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Investigating Amerindian Occupations in the Northern Range of Trinidad

Neal H. Lopinot and Jack H. Ray
Center for Archaeological Research
Missouri State University
901 South National Avenue
Springfield, Missouri 65897
neallopinot@missouristate.edu
jackray@missouristate.edu

Survey and limited testing have demonstrated the potential abundance of Amerindian sites in the interior of the Northern Mountain Range of Trinidad. Unfortunately, the archaeological record for Trinidad is biased substantially in favor of sites located in coastal contexts or near estuarial marshes. Overall site density also is well below that for other islands in the Lesser Antilles, a product of the greater size of Trinidad and a lack of any systematic, long-term survey programs. Surveys in two river valleys in the Northern Range have resulted in the documentation of Ceramic Age and possible Archaic sites. We contend that at least the Saladoid (Early Ceramic) and post-Saladoid (Late Ceramic) sites documented to date represent a small sample of a multitude of sites occupied by opportunistic farmer-hunter-gatherers who lived in the interior of the Northern Range on a year-round basis. We also provide evidence that these farmer-hunter-gatherers were well integrated in panregional exchange networks, at least during Saladoid times.

Algunos estudios y ensayos limitados ilustran la potencial abundancia de sitios amerindios en el interior de la Cordillera Septentrional de Trinidad. Desgraciadamente, los registros arqueológicos en Trinidad están sustancialmente predispuestos a favor de los sitios localizados en contextos costeros o próximos a las marismas. La densidad general de sitios también se encuentra bastante por debajo en comparación con otras islas en las Antillas Menores, producto del mayor tamaño de Trinidad y de la falta de programas de estudios sistemáticos a largo plazo. Los estudios en dos valles fluviales de la Cordillera Septentrional han dado como resultado la documentación de sitios de la Era Cerámica y posible de la Época Arcaica. Sostenemos que al menos los sitios Saladoides (Cerámica Temprana) y post-Saladoides (Cerámica Tardía) documentados hasta la fecha, representan una pequeña muestra de la multitud de sitios ocupados por oportunistas agricultores-cazadores-recolectores que vivieron en el interior de la Cordillera Septentrional durante todo un año. Asimismo, proporcionamos evidencia al respecto de la buena integración de estos agricultores-cazadores-recolectores en redes de intercambio pan-regionales durante el periodo Saladoide.

Des relevés topographiques et un nombre limité de sondages d'exploration décèlent un potentiel abondant de sites amérindiens à l'intérieur de la Rangée du nord de Trinité. Malheureusement, les archives archéologiques de Trinité favorisent largement les emplacements se trouvant soit dans les contextes littoraux ou près des marais estuariens. La densité globale de sites recensés reste bien en-dessous de celle des autres îles des Petites Antilles, phénomène dû à la fois à la surface plus importante de Trinité et à l'absence de tout programme systématique à but d'effectuer des inspections à long terme. Des études précédentes de deux vallées fluviatiles de la Rangée du nord ont permis la documentation de sites des céramique et possible époques archaïque. Nous proposons que tout au moins les sites saladoïde et postsaladoïde documentés jusqu'ici représentent qu'un échantillon réduit d'un grand nombre de lieux occupés auparavant par les cultivateurs-chasseurs-cueilleurs opportunistes vivant dans la Rangé du nord toute l'année. Nous fournissons également des preuves de l'intégration certaine de ces derniers dans des réseaux d'échange panrégionaux, du mois pendant l'époque saladoïde.

Introduction

A program of survey and testing of Amerindian[1] sites in the Northern Mountain Range of Trinidad has demonstrated occupation of this inland mountainous terrain by at least ceramic-age farmer-hunter-gatherers, if not also Archaic hunter-gatherers. Amerindian sites had been identified along the flanks of the Northern Range prior to 2009 (Boomert et al. 2013:Figure 37), but none had been identified in the interior until a major prehistoric component (SGE-34B) of the La Reconnaissance site in the Arouca (Lopinot) River Valley was identified and tested (Figure 1). During the period of 2011–2014, several additional Amerindian sites in two separate drainages within the interior of the Northern Range were documented as a result of survey, and two sites other than La Reconnaissance were tested (Lopinot 2013, 2014). The finding of chert artifacts at the La Reconnaissance site also prompted a concurrent search for the primary raw material source, which was discovered in the Central Range, and also the testing of a nearby associated workshop (Ray 2015). Chert artifacts from this source known as Malchan Hill have been recovered from three other sites in the Northern Range, including perhaps an Archaic site.

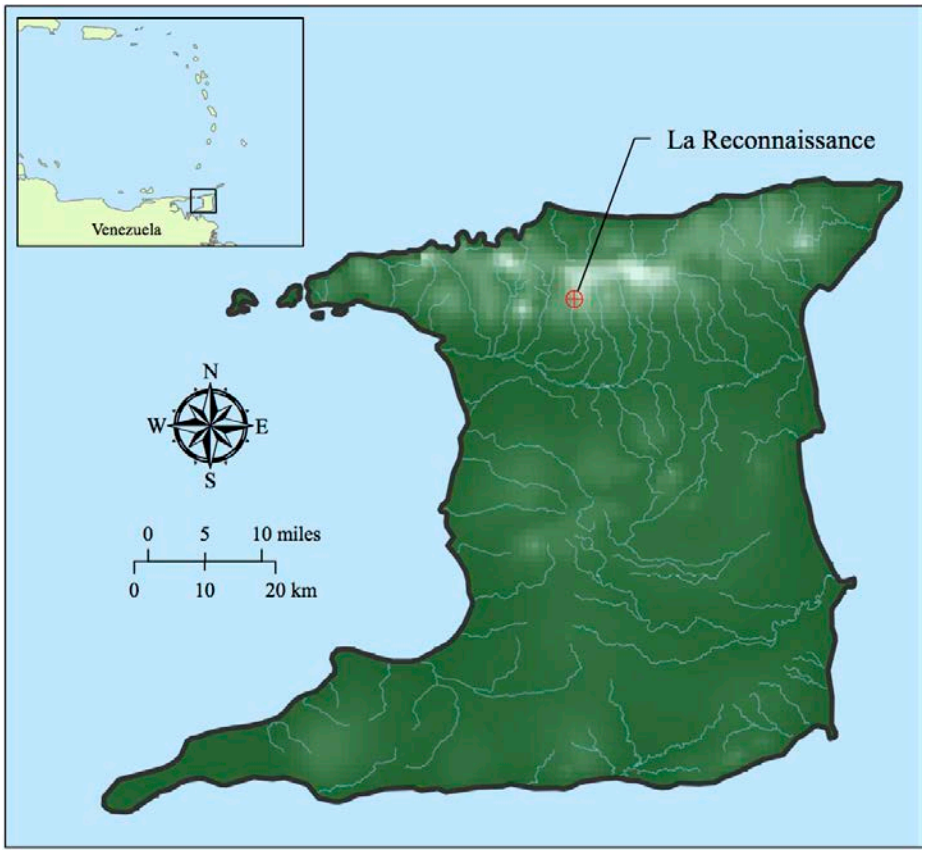


Figure 1. Location of the La Reconnaissance Site (SGE-34) in the Northern Range of Trinidad.

[1]The term Amerindian will be used here because it flows easily as an adjective, but those of Native American descent in Trinidad and Tobago prefer to be called First Americans.

Research indicates that a multitude of sites were occupied by farmer-hunter-gatherers who lived throughout the Northern Range on a year-round basis, particularly after ca. A.D. 500–600. That these inland mountain residents were not isolated is evident by several lines of evidence. Besides chert artifacts composed of material from the Central Range, this evidence includes tar from Pitch Lake in the southwest corner of the island (identified by XRF on pottery; see Venter et al. 2017) and the presence of polished celts from several sites that are composed of metamorphic materials, at least one or more of which were made from raw materials derived from a source(s) in the San Souci area of northeast Trinidad (Ray and Lopinot 2016). Despite the inland mountain location, the edge of the Caroni Basin occurs only 5.5 km to the south of the La Reconnaissance site (and other nearby sites), and the northern coastline of Trinidad is located 11.5 km to the north. Both are within a day's hike of all the identified sites, so direct and indirect (down-the-line) interaction with groups living in other locations on the island was probably commonplace. An overview of the findings, implications, and prospects for additional research are presented.

A Biased Archaeology History

The documentation of prehistoric sites in Trinidad has suffered from geographical and ecological biases in the past. A number of sites in the southern portion of Trinidad (e.g., Banwari Trace, St. John, Erin, Cedros, and Palo Seco) are well known, having been the focus of much archaeological attention throughout the history of research on the island (e.g., Boomert 1985; Bullbrook 1941, 1953, 1960; De Booy 1917; Fewkes 1914, 1922; Harris 1971, 1974, 1976; Reid 2011; Rouse 1946, 1953). There are a few recent notable exceptions such as the Manzanilla I site (SAN-1) in St. Andrew County (Dorst 2000, 2004, 2006, 2007; Dorst and Nieweg 2002), but there remains a dearth of information for the greater part of this continental island. This pertains not only to excavations, but especially survey and site identification.

The inventory of known Amerindian sites in Trinidad numbered 209 (which includes 72 individual finds) as of a Boomert and Harris (1988) overview (also Boomert 1984, 1987). Given that Trinidad encompasses 4,768 km^2, that amounts to one site per 23.1 km^2 (Boomert 2000:12). Excluding the isolated finds, it equates to one site per 34.8 km^2. The density is substantially lower if sites in the Southern Lowland and Southern Range are not considered. In fact, more than one half (N=116) of the 209 sites have been documented for Victoria and St. Patrick counties, two of the eight counties in Trinidad (Boomert 2000:Table 1). If the other southern county of Mayaro is included, then 138 or two-thirds (includes 39 individual finds) of the known sites as of 1988 occur in the southern part of Trinidad.

For the other five counties, 33 or almost one half of the 71 remaining sites consist of individual finds (Boomert 2000:Table 1). Given that these five counties encompass an area of 2,577 km^2, the density of sites (including isolated finds) is one site per 36.3 km^2. The numbers of known sites for counties in the central and northern part of Trinidad other than St. George County are also vastly underrepresented. For example, the recently documented Malchan Hill workshop site in St. Andrew County was allocated the site number of SAN-10 (Ray 2015). Since 1988 or more than a quarter century, only two additional sites (SAN-10 being one of them) had been recorded for all of St. Andrew County. This county encompasses 740 km^2, which translates into one site per 74 km^2.

Comparative numbers of documented sites were abstracted from Bright (2011:76–99) for the Windward Islands of Grenada, the Grenadines, St. Vincent, St. Lucia, Martinique, Dominica, and Barbados. Some of the numbers are not exact because Bright (2011) treated components as sites and the number for four island nations should be regarded as approximations. Information on the continued or reoccupation of sites is presented for the Grenadines, Martinique, and Dominica, so those numbers are relatively exact. Following the respective order of the seven island nations presented above, the areas-per-site statistics were calculated: 6.33 km^2, 1.34 km^2, 2.73 km^2, 4.77 km^2, 12.94 km^2, 16.27 km^2, and 7.41 km^2. These statistics demonstrate that the numbers of recorded sites are greatly underrepresented for Trinidad by a range of at least two to 17. Ground-cover conditions vary, and Trinidad is still heavily forested in places, but potentially offsetting evidence indicates that Trinidad may have been occupied at least some 5,000 years earlier than many of the other islands in the Lesser Antilles, and therefore site density should be greater for Trinidad.

Much previous research has been focused on shell midden sites in coastal environments or near estuarial marshes to the greater exclusion of inland sites, such as those that almost certainly abound along freshwater streams in the interior of Trinidad. Bright (2011:20, 28) notes that ground-surface visibility is more problematic in the interiors of Caribbean islands as compared to "the rich pickings of coastal archaeology." The emphasis on site identification and excavation at coastal and estuarial sites in the southern part of Trinidad also partly reflects (or more likely has been an historical outcome of) a desire to investigate cultural relationships with the nearby Orinoco Delta region, particularly by ceramic-bearing peoples. Such can be considered a worthy endeavor since Trinidad was an initial stepping stone or gateway island for colonization episodes and/or technological diffusion to the Lesser Antilles and beyond, especially of ceramic-bearing Saladoid peoples and/or material culture (e.g., Boomert 2000:127, 2013; Keegan 1995:407–409). The actual "jumping off" area would likely have been the northeastern part of the island, so the south-Trinidad-focus has been somewhat detrimental to a better overall understanding of variability in prehistoric cultural adaptations, population movements versus technological diffusion, and change throughout the island. Given the size of Trinidad and its ecological diversity, one would expect a great variety and density of sites in many parts of the island during at least late prehistoric times when the island's Amerindian population evidently peaked.

Site Discovery in Trinidad

Boomert (2000:14) provides a good summary of the variety of largely fortuitous, but opportunistic situations in which sites have been discovered in Trinidad, such as that resulting from natural events like the "caving in of river banks and beach erosion." He also notes:

> Human activities which have led to the discovery of archaeological sites include the construction of houses, dams, roads, jetties and fortifications, excavation works in order to place water lines or sewer pipes, the erection of oil derricks, the ploughing of sugar cane fields or gardens, the quarrying of building materials, and digging for loam, … Especially in south Trinidad numerous sites have been discovered during field surveys by archaeologically interested oil

> geologists. Finally, the removal of shells for the gravelling of local roads and yards has led to both the location of sites and the destruction of large parts of them (Boomert 2000:14).

In this passage, the second and more telling reason for an emphasis on archaeology in south Trinidad is identified—it is where virtually all of the terrestrial-based oil reserves in Trinidad are located. It is also where people like John Bullbrook, who assisted Irving Rouse in 1946 and 1953, and other oil geologists who collected at, reported on, and sometimes undertook archaeological excavations at sites were working (Boomert et al. 2013:xii–xiii).

Reid (2003:31) has noted that, "the level of archaeological research in Trinidad has woefully lagged behind that of several Caribbean islands." In fact, there apparently has never been a systematic archaeological survey undertaken in any part of the island. Stahl (1995:1) has pointed out that the lack of systematic survey throughout the lowland American tropics, of which Trinidad is a part, has been due to "some combination of logistical constraints, lack of ground visibility, meager preservation, and/or an historic deprecation of lowland environments." In the same volume, Zeidler (1995:17) also states:

> … that little or no archaeological survey in the neotropical lowlands has been carried out from a probabilistic perspective where study areas are precisely defined, the area surveyed is a statistically defined sample of a larger sampling universe, survey intensity is explicitly defined, and rigid spatial controls are imposed over the surface and sub-surface inspection methods.

Reid (2003:32) has further suggested that the lack of local archaeologists working in the field and the absence of heritage legislation to protect and preserve sites has further contributed to the overall inadequacy of the site database for Trinidad and Tobago. Other than the efforts of Peter Harris, who passed away in 2013, few new sites have been recorded in Trinidad since the Boomert and Harris (1988) overview, and efforts to promote the development of a cadre of educated vocational archaeologists having more than a self-serving artifact-collecting mentality have not materialized in a significant way.

Poor ground-surface visibility in tropical rainforests is indeed an impediment to archaeological survey, but systematic shovel testing or auguring provides a means for locating sites and studying intrasite variability in such contexts where the archaeological deposits are at or near the surface (Siegel 1995:47; Zeidler 1995:18). In addition, it is noted that a large proportion of Trinidad south of the Northern Range has been cultivated at one time or another, whether for sugar cane, rice, or corn, or perennial tree crops such as coconut, banana, cacao, and citrus. Surveys of agricultural fields can be undertaken if optimal opportunities arise (rained upon shortly after tillage). Adequate surface visibility may be spotty, but sufficient for locating sites in many places in the Arouca River Valley where the cultivation of cacao and the intercropping of other fruit trees are common. Paths used by farmers and animals also provide some high-visibility ground surfaces. Furthermore, some sites can be found by surveying yards and house gardens since modern dwellings are often located where prehistoric people once lived or visited. Finally, it is important to talk to those doing the gardening or farming since they are likely to find and collect unusual artifacts.

To systematically study an area sufficiently in the neotropics, our research indicates that it is imperative to take a multiyear approach, particularly given that shovel testing is often a relatively poor (sometimes only) means of site discovery. It is essential to take opportunistic advantage of new road construction, ditch excavations, house-building disturbances, farming activities, etc. It is also important to identify a circumscribed area for survey and to ensure that such an area is thoroughly surveyed through whatever means are available.

We have undertaken a multiyear survey in a segment of the Arouca River Valley and are able to demonstrate what would appear to be a potentially substantial Amerindian presence in the Northern Range. It reflects the progression and expansion of a research program over a period of five years (2009 and 2011–2014). However, it is also noted that the time spent during these five years amounts cumulatively to only about 12 weeks by an average of 2–4 individuals. This includes one week by a researcher studying ceramic collections at the University of West Indies (UWI)-St. Augustine (Venter et al. 2017) and little more than one week stretched over two visits studying: (1) chipped stone artifacts at UWI; (2) searching for the raw material source(s) of knappable stone in various parts of the island; and (3) testing a chert workshop site in the Central Range (Lopinot 2013, 2014; Ray 2015). More recently, we have undertaken an effort to locate the sources of axes and celts through macroscopic and XRF analysis of museum and private collections in both Trinidad and Tobago (Ray and Lopinot 2016; Ray et al. 2018). This also required the collection and analysis of potential raw materials from selected locations in northeast Trinidad and throughout Tobago.

First Hints of Amerindian Occupation of the Northern Range Interior

The La Reconnaissance site (SGE-34) occurs in a broad, bowl-shaped opening in an otherwise narrow stream valley in the southcentral portion of the Northern Range (Figure 2). Similar openings occur in other valleys to the west in the Northern Range, such as the Caura River and Maracas River Valleys. Owing to their nearness to Port-of-Spain and St. Augustine, to the presence of relatively rich alluvial and colluvial soils, and to the more salubrious conditions in the mountains, these valley openings were targeted by the Spanish, French, and later English for plantations during historic times. At earlier times, Amerindian peoples may have similarly targeted these openings for hunter-gatherer campsites and farming settlements (i.e., villages and farmsteads).

The nineteenth-century historic components of the La Reconnaissance site were the focus of limited investigations in 2003, 2006, 2009, and 2011 (Lopinot 2006; Lopinot and Venter 2014). Our fieldwork prior to 2009 was concentrated exclusively on the study of the colonial cacao plantation known as La Reconnaissance, established in 1806. The first two field seasons resulted in the delineation of four areas (Areas 1–4), each relating to various aspects of the central compound of the plantation. These consisted of the estate or plantation house and vicinity (Area 1); the area where service buildings (i.e., cocoa and fermentation houses, and livestock and storage buildings) were located (Area 2); the overseer or manager's house and vicinity (Area 3); and a nearby ridge that was occupied by some 70–75 slaves between 1806 and 1838, and later by indentured East Indians and wage laborers (mostly Spanish-speaking Venezuelans and former African slaves and

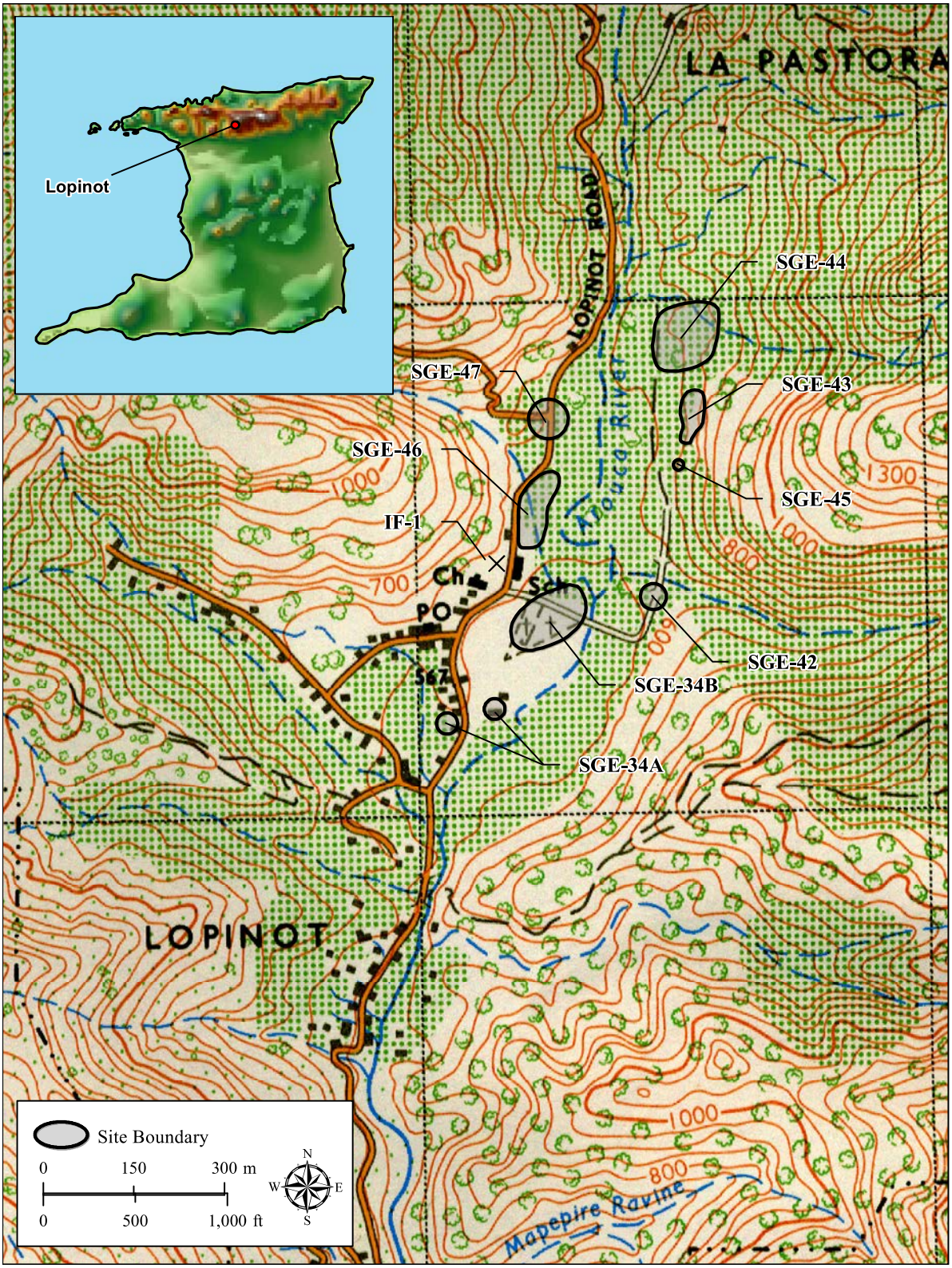


Figure 2. Location of identified Amerindian loci in the Lopinot Settlement.

their progeny) (Area 4) (Lopinot 2006). The cemetery area was designated Area 5, but the historic cemetery itself dates no earlier than 1962 except perhaps for a few graves of the original plantation owners.

Some locally produced low-fired earthenware ceramics were recovered from several parts of the site in 2003 and 2006. They were found around the estate house (Area 1), the service building area (Area 2), and also on the nearby ridge to the west (Area 4). These areas were later designated as part of SGE-34A (see Figure 2). The ceramics were recovered on or near the surface, mixed with early nineteenth-century artifacts. As a consequence, they were initially thought to represent Afro-Caribbean ware.

In 2003, 10 body sherds were recovered from around the estate house and two were found near service buildings. In addition, a local resident of Lopinot Settlement also showed the senior author a celt that he had found on a slope while clearing a path to his mountaintop farm plot (Figure 3). In 2006, two rim sherds, a neck sherd, two shoulder fragments, a possible shoulder sherd, two base fragments, and 12 body sherds were recovered. Most of the 30 sherds were found as the result of hand excavations in the vicinity of the estate house. However, a rim sherd, one jar neck fragment, and a shoulder sherd also were found in a road cut along the east side of the slave-occupied ridge to the west (Area 4). Of the 27 sherds recovered around the estate house (Area 1), three were later determined to represent the first Afro-Caribbean ware found in Trinidad, but the other 24 sherds represent Amerindian pottery. The Amerindian pottery consists of relatively thin portions of plain-surfaced vessels with pastes containing tempers of crushed schist and quartz, both abundant in the local river gravels. The pottery and the celt represented the first hints of previous Amerindian presence in the Lopinot area.

The Prehistoric Occupation of the La Reconnaissance Site

The prehistoric component(s) of the La Reconnaissance site (SGE-34B) was discovered somewhat fortuitously, but it literally changed our primary focus from researching the colonial cacao estate to prehistoric Amerindian investigations. In 2009, a local individual informed the authors that he and others found some "strange pottery about 3–4 ft down" while digging a grave in the local cemetery (Area 5). Thinking it was "slave pottery" and knowing that we were then investigating the historic plantation compound, he thought we would be interested. The pottery proved to be prehistoric. The collection of pottery from the excavation of that grave contains fragments of over 20 vessels, including one canoe-shaped vessel (Figure 4).

Figure 3. Celt recovered while clearing a path on the mountainside above Lopinot Settlement (unidentifiable metamorphic rock; photo by Neal Lopinot).

Figure 4. Refitted portions of canoe-shaped vessel recovered by gravediggers in Lopinot Cemetery (photo by Neal Lopinot).

Exposed ground around several nearby graves was examined after learning about the finds of the gravediggers. Numerous fragments of low-fired earthenware ceramics and a hammerstone were dispersed nearby around five graves to the north, east, and south of the recently excavated grave pit. Recovered ceramics included a zoomorphic adorno (Figure 5) similar to one depicted in Fewkes (1922:Plate 3F), a bottle rim with an orifice diameter of 4–5 cm (Harris 1978), a very small rim from an unknown vessel form, and 16 eroded body sherds, including a very thick griddle sherd (22+ mm in thickness). All of the pottery was tempered with crushed schist and quartz.

A series of eight shovel tests spaced 15 m apart and excavated to 30–40 cm below surface (bs) was excavated to the southeast, east, and northeast. As for all excavations at this site and elsewhere, soils were screened through ¼-inch hardware cloth. All were positive and yielded 1–22 pieces of pottery per shovel test. The recovered pottery was very eroded, with the largest measuring only about 4 cm in longest dimension. This was later determined to be characteristic of all pottery from the upper 30–40 cm at the site, likely a function of prior or ongoing cultivation of the terrace, bioturbations, and fragmentation and erosion as a result of tropical weather conditions. Precipitation in Trinidad is highest in the Northern Range, where average annual rainfall ranges from 305 cm (120 in) in the northeast part to 152 cm (60 in) in the extreme western part (Berridge 1981).

Figure 5. Adorno of possible agouti found on surface in Lopinot Cemetery (photo by Neal Lopinot).

The cemetery is situated at the southern end of a terrace that is 2–3 m higher than the floodplain of the Arouca River, but lower by about 3 m than the T-2 terrace where Areas 1–3 are located. Figure 6 shows the location of the T-1 terrace where the primary prehistoric occupation of La Reconnaissance is represented, relative to the higher T-2 to the west. Based on the 2009 investigations, it was suspected that the Amerindian occupation of the site was quite extensive, extending beyond the cemetery to the north and northeast on the other side of a road (Cemetery Road) that bisects the site. The cemetery is located on the southern end of the terrace, which expands to the north a considerable extent. Within the cemetery itself, the terrace extends 110 m southwest-northeast and a maximum of 90 m southeast-northwest.

A 1-x-1-m test unit (Unit 17) was excavated at the foot of the grave where the concentration of pottery was recovered by gravediggers (Figure 6). This unit was excavated to a depth of about 1.3 m below datum (bd). Stratified deposits measuring about 1 m in thickness were evident in the test unit. Three major strata, several substrata, and a feature (Feature 5) at the bottom of the test unit were delineated (Figures 7–8).

Figure 6. Location of Unit 17 on T-1 terrace in Lopinot Cemetery, with slightly higher, but truncated T-2 terrace in background (view to the west; photo by Neal Lopinot).

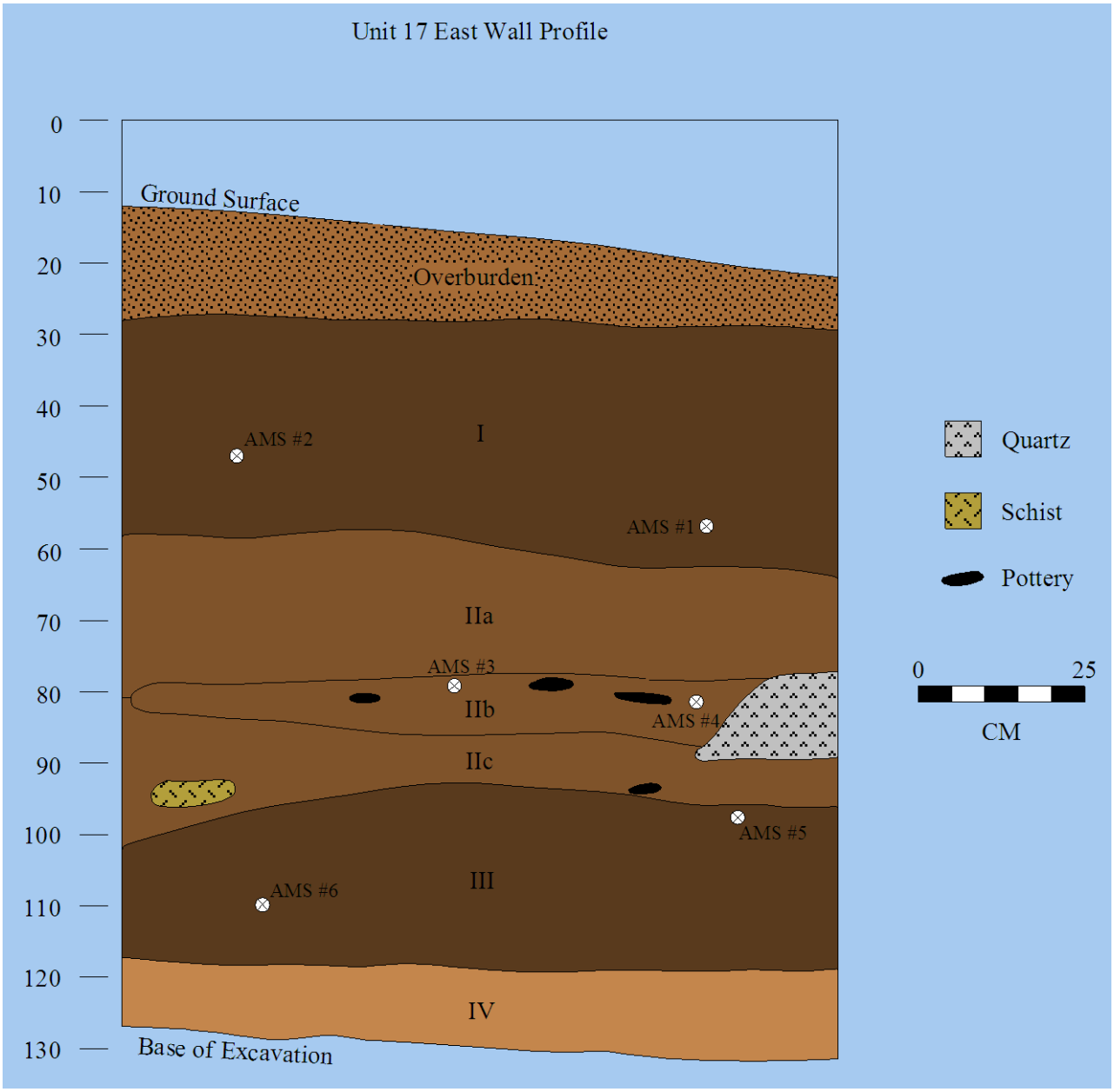
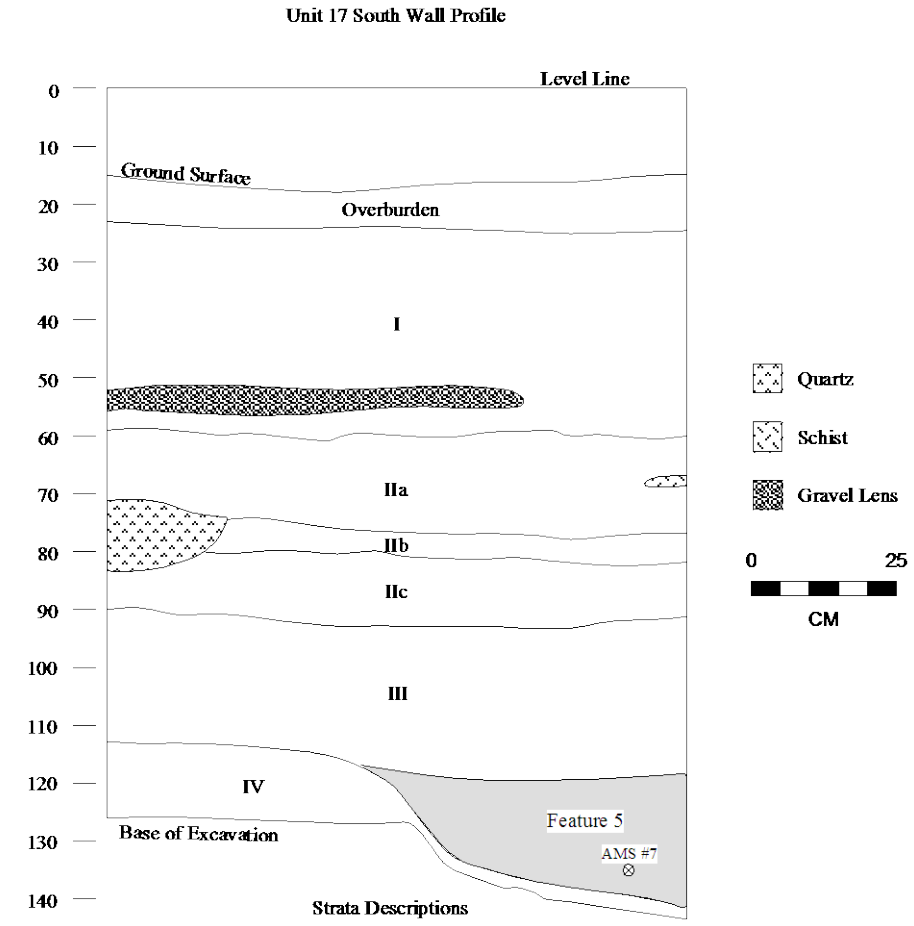


Figure 7. Profile of the east wall of Unit 17, showing stratigraphy and locations of piece-plotted AMS samples.



Overburden	mix of soil from Strata I-IV as a result of burial excavation
I	10YR 4/3 brown/dark brown silt loam; weak subangular blocky; base has gradual smooth to wavy boundary; 5-10% gravel; few manganese mottles
IIa	10YR 4/4 dark yellowish brown silt loam; weak subangular blocky; smooth diffuse boundary
IIb	10YR 4/4 dark yellowish brown silt loam; weak subangular blocky; charcoal and artifacts concentrated in stratum, but otherwise similar to Strata IIa and IIc (boundaries between are diffuse)
IIc	10YR 4/4 dark yellowish brown silt loam; weak subangular blocky; smooth gradual boundary
III	10YR 4/3 brown/dark brown silt loam; weak subangular blocky; boundary smooth to abrupt
IV	10YR 5/6 yellowish brown silt loam (higher clay content than previous stratum); manganese mottles common

Figure 8. Profile of the south wall of Unit 17.

Accelerator Mass Spectrometry (AMS) dating of wood charcoal from the three major strata in Unit 17 indicate that they are essentially contemporaneous (Table 1; Beta Nos. 296723–296725), dating to about cal A.D. 600–645 (the area of overlap for three assays with high RAUPDs at two-sigma calibration). Subsequent shovel testing, radiocarbon dating, and excavations elsewhere at the site demonstrated that the thickness of artifact-bearing deposits throughout most of the site measure only about 35–40 cm bs (Figure 9). Thus, the grave and adjacent Unit 17 were excavated within a much larger subterranean feature of unknown size and function, although the ceramic assemblage is suggestive of the presence of a rather unusual, perhaps public facility.

Table 1. Radiocarbon Ages for Three Sites in the Arouca Valley.

Site	Sample I.D. No.	Field Sample No.	Measured Age	13C/12C	Median Probability[b]	2-Sigma Calibration[b]	Relative Area Under Probability Distribution (RAUPD)
SGE-34B	Beta-296726	PP#2	1210 ± 30 BP	-26.8 o/oo	Cal AD 815	Cal AD 695–700 Cal AD 710–745 Cal AD 765–890	0.009 0.114 0.877
SGE-34B	Beta-296725	AMS#6[a]	Not Provided[c]	Not Provided[c]	Cal AD 655	Cal AD 610–685	1.000
SGE-34B	Beta-296724	AMS#4[a]	1490 ± 30 BP	-26.6 o/oo	Cal AD 580	Cal AD 435–445 Cal AD 470–485 Cal AD 535–645	0.011 0.020 0.969
SGE-34B	Beta-296723	AMS#2[a]	1400 ± 30 BP	-25.3 o/oo	Cal AD 640	Cal AD 600–670	1.000
SGE43	ISGS-A2630	PP#1	385 ± 20	-26.8 o/oo	Cal AD 1480	Cal AD 1445–1520 Cal AD 1590–1620	0.811 0.189
SGE-44	ISGS-A2628	Flot Sample Fea. 1	1210 ± 15 BP	-27.4 o/oo	Cal AD 820	Cal AD 730–735 Cal AD 770–880	0.005 0.995
SGE-44	ISGS-A2629	PP#1 Fea. 3	410 ± 20 BP	-25.2 o/oo	Cal AD 1460	Cal AD 1440–1495 Cal AD 1605–1610	0.966 0.034

[a]These three samples all derive from the subterranean feature at the La Reconnaissance site (see Figure 7 for their location).
[b]Data obtained using Calib 7.10.
[c]These were not given, but the conventional age was 1370 ± 30 BP and the calibration is based on this age.

Figure 9. Example of a typical profile along the T-1 terrace scarp (photo by Jack Ray).

Feature 5 was defined at the base of Unit 17 at about 120 cm bd or 95 cm bs. It consisted of a concentration of charcoal and artifacts that extended at least 22–23 cm into sterile subsoil on the west side of the unit. A wide array of ceramics was recovered from this feature, including a large D-shaped strap handle. A soil sample from Feature 5 exhibited relatively high amounts of organic matter, total phosphorus, and available phosphorus. Soil pH was low (5.2) and the very strong acidity probably accounts for the absence of bone in the deposits. It seems likely that the pottery collection obtained by the gravediggers derived from Feature 5. This feature extended to the west at the base of Unit 17 in the direction of the grave pit, which was almost certainly excavated through the feature and then for another 20–40 cm into sterile deposits.

In 2011, our work involved mapping the site and the excavation of additional shovel tests spaced 20 m apart throughout SGE-34B. In addition, we excavated profiles along the face of the T-1 terrace and two 1-x-1-m units (TUs 1–2) to the north of Cemetery Road, which bisects the Amerindian village site. The results of the shovel-testing program are shown in Figure 10. They show a markedly greater concentration of artifacts (principally pottery) along the T-1 terrace scarp. An abundance of pottery also was noted in the profiles along the scarp and they were restricted to the top 30 cm in association with an A/Ap horizon.

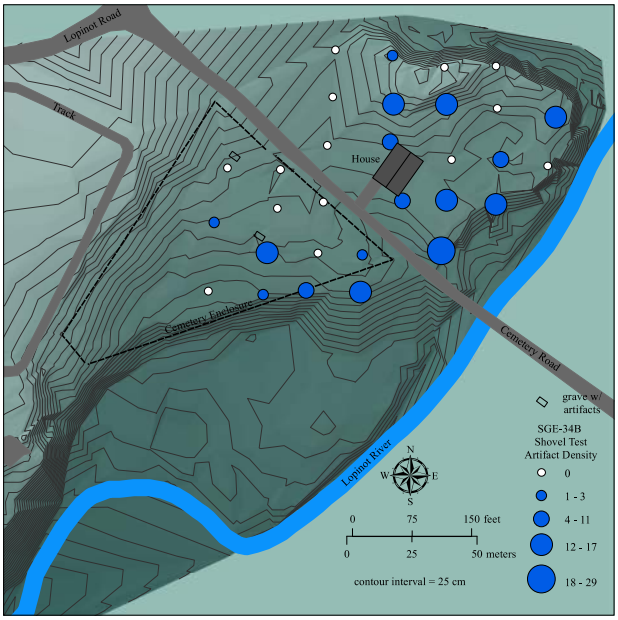


Figure 10. Contour map depicting the results of a shovel-testing program.

An oval-shaped pit occurred at the base of one of the two test units (TU-1) north of Cemetery Road. It measured 80 cm in length and 52 cm in width, extending from at least 33 cm to 66 cm in depth. The pit contained about 50 sherds, some chert and quartz flakes, and bits of wood charcoal. Recovered ceramics included a D-shaped strap handle. A piece-plotted fragment of wood charcoal (Beta-296726) had a measured age of 1,210 ± 30 rcybp with three calibrated age ranges of cal A.D. 695–700, cal A.D. 710–745 and cal A.D. 765–890 (see Table 1). There is no overlap in the 2-sigma age ranges for the samples from Unit 17 and the pit feature north of Cemetery Road.

Grave Pits in Lopinot Cemetery

In 2014, a grave pit was excavated in the northwest part of the cemetery in preparation for a burial a few days later. This occurred about two-thirds of the way down the western slope in the cemetery. Prior to this time, that location and elsewhere along the western slope leading down from a land-leveled football field and surrounding exercise walkway had been shovel tested and was considered to be devoid of any cultural deposits noted elsewhere at SGE-34B (see Figure 10). The walls of the grave pit illustrated relatively thick prehistoric Amerindian deposits buried by 42–48 cm of overburden (Figure 11). This was about 10 cm deeper than the shovel tests penetrated on the cemetery slopes in 2011. Two walls were mapped in profile and a series of C-14 samples were collected, but they have not been assayed.

Figure 11. Profiled walls at north end of grave pit (note: darker cultural deposits buried by overburden; photo by Jack Ray).

Another grave pit was also excavated in 2015 along the western flank of the site and several adornos were recovered. Although we were not present during the excavation of the grave pit, photographs of the adornos and a D-shaped strap handle in a private collection are shown in Figure 12. These adornos clearly reflect a Saladoid occupation of the La Reconnaissance site, indicating that the site was perhaps occupied earlier than ca. A.D. 600–700.

Figure 12. Adornos (a-c) and D-shaped strap handle (d) recovered from a grave pit excavated in 2015 (photos by Jack Ray).

The La Reconnaissance Site in Retrospective

The prehistoric village area (SGE-34B) within and to the north of the cemetery measures about 200 m southwest-northeast and 100 m southeast-northwest. It encompasses at least 18,000 sq. m. Nevertheless, the two separate grave pits along the western edge of the cemetery indicates that the site is much larger since deposits in that area have been buried to an unknown extent as a result of the creation of the nearby football field. The T-2 terrace was truncated by earthmoving machinery and soil was evidently deposited over the western side of the T-1 terrace in the cemetery. Thus, the T-1 terrace to T-2 terrace juncture must have once had a much more pronounced scarp that has since been obliterated.

The ceramic assemblage indicates that the site is minimally assignable to the late Palo Seco and early Bontour complexes (Boomert 2000:145–169; Boomert et al. 2013:Figure 31), a part of which Boomert (2010:115) has also referred to as the "Late Ceramic Realignment" (ca. A.D. 500–800). Despite the thickness and stratification of the deposits within Unit 17, the three radiocarbon ages indicate that the three strata within this feature are essentially contemporaneous. An age (PP#2) derived from the top of a pit feature to the northeast of the subterranean feature is about 250–300 years later than the other three, indicating that the La Reconnaissance site is multicomponent, or it was continuously occupied for at least 250–300 years. The latter would be consistent with the abundance of artifacts at the site.

Despite the absence of vertebrate and invertebrate remains, it may be assumed that hunting, trapping, and foraging were important subsistence pursuits, particularly in light of the fact that fish are small and limited in abundance in the small Arouca River and that shellfish (other than small aquatic snails) are entirely lacking. The common occurrence of fragments of griddles and small chert flakes, presumably representing items used to grate bitter manioc, indirectly indicates that the residents were also engaged in swidden farming.

One additional finding from our work is the substantial evidence for the use of local schist for other purposes than simply temper. A variety of pieces of clearly worked schist have been obtained and some of the more intact are shown in Figure 13. Interpreting the function of the items would be conjectural, but at least one appears to represent a partially edge-damaged bead or bead preform (Figure 13f). Regardless, caution should be undertaken when identifying relatively thin pieces with holes through them as beads or bead preforms. Pieces of schists also occur naturally in the soil and they sometimes have soft, more erosive places where holes or notches can form naturally by corrasion. A quick collection from nearby gravel bars to the east of the La Reconnaissance site resulted in the recovery of the natural specimens shown in Figure 14.

Figure 13. Schist artifacts: (a) SGE-34B, north of road, TU1, 49 cm bs; (b) SGE-34B, TU2, 20–30 cm; (c) SGE-34B, TU1, 0–10 cm; (d) SGE-34B, TU2, 30–40 cm; (e-f) SGE-44, backdirt from machine excavations in block (photo by Neal Lopinot).

Figure 14. Flat cobbles of schist with naturally formed notches and holes (photo by Jack Ray).

Expanding our Investigations in the Arouca Valley

Our visit in January of 2012 was a particularly rainy one and we decided to undertake survey work in the vicinity of La Reconnaissance. Three major pottery-bearing village sites and two other loci of Amerindian pottery (in addition to those identified previously at SGE-34A) were found within a relatively short distance of SGE-34B during a two-day period. The major village sites include the Hernandez (SGE-43) and Clairboy (SGE-44) sites, which were subsequently tested in 2013 and 2014. The locations of the Hernandez and Clairboy sites and other loci of Amerindian pottery in the Lopinot Settlement area as of 2015 are shown in Figure 2.

The Hernandez Site

This site was identified on a high, relatively flat terrace on the east side of the Arouca River. The site is located in a cacao and citrus plantation at the base of Cantomano Mountain, which has been a controversial target in recent years for a limestone quarry. We suspect that the terrace is Pleistocene in age. It is also elevationally coterminous with the large and high alluvial fan to the north where the Clairboy site is located (see below and Figure 15). The Hernandez site is only separated from the Clairboy site by a deep ravine.

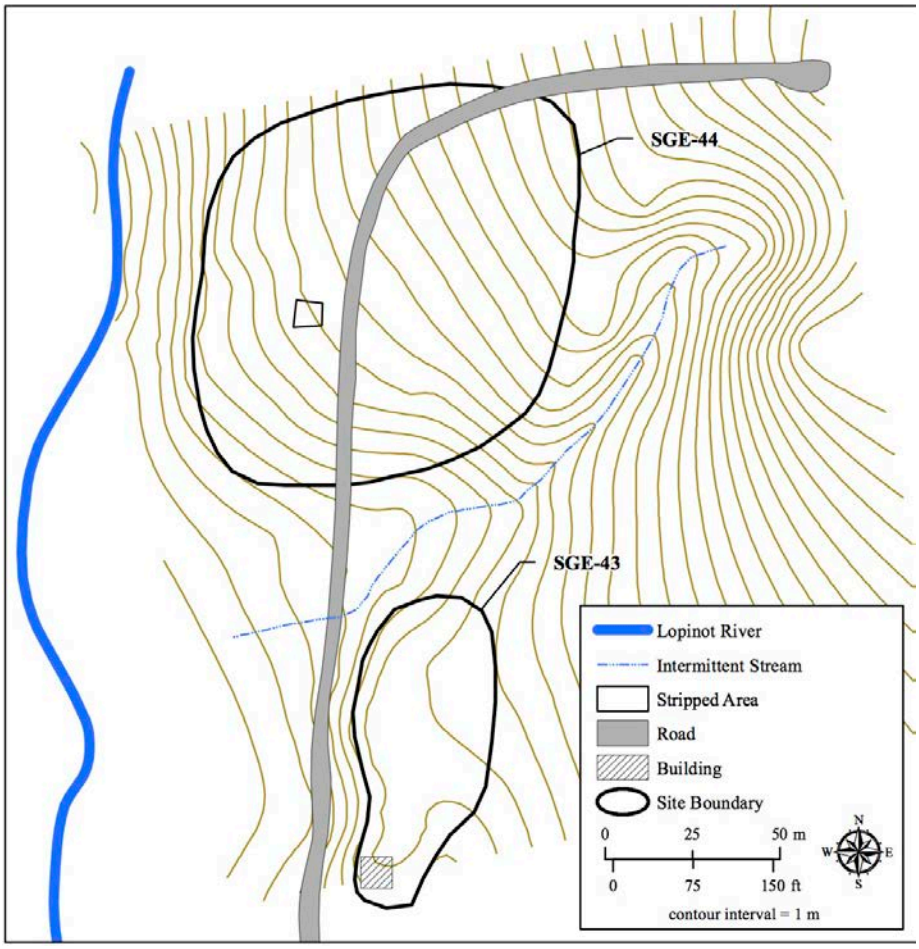


Figure 15. Contour map of the Hernandez and Clairboy sites.

Two surface collections were made and a few shovel tests were excavated in 2012 at the Hernandez site. These activities resulted in the recovery of one neck sherd, one flat base sherd, and 41 body sherds. The two shovel tests yielded 10 and 15 sherds each. All 43 sherds are plain and tempered with crushed schist, quartz, or a combination of the two. As for all of the sites documented in the valley, small bits of hematite also occasionally occur in the grit-tempered pottery.

Three 1-x-1-m units were excavated at the site in March 2013. The excavation of Units 1, 2, and 3 resulted in the recovery of 128, 233, and 132 pottery sherds, respectively, along with small amounts of flaked and crushed quartz. However, no Malchan Hill chert was recovered as a result of both years of surface survey and test-unit excavations.

A considerable amount of pottery occurred along the west wall of Unit 2 at 11–14 cm below surface (bs). Some sherds even appeared stacked and they included the largest pottery fragments recovered as a result of testing at the site. In addition, one piece of radiocarbon-dated wood charcoal was recovered from along the west wall in the upper part (11–15 cm bs) of Level 2 of Unit 2. The pottery-bearing deposits in all three units did not extend more than 15–20 cmbs. However, the Hernandez site is fairly large and much of it remains unexamined, including the southern and western portions. With the exception of the concentration along the west wall of Unit 2, the ceramics are quite eroded and small in size. Even so, a sufficient quantity was obtained to characterize the assemblage in broad terms.

The 493 sherds from the three units include seven rims, four neck sherds, five griddle fragments, and one flat base fragment. Six of the seven rims could be identified as to vessel type. They represent three jars, two bowls, and a very small bowl or cup. A relatively crude rim tab also was recovered from the surface.

No features were identified at the bases of Units 1–3, but it is probable that more extensive excavations at the site would result in the identification of postholes and pit features containing more intact ceramics and dateable charcoal. The single piece of charcoal (ISGS-A2630) from the upper part of Level 2 in Unit 2 was submitted for radiocarbon assay, resulting in two calibrated two-sigma age ranges of cal A.D. 1445–1520 and cal A.D 1590–1620. The most likely of these is the earliest age range of cal A.D. 1445–1520 (out of 1.000, the RAUPD is 0.866).

The Clairboy Site

This site was defined in 2012 by pottery found to the north of SGE-43 on a high alluvial fan overlooking the Arouca River to the west (see Figures 2 and 15). A total of 24 sherds (including one rim and one neck sherd) and a quartz flake were collected as the result of brief surface collecting along trails and the excavation of five shovel tests. Four of the shovel tests in the eastern part of the site resulted in the recovery of eight pottery sherds, whereas one shovel test in the western part of the site nearer to the Arouca River resulted in the recovery of six sherds.

A surface collection of 54 pottery sherds was obtained from the southwestern part of the site before excavation of two contiguous units in 2013. This part of the site had been plowed with a hand-tiller to about 15 cm below surface for the first time in 2013. Elsewhere in the Arouca Valley, plowing has been limited due to the emphasis on cacao, coffee, bananas, and citrus trees (e.g., orange, grapefruit, guava, lime). Amerindian pottery was relatively abundant on the surface in what had become a plowed bean field following a couple of rain showers. However, most pottery was collected from

ditches that may have been dug during the early nineteenth century by slaves when the site was part of the larger La Reconnaissance plantation,

Two contiguous 1-x-1-m units were excavated in the western part of the Clairboy site and resulted in the recovery of a far greater amount of pottery than the three units at the Hernandez site. Not including sherds found in features, pottery recovered from Units 1 and 2 at this site consisted of 576 and 589 sherds, respectively (see Venter et al. 2017, for a detailed description of the ceramic assemblage). Because a deep postmold (Feature 1) and the eastern edge of a rather amorphous disturbance (Feature 2) were found in Unit 1, Unit 2 was excavated immediately west of Unit 1 to determine if the amorphous feature and postmolds continued in that direction. The excavation of Unit 2 resulted in the identification of four more postmolds (Features 3–6; see Figure 16), suggestive of the presence of one or more structures at this location.

Figure 16. Base of Unit 2 at the Clairboy site with Features 3–6; Feature 3 is located at top center (photo by Neal Lopinot).

Sixteen sherds, two AMS samples, and a flotation sample (15 liters) were collected during the course of excavating Feature 1, which extended to a depth of 65 cm bs (43 cm below the base of the Ap horizon). Seven sherds and an AMS sample were collected as the result of the partial excavation of Feature 2, whereas only two sherds and a series of charcoal samples were collected during the excavation of the upper 5 cm of Feature 3 in 2013.

Two charcoal samples from the Clairboy site were submitted for AMS dating. These consisted of a piece of a seed or some type of nutshell from the Feature 1 flotation sample and a piece of wood charcoal from the surface of Feature 3 below the base of the Ap horizon. The sample (ISGS-A2628) from Feature 1 produced two 2-sigma ranges of cal A.D. 730–735, cal A.D. 770–880 (RAUPD=.995) and cal A.D. 841–846. The wood charcoal sample (ISGS-A2629) from Feature 3 produced two 2-sigma age ranges of cal A.D. 1440–1495 (RAUPD=.966) and cal A.D. 1605–1610.

The considerable differences in the two ages are suggestive of a multicomponent site and therefore also indicate the likelihood for multiple overlapping structural remains. The earlier age is roughly concurrent with the four AMS ages for the prehistoric component(s) of the La Reconnaissance site, located about 550 m downstream, whereas the later age is essentially contemporaneous with the age obtained from the nearby Hernandez site.

The evidence for the former presence of multiple structures in the same location was further demonstrated as the result of block excavations in 2014. The plow zone was machine-stripped in an area of 7-x-7 m, with the former location of Units 1–2 near the center of that block (Figure 17). Feature 3 was relocated and the remainder of its fill was excavated (Figure 18). An additional 16 stains were examined, but only four proved to be certain posts, six represented possible posts, three represented unplowed "midden dips," and three were krotovinas.

Figure 17. Area of block excavations at the Clairboy site (photo by Jack Ray).

As shown in Figure 18, flat pieces of schist occurred commonly within or near the fills of the positive and possible post molds. A few of the post molds were flat bottomed to barely rounded and large flat pieces of schist were lying at the bottom. In a few larger post molds, large pieces of flat schist also occurred along the walls. This indicates that they were probably used at the bottoms of post holes to brace wall posts, but also strategically placed as wedges to ensure the posts were relatively perpendicular to the ground surface.

Figure 18. Profile of Feature 3, a large post mold at the Clairboy site (photo by Neal Lopinot).

One of the most revealing observations made as the result of the excavations in 2013 and 2014 was the great difference in soil moisture conditions and the ability to identify soil stains. As the excavations in Unit 2 in 2013 were being completed, it had rained for several days and the soil was saturated. In fact, only the upper part of Feature 3 was excavated in 2013 because it began to rain heavily shortly after taking the photo shown as Figure 16. Although Unit 2 and Feature 3 were rediscovered in 2014, we could not relocate Features 4–6 because of the dry soil conditions, even after pumping

water into the block area more than once and covering the block area overnight with plastic. Thus, it is likely that many postmolds of different sizes were not detected in the block area in 2014 simply because the soils were too dry. This suggests that the best time of the year to undertake excavations in the Northern Range would be during the rainy season or immediately before or after, when subsoils are saturated and features are most evident.

Other Sites in Lopinot Settlement

Several sites also were documented in the vicinity of the La Reconnaissance, Hernandez, and Clairboy sites. These consist of a site much disturbed by a road where only eight sherds were recovered (SGE-42), a site represented by a single sherd on a small terrace remnant (SGE-45), a large village site on a high terrace on the west side of the river where a number of modern houses occur (SGE-46), and a site that has been extensively impacted by both limestone quarrying and road construction (SGE-47).

A rim and seven body sherds were recovered from the western face of a large alluvial fan on the east side of the Arouca River (Figure 2). This site (SGE-42) has been much disturbed by the intersection of two roads and only a small section of the alluvial fan on the west side of the road remains largely undisturbed. Ceramics were found in an area that measures little more than about 25 sq. m. The pottery consists of a jar rim fragment and seven plain body sherds, of which five body sherds may be derived from a single vessel. These five sherds are most unusual as they are fiber-tempered. They measure 5.5–6.5 mm in thickness and have a similar very dark brown (7.5YR 2.5/1) exterior color. No artifacts were found on the east side of the road, but it is conceivable that this portion of the site has been buried by alluviation.

Surface visibility was poor at SGE-45 and only a single small, eroded sherd was recovered. The small terrace remnant is separated from the Hernandez site by a small drainage that has likely cut through the extensive terrace during the Holocene, leaving the small remnant at the southern end of that terrace. The site appeared deflated in 2012 and recent construction of a house has entirely destroyed the site.

Site SGE-46 was identified in 2012 in six contiguous small land parcels, four of which have modern houses. It occurs on a high terrace on the west side of the Arouca River and may have once extended to the base of a nearby mountain, but it has since been greatly impacted by road, house, and ditch construction and also buried in at least some places. Surface collecting in the backyards of four houses resulted in the recovery of two rims, six neck sherds, two base fragments of flat-bottomed vessels, and 72 body sherds. Both rim sherds are very small, but one is flattened similar to T/T Form 2 identified by Boomert (2000:Figure 21) as typical of some Saladoid bowls. All of the sherds are plain or eroded, and 66 sherds are grit-tempered with varying quantities of crushed schist, quartz, or both. The other six sherds are mainly grog-tempered with small amounts of grit, mostly of hematite.

This site is actually somewhat larger than was documented in 2012. During the excavation of a hole for a corner post to a new building to the north, 17 sherds were recovered by locally trained avocationals at a depth of about 80 cm bs. This indicates that the north end of the site is covered with overburden for an unknown distance, perhaps even extending to the small intermittent tributary separating SGE-46 from SGE-47. The 17 sherds are all grit

tempered, some with only crushed schist, some with only crushed quartz, and some with both.

Site SGE-47 was identified in 2012 by 20 sherds (including one rim and one base) from a road cut and ditch on the east side of Lopinot Road. The artifacts had clearly been pushed up as the result of the construction of the road and ditch. Despite repeated survey in 2012 and 2013, only one small piece of pottery was found in a plowed field just to the northwest of the road cut and also immediately northwest of the intersection of Lopinot Road and Briggs Road. This field occupies an alluvial-colluvial fan from a small intermittent tributary draining eastward into the Arouca River.

An interview with a local informant indicated that the area to the west of Lopinot Road in the vicinity had been extensively quarried for limestone during the 1960s and/or 1970s. Evidence of this quarrying activity was evident not only there, but also in yards on the east side of Lopinot Road from that intersection northward some 200 m or more. In fact, everything on the west side of the river north of SGE-46 to the valley constriction had been affected by earlier quarry activity. We suspect that some archaeological deposits are buried rather than destroyed, and this area needs to be tested in the future.

Surveying in the Caura Valley

Archaeological survey was undertaken in the Caura River Valley in 2013 and 2014 to demonstrate that the findings of intensive Amerindian occupation of the Lopinot Settlement area was not anomalous. The survey was undertaken over a period of two days each year in a wide valley opening at about the same latitude as the one in the Arouca River Valley. A number of cultivated fields for truck farming occur in the wide opening. The survey focused on surface collecting in a series of recently plowed fields, as well as those planted in tomatoes, pepper, eggplant, melons, papaya, etc. Within these fields, ground-surface visibility ranged from 100% to as little as 15%, but the plowing of some fields had been so recent that they had not yet been rained upon. Still, our expectations for locating Amerindian sites were very high, but only three sites (two have since been combined) and one Isolated Find (IF) were discovered.

We strongly suspect that the paucity of identified Amerindian sites to date in the Caura Valley opening is due to the fact that nearly all of the fields have been deeply chisel-plowed. According to a local farmer who works in a number of fields (including where SGE-48 and SGE-49 are located), plowing extends to a depth of at least 36–38 cm (14–15 inches) below surface. Given that the artifact-bearing deposits are relatively shallow in most places as in the Arouca River Valley, such plowing has penetrated through the topsoil (wherein artifacts are located) and below, and the subsoils were subsequently turned over and now cap the artifact-bearing topsoil deposits in crop rows. This appears to be a common practice throughout this portion of the Caura Valley.

The fields that were surveyed and the identified sites are shown in Figure 19. Despite the difficulties, a considerable amount of new information was obtained as the result of interviewing local residents and revisiting the same sites in 2014. Because of farming practices, it is critical that the same fields are revisited repeatedly and additional time is spent searching for artifacts.

Isolated Find No. 1 (Caura Isolated Find #1[C IF-1]) consists of a single grit-tempered plain body sherd that was found in a pepper field on the toeslope of a high T-2 terrace. After the pepper field and strips of watermelon atop the adjacent T-2 were surveyed, more intensive survey at 3-m intervals was undertaken around the location of C IF-1. Nothing else was found, but we suspect that this isolated find reflects the existence of a larger site, part of which extended across the road that cuts through the northern portion of the valley opening.

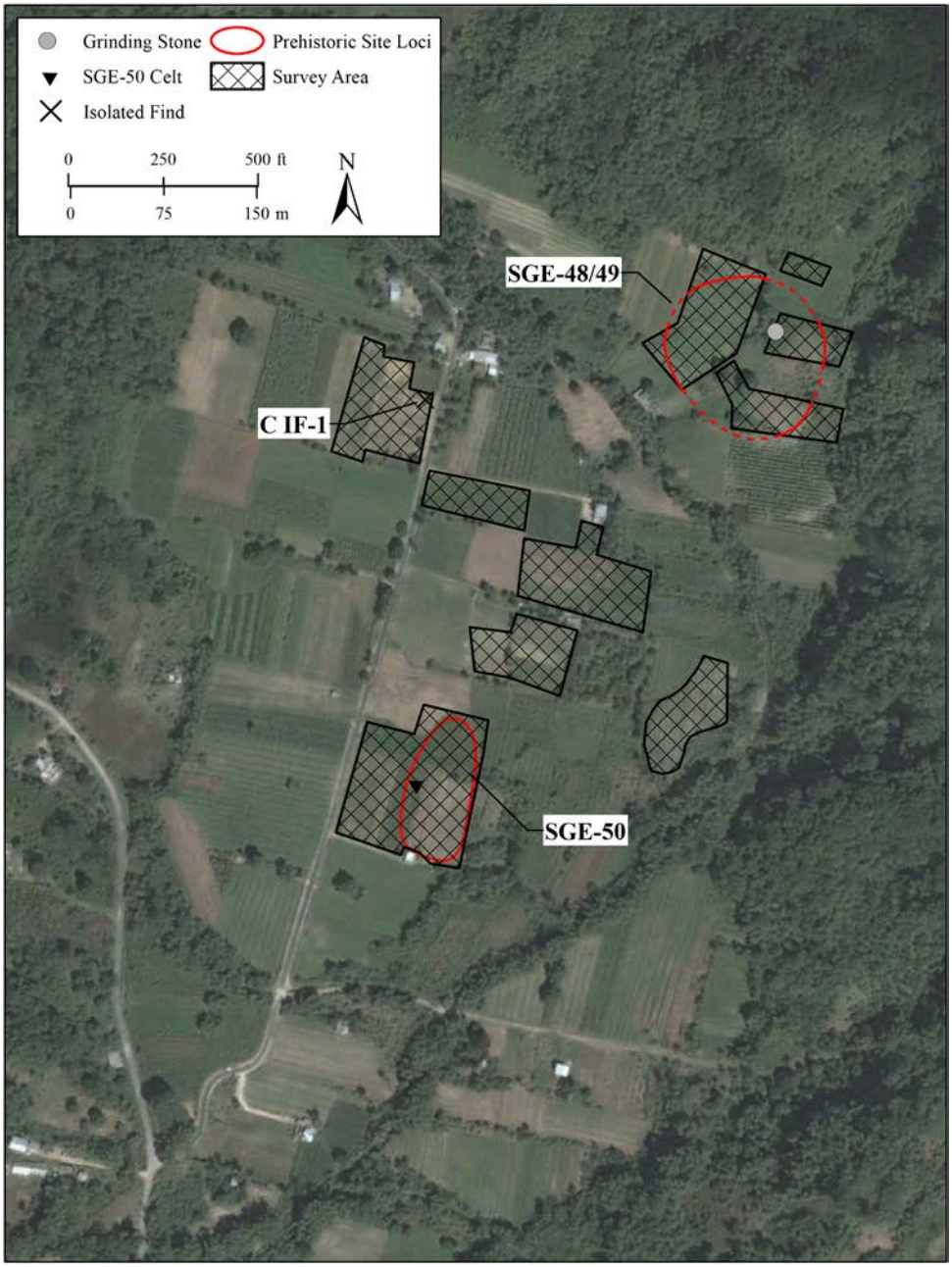


Figure 19. Surveyed areas and sites in the Caura River Valley.

Site SGE-49 is an Amerindian site located just to the northwest of SGE-48 (as defined in 2013, also having a historic component not discussed here) on a T-1 terrace that slopes down to the Caura River about 70–80 m to the southwest. Ground-surface visibility in the eggplant field was estimated to be about 50–60%, but it also had been chisel-plowed. During the initial visit in 2013, only four sherds and a unifacial quartz flake tool were found. The site was revisited again a few days later and 12 additional sherds were recovered as the result of an intensive resurvey at 2–3-m intervals.

The same local farmer mentioned above also showed us three celts in his artifact collection (Figure 20), two of which (Figure 20a-b) were collected from SGE-49. The other was collected from an unverified location. In addition to the celts, the farmer also had a core of Malchan chert from SGE-49 (Figure 21). Every available platform on this core exhibits flake scars. Another area resident also showed us three plain conical pestles (two are shown in Figure 22), pointed at one end and circular at the other. These are similar to those described by Fewkes (1922:74) from the Erin Bay site. Pestles of somewhat different form also have been found in Archaic contexts at the Banwari Trace site in the southwest part of Trinidad (Boomert 2016:19; Boomert et al. 2013:63.

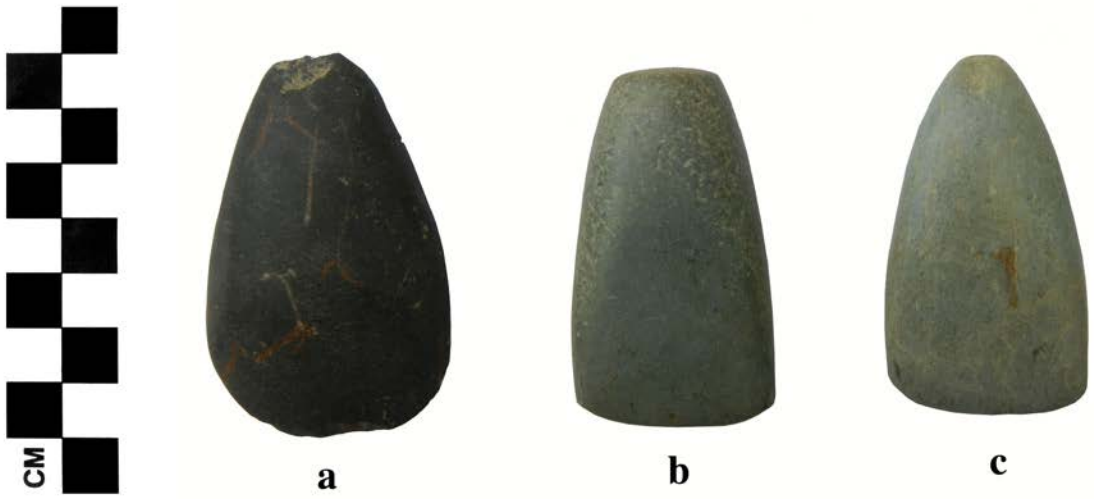


Figure 20. Celts from the Caura Valley: (a-b) from SGE-48/49; and (c) from an undocumented site (photo by Neal Lopinot).

Figure 21. Malchan chert core from SGE-48/49 (photo by Neal Lopinot).

Figure 22. Two pestles from the Caura Valley in a private collection (photo by Neal Lopinot).

Site SGE-50, named the Stankee site, was found very late during the second day of survey in 2013. Surface visibility was relatively poor. Despite our best efforts to find pottery, only five lithic artifacts were found. One consisted of a metate fragment and another consisted of a piece of Malchan chert. The other three consisted of metamorphic rock fragments, two of which exhibit clear evidence of use.

As a result of additional survey work in the Caura Valley in 2014, we were able to redefine SGE-48 and SGE-49. Both are substantially larger and greatly overlap one another. Henceforth, these two sites have been combined as SGE-48/49 (Figure 19). This site has both prehistoric Amerindian and historic nineteenth-century components.

In 2013, we also taught the local farmer interested in artifacts about prehistoric pottery, showing him examples. When we returned in 2014, he gave us a small collection of sherds that he had collected from SGE-48/49. We likewise collected about an equal number of pottery sherds over a much larger area. Forty-one sherds were collected despite continued poor ground-surface visibility. All are plain-surfaced sherds. Two appear to be neck sherds from jars and one consists of a portion of a large thick tab or adorno. A large metate also was left in the field.

The potentially most exciting discovery as a result of survey in the Caura Valley in 2014 was the possibility that SGE-50 represents a preceramic or Archaic site. In 2014, we recovered one celt, a quartzitic hammerstone, three cores of Malchan Hill chert, 17 flakes of Malchan Hill chert, three flakes of an indeterminate chert(s), and 10 quartz flakes. Quartz debitage is often difficult to distinguish from natural shatter and we only collected those with dorsal flake scars and bulbs of percussion, but it is clear that quartz was a commonly used lithic material in the Northern Range for producing cutting edges. We spent considerable time searching for ceramics, but none were found. Still, it is possible that SGE-50 could represent a specialized extraction site used by ceramic-age peoples rather than an Archaic site. Further excavations and dating of this site should be undertaken to verify its age and function.

Discussion

Boomert's (1984, 1987) inventories of sites in Trinidad (and Tobago) provide an important summary of known sites some 30 years ago. It seems clear from these inventories and our research that archaeological investigations in Trinidad have been biased geographically and continue to lag behind many other islands in the Lesser Antilles. This has been due partly to the greater size of Trinidad and, despite a long history of archaeological investigations, the lack of any long-term systematic survey program with a focus on a specific geographic area of the island. Our work demonstrates the importance of focusing on one area for an extended multiyear period of time, interacting with local villagers and farmers, and returning to the same places repeatedly to learn more. Unfortunately, the pace of modern development and site destruction in Trinidad heightens the importance of undertaking more extensive and systematic archaeological surveys in the very near future. Since 1960, the population of Trinidad has grown by roughly 500,000 individuals and the density in 2017 is 286.3 individuals/sq. km (1,364,973/4,768) or 741.4 individuals/sq. mi (1,364,973/1,841). The density of people and therefore the amount of potential site destruction will only increase.

The Stankee site indicates the possibility that Archaic people were already in the interior of the Northern Range, exploiting if

not living there for a good length of time. If Archaic people were living in the interior of the Northern Mountain Range, they could not depend on shellfish or even fish to any significant extent, but rather it may be presumed that they depended primarily on hunting and gathering. However, targeted excavations are needed to better assess the age, duration, and character of activities at this site.

The problems of finding Archaic sites may be beset with some difficulty, particularly given likely landform-formation processes. Some Archaic occupations may be masked by those of pottery-making Amerindians occupying the same landforms with relatively shallow soils, whereas other Archaic sites may be buried and therefore undetectable by surface survey and shallow shovel testing. Given the amount of rainfall received in the Northern Range, there is a great chance for alluvial, colluvial, or alluvial-colluvial burial of Archaic sites with few surface manifestations in some geomorphic contexts. Therefore, it is important that targeted geoarchaeological investigations become a focus of future research in Trinidad.

The discovery of a major Ceramic-Age village (SGE-34B) within the colonial cacao plantation known as La Reconnaissance spurred the identification of at least three other major village sites nearby and the identification of other loci in the Caura River Valley to the west. Much additional survey and excavation work is needed to further tease out the chronology of the various components represented at these sites and address an inevitable growing number of questions. For example, did multiple contemporaneous villages and farmsteads exist up and down these mountain valleys, were they relatively autonomous, or were they politically organized into larger sociopolitical entities at different times? Can we obtain the empirical evidence to identify the economic nature and seasonality of various occupations of different sites, particularly given that faunal preservation will be nonexistent or poor? In this regard, flotation samples from features excavated at the Clairboy site resulted in the recovery of significant amounts of carbonized plant remains. Although those remains have not been analyzed, they portend an ability to evaluate at least some of the plant-collecting versus farming activities of local populations. Despite the long history of archaeological research in Trinidad, it appears that flotation samples have never been collected or analyzed from any site to date.

Radiocarbon ages from the stratified feature identified in Unit 17 at the La Reconnaissance site provide evidence that Saladoid occupation of the Northern Range may have continued until at least A.D. 650. This lends support to Boomert's (2016:25) recent discussion of the Saladoid series in Trinidad and Tobago, which he contends continued until sometime during the interval of A.D. 650–800. Our evidence further suggests that there was a major increase in population density in at least one portion of the Northern Range during or after the period of A.D. 650–800, or during post-Saladoid times. With one other possible exception, the only good Saladoid-era pottery that has been found to date has been obtained from the La Reconnaissance site. This could reflect the special nature of the La Reconnaissance site within the valley, a central place where elites with disproportionate access to nonlocal exchange networks had resided. However, it also may reflect the presence of a smaller, concentrated, local Saladoid population.

The post-Saladoid evidence from the Arouca River Valley is considerably more substantial and suggestive of a population density not unlike it is today, with a

considerable number of people living in villages and dispersed farmsteads scattered up and down the valley. We suspect that additional survey will demonstrate that just about any flat to gently sloping undisturbed fan, terrace, or low bench in the valley within a relatively short distance of permanent water was occupied at one time or another during at least the last 1,000 years of prehistory.

We contend that the Saladoid (Early Ceramic) and post-Saladoid (Late Ceramic) Amerindian sites documented to date in the Arouca and Caura River Valleys represent a small sample of a multitude of sites occupied by opportunistic farmer-hunter-gatherers who lived throughout the Northern Range on a year-round basis. The fact that these inland mountain residents were not isolated is indicated by several lines of evidence, including Malchan chert from the Central Range (see Ray 2015), tar paint from Pitch Lake in the southwest corner of the island (Venter et al. 2017), and celts made of nonlocal or even exotic (to Trinidad) materials (Ray and Lopinot 2016; Ray et al. 2018). In addition, Instrumental Neutron Activation Analysis (INAA) of local clays and a sample of ceramics from the La Reconnaissance site demonstrate that at least some pottery may have been produced elsewhere and imported (Venter et al. 2017). As a consequence, it may be best to think of the river drainages of the Northern Range as potential conduits of material exchange and social interaction, rather than view the mountainous terrain as a barrier resulting in the circumscription of small groups of Amerindians. After all, the Caroni Plain and the Caribbean coast are both only a day's walk from the central spine of the Northern Range to the south and north, respectively.

The common presence of Malchan Hill chert at the La Reconnaissance site and its currently known absence at Hernandez and Clairboy sites could be regarded as evidence that earlier lines of exchange may have been broken or much reduced after Late Palo Seco times. As Boomert (2010:115) has noted, this was likely due to the "waning of regional communication and exchange" within the "pan-Antillean Saladoid interaction sphere" during subsequent Late ceramic times. At least in the Northern Range, a substantial increase in population density may have played a role in the diminishment of access and panregional exchange.

The relatively young and contemporaneous AMS ages from both the Hernandez and Clairboy sites are also suggestive of considerable activity in the valley during very late prehistory and perhaps even protohistory. The very late prehistoric occupation of at least the Hernandez and adjacent Clairboy sites appears to have represented a dispersed village with each site being occupied contemporaneously by one or a few households. Nonetheless, there remain many questions regarding the changing nature of settlement in the Northern Range, and these can only be addressed by a continuous or long-range program of survey and excavations.

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