Archaeological Theses No. 21, Göteborg University, Göteborg.

Wassén, S. Henry

1934 The Frog-motive among the South American Indians. *Ornamental Studies. Anthropos*, Band 29, Heft 3–4, pp. 319–370. St. Gabriel-Möding.

Whitehead, Neil L.

1996 Ethnogenesis and Ethnocide in the European Occupation of Native Surinam, 1499–1681. In *History, Power and Identity: Ethnogenesis in the Americas, 1492–1992*, edited by Jonathan D. Hill, pp. 20–35. University of Iowa Press, Iowa.