

**INTERIM REPORT ON THE RESULTS OF THE 2009 (MAY AND JUNE) RESCUE
EXCAVATIONS AT THE LAVOUTTE SITE (CAS-EN- BAS), ST. LUCIA**

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Main: Mr Eric Milton Branford of the St. Lucia Archaeological and Historical Society and Prof. Corinne Hofman, Leiden University during a visit to Leiden University in March 2009 to prepare a Memo of Understanding between the two institutions.

Inset: The Caribbean Research Group of the Faculty of Archaeology with Mr Eric Milton Branford and Mr Henry Nathaniel of the St. Lucia Archaeological and Historical Society.

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- A. Lithics from Lavoutte, St. Lucia. A report on the analysis of the material from the 2009 field season (Sebastiaan Knippenberg)
- B. Illustrations of features (Don van den Biggelaar)
- C. Burial forms (57-02, 03, 11, 23; 58-22, 23; 67-03, 05, 07, 11, 12, 13, 14, 25, 30, 31, 33; 68-01, 04, 05, 06, 07, 08, 11, 20, 21; 69-01, 02, 05) (Daniëlle Bastiaanse and Menno Hoogland)

Preface

The Late Ceramic Age site of Lavoutte located in the northeastern part of St. Lucia has been known since the 1960s. The site's midden area was extensively excavated by Ripley and Adelaide Bullen in cooperation with Eric Branford of the St. Lucia Archaeological and Historical Society. Later during the 1980s a small scale excavation was carried out by the University of Vienna under Dr Hedwig Friesinger which uncovered three human burials. In particular the site is known for the famous 'Lavoutte statue', to which Taíno influences have been accredited by some scholars. Over the past years erosion at the site has increased severely due to both natural and human factors. The construction of a hotel in the bay and increased tourist activity in the area has accelerated the erosion and uncovered skeletal remains of numerous individuals in the eastern part of the site, to the south of the Bullen excavations. A first inventory of the damage was carried out by Leiden University in January 2009. This interim report presents the results of the rescue excavations at the site undertaken in May and June 2009. The project has been facilitated by the Faculty of Archaeology, Leiden University, the Netherlands Foundation for Scientific Research (NWO), the St. Lucia Archaeological and Historical Society and the Florida Museum of Natural History.

We would like to acknowledge the St. Lucia Archaeological and Historical Society, and more specifically Mr. Eric Milton Branford (archaeological secretary and administrator), Mrs. Rosemary Husbands-Mathurin (president), Dr Dennis Williams (historical secretary) and Mr. Ian Constantine (executive member) for their invaluable efforts to implement the reassessment of the site. We would also like to express gratitude to the St. Lucia Government, in particular to the Honourable Gaspard Peter David Charlemagne, Minister responsible for Culture. We would like to thank all the St. Lucian volunteers who came with Deidrie Williams, especially Sharneill Lewis and Winston Phulgence. Many thanks also to Bill Keegan and those from the University of Florida: Michael Dion, Sylvia Chappell, Eleanor Hynes ("Terri"), Karin Lovik, Joost Morsink, as well as Robert Hoffman and George Lechler. Lastly we applaud the students from Leiden University for their motivation and hard work during the fieldwork: Don van den Biggelaar, Rachel Schats, Daniëlle Bastiaanse, Daniëlle Meuleman, Remy van Aerle, Frank Heijkoop, David Gies, Lou-Lou de Veth, Tom Breukel, Ewoud van Meel, Samantha de Ruiter, Yann Hoogland, Cristel Nottelman, Mette Langbroek, Anne van Duijvenbode, Paul Reusink, Michiel Esveld, Nikki Dijkshoorn, PhD researchers

Hayley Mickleburgh and Jason Laffoon and Hans Kamermans, Mike Field and Sebastiaan Knippenberg; colleagues from Leiden University.

1. Introduction

The Lavoutte archaeological site (Fig. 1) has been known to local governmental and historical authorities, and through reports of previous research to the international archaeological community for a number of decades. The site, which is situated on the northern side of the bay of Cas-en-Bas, St. Lucia, was discovered by Harold Devaux and Mr. Easter of the St. Lucia Archaeological and Historical Society in 1958.

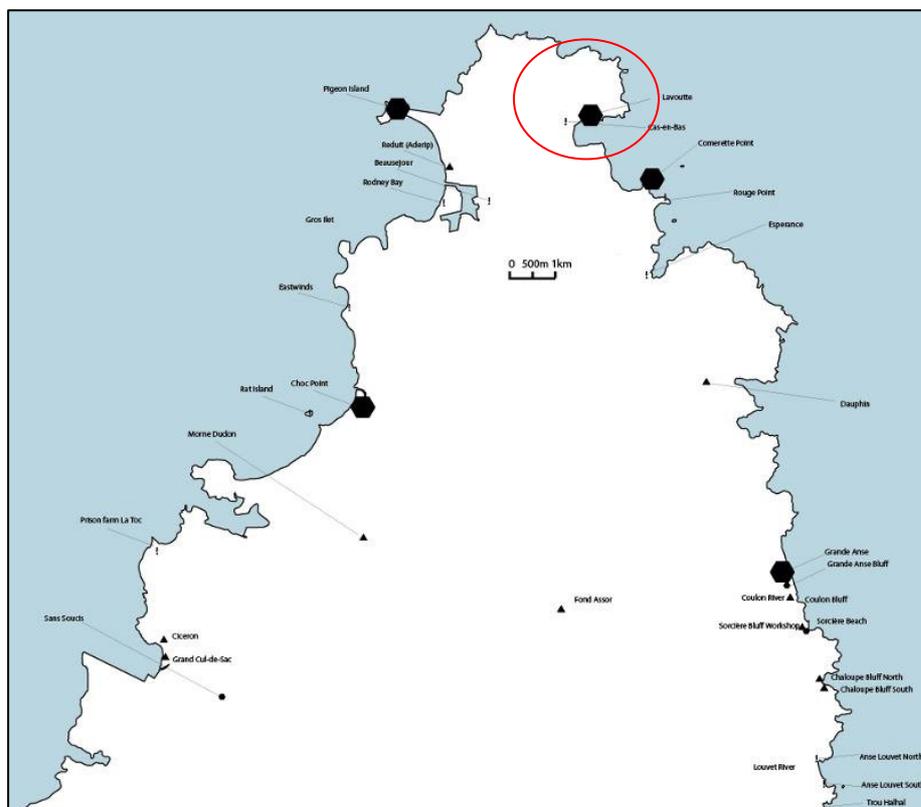


Figure 1. Map of northern St. Lucia with location of major sites and the site of Lavoutte (Cas-en-Bas) in the northeastern part (map by Alistair Bright).

The site first became the focus of attention when a unique ceramic figurine depicting a seated female (Fig. 3) was discovered there in 1963 by Mr. Ronald Sinson. Subsequent visits to the site by Devaux, Sinson and others such as Father Jesse revealed other exceptional artefacts such as a stone threepointer, a stone pendant shaped like a flat plummet and a small ‘*guaíza*’-like head (Fig. 2). Excavations in 1968, led by Ripley and Adelaide Bullen of the University

of Florida, Gainesville in cooperation with Mr. Eric Milton Branford of the St. Lucia Archaeological and Historical Society, revealed the great historical significance of the site. The ceramics found during this investigation indicated that the site dates to what Bullen and Bullen termed the Suazey period; a period spanning AD 800-1500 and characterized by rough, poorly finished pottery with scratched surfaces. Some of the artefacts found at the site were concluded to have originated from the Greater Antilles based on their appearance (Bullen and Bullen 1969:75).

During these investigations numerous fragments of large figurines were also found which led to the interpretation of the site as a 'Carib ceremonial centre'. All in all, the research carried out by Bullen and Bullen indicates that the site of Lavoutte was most likely an important settlement which would have been in contact with other contemporaneous sites in the region relating the Lesser Antilles to the Greater Antilles to the north (Bullen and Bullen 1969). On the basis of such ceremonial artefacts Louis Allaire (1990:12) further suggested an affiliation with the chiefdoms of the Taíno of the Greater Antilles. However, he recognised that except for the *guáiza*-like artefact, all other artefacts were probably locally made in what he called 'a properly Suazoid stylistic mold'. He further hypothesized that the presence of powerful Taíno-derived iconography and ceremonial paraphernalia among the Lesser Antillean communities may well reflect the desire of local headmen and shamans to acquire more powerful means of exercising their influence. In the mid-eighties an Austrian team under the direction of Dr Hedwig Friesinger from the University of Vienna excavated three burials at the site (Fabrizii-Reuer and Reuer 2005).



It is however the more recent discovery in 2006 of a large number of eroding human burials at the site by members of the St. Lucia Archaeological and Historical Society which indicates the immense historical value and need for preservation of this archaeological site. In January 2009 the aforementioned society, together with Prof. Corinne Hofman and Dr Menno Hoogland (Leiden University, The Netherlands), reassessed the extent of damage to the site. This reassessment

Figure 2. Guáiza from Lavoutte

expands upon previous cooperation between the St. Lucia Archaeological and Historical Society, the Florida Museum of Natural History and Leiden University. In collaborative efforts in 2002, 2003 and 2004 this combined team carried out an extensive survey project on the southern part of St. Lucia and visited major sites in the north, including the Lavoutte site (Hofman et al. 2004; Keegan et al. 2002, 2003).

Figure 3. Ceramic statue known as the 'Lady of Lavoutte'



2. Archaeological and chronological setting of northern St. Lucia

The northern part of St. Lucia, north of Castries, is the most developed part of the island and most popular with tourists. The development of the area and construction of numerous large hotels and villas has seriously affected the number and state of preservation of archaeological sites like Choc and Pigeon Island, both located on the western coast (Fig. 1). Pigeon Island, no longer an island, is a peninsula in the northwestern corner of St. Lucia. Given the nature and number of finds, the site probably represents a settlement, and yielded a small threepointer, jasper and chert flakes and a large number of shell tools (Fig. 4). The ceramics recovered can be described as late Saladoid, Troumassan and Suazan Troumassoid. Judging from the ceramics, the Pigeon Island site can be said to have been occupied throughout much of the Ceramic Age, or from roughly AD 300/400 onwards.



Figure 4. Artefacts from the Pigeon Island site.

Along the eastern coast two major archaeological sites, Lavoutte and Comerette Point, are located in the Bay of Lavoutte and subjected to heavy erosion today. Comerette Point is a headland that juts out from the northeastern coastline of St. Lucia, to the south of the bay. It was a port of entry in the pre-colonial period and there is evidence that the first Archaic Age people passed through there (Branford pers. comm.). The site of Comerette is known to have an extensive midden deposit which bridges two bays (Fig. 5). The site has yielded a large number of multi-coloured flakes of jasper, chert, greenish stone and quartz, a pyramidal stone, faunal remains and numerous shells, next to ceramics that can be assigned to the Troumassan and Suazan Troumassoid subseries. Judging from the ceramics recovered, Comerette Point was occupied throughout the Late Ceramic Age, or between roughly AD 700 and 1500.



Figure 5. Comerette Point site (left) and artefacts (right).

2.1 The Lavoutte site

The Lavoutte site is located in the northern part of the bay, on a promontory which partly blocks the entrance to the bay of Cas-en-Bas (Fig. 6). Elevation of the terrain ranges from 0 to 5m above sea level and the subsurface consists of basalt and andesite. The area was previously heavily vegetated. The Lavoutte site can be said to have been mainly occupied during the latest phase of the Late Ceramic Age, or roughly after AD 1000.



Figure 6. View of the Cas-en-Bas bay and the Lavoutte site.

The Bullens excavated three units with a total surface area of 70m² (Figs. 11 and 12). The site has produced a wealth of shell, coral and stone artefacts over the decades. Ceramics were almost exclusively Suazan Troumassoid and a handful of earlier Saladoid and Troumassan Troumassoid pieces. Of the ceramics found, some are in storage at the Yale Peabody Museum, the Florida Museum of Natural History and Leiden University, while the rest is in storage at the Vigie Depot, Castries.

2.2 Environmental setting (by Dr Mike Field, paleobotanist, Leiden University)

A botanical survey was carried out in the surrounding area of the site as an indirect means of inferring past environmental setting. The depositional environment is not good for the preservation of plant material. During the excavations in May and June 2009 only a small

number of undetermined charcoal fragments were found in a hearth feature. No other plant material was preserved from the site. However, it is almost certain that these people had a good knowledge of the terrestrial environment that surrounded them. It is highly likely that they not only collected fresh-water from the surrounding catchments, but also used plants for food, construction, and other uses (possibly including medicinal purposes).

With no plant sub-fossil assemblages it is difficult to accurately reconstruct the local environment at the time of occupation. However, some attempt to make an environmental reconstruction can be made by recording the vegetation present today, understanding the ecology of the plant species represented, and having a knowledge of recent, post colonial, and colonial activity in the area including the impact on the composition of the vegetation (e.g. disappearance, introduction and naturalization of plant species).

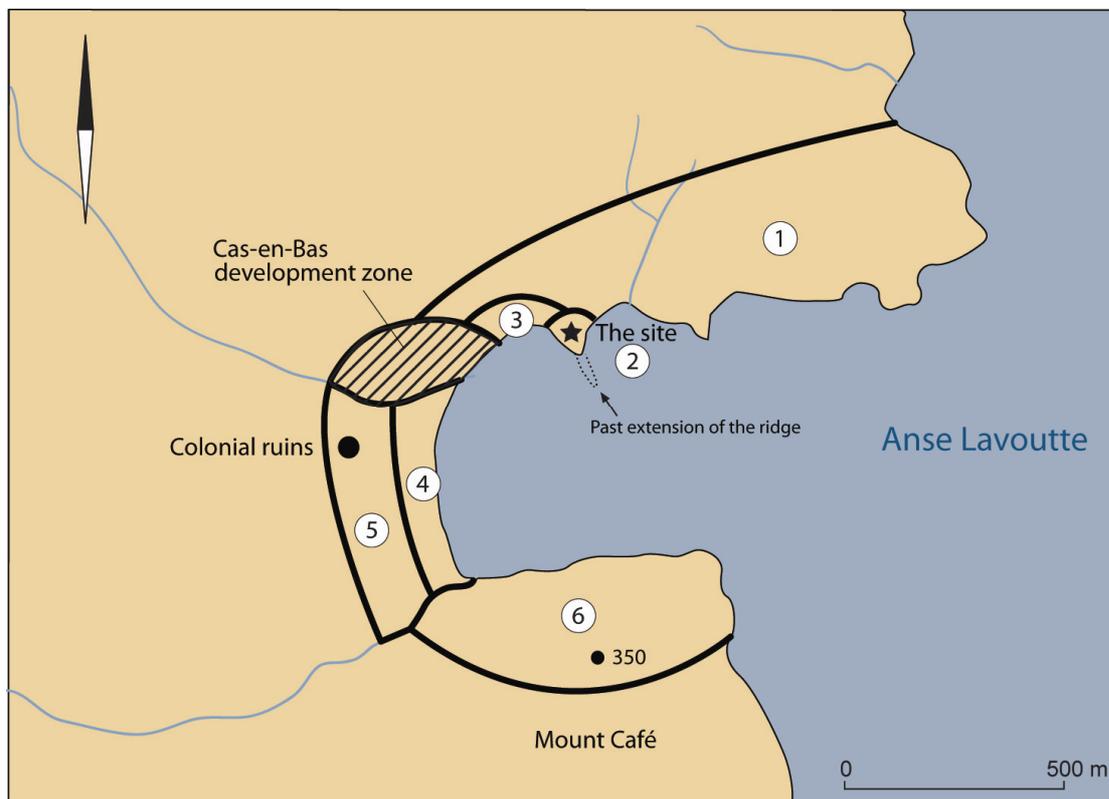


Figure 7. The local environment of the Lavoutte site with its different vegetation zones. Zone numbers 1 to 6 referred to in the text.

At the time of occupation human activity probably was responsible for the relatively poor vegetation cover around the settlement (Fig. 7, zone 2). Today this area is occupied by a wind sculpted low woodland consisting of trees such as *Capparis cynophallophora*, *Capparis flexuosa*, *Coccoloba uvifera*, *Erithalis odorifera*, *Hippomane mancinella*, *Jacquinia armillaris* and *Tabebuia heterophylla*. Several locals reported that in the 1950s the

promontory extended further across the mouth of the bay. Coastal erosion removed the soils and regolith and now only a rocky surface appears just above the high tide level.

The inhabitants of the site probably looked across the bay to the slopes of Mount Café (zone 6) at the time covered by a xerophytic scrub or low woodland, consisting of for example *Agave* species, *Bursera simaruba*, *Croton flavens*, *Lonchocarpus violaceus*, *Plumeria alba*, *Tabebuia heterophylla* and several cacti. A similar vegetation type probably existed at the time of occupation on the slopes behind the site (zone 1).

The littoral vegetation exposed to the prevailing northeast Trade Winds in the southwest corner of the bay (zone 4) was wedge-shaped in cross section almost certainly due to aeolian forces. Walking from the tidal zone an occupant of the site would have probably firstly encountered pioneer plants such certain grass species and *Ipomoea pes-caprae*, then low specimens of *Coccoloba uvifera*, backed by tall *Hippomane mancinella* trees with the occasional *Cocus nucifera* palm that had managed to colonize and establish itself. The flat area behind the coastal vegetation (zone 5) probably is composed of trees that have recolonized the area after a period of colonial activity. While field walking a colonial ruin was discovered just to the south of the development zone amongst the trees. The presence of *Terminalia catappa*, an introduced tree, supports the view regeneration has taken place. Behind zone 5 on the surrounding slopes a dry scrub or low woodland exists, for example, represented by *Haematoxylon campechianum* and *Acacia tortuosa*.

Further around the bay in the lee of the promontory on which the settlement was located (zone 3) there probably existed woodland growing on a sandy beach whose canopy was not influenced by wind action. Trees that grow in this zone now may have been present at the time of occupation and include *Conocarpus erectus*, *Hippomane mancinella*, *Morinda citrifolia* and *Thespesia populnea*. Today, in addition, *Laguncularia racemosa* is present in this area. This mangrove prefers areas where fresh-water is present. It is likely this species lived in this area at the time of occupation because of the presence of small fresh-water channels dissecting the sandy beach.

Almost certainly several larger channels flowed into the bay supplied by fresh-water from the drainage catchment. Where these channels met the beach it is probable that small mangrove swamps existed with *Laguncularia racemosa* and *Rhizophora mangle* present. The root

systems of these mangrove species would have produced sheltered, low energy environments where fined-grained sediments would have been deposited. Small patches of mangrove can be observed today at the margins of the channels that flow through the Cas-en-Bas development zone and into the bay at the foot of Mount Café.

2.3 Natural and human impacts on the site

The Lavoutte archaeological site is located on government-owned land, effectively making it freely accessible to the general public. From the tyre tracks and litter scattered over the terrain of the site it is clear that it is frequented on a regular basis by visitors with cars. As a part of the damage assessment of the site in January 2009, elevations were mapped using a water level instrument. A similar map was also made by Mr. Eric Branford in 1968 and subsequently published by Bullen and Bullen (1969).

A comparison of the two maps allows for a detailed assessment of the changes in elevation at the site over the past 40 years, indicating where erosion of the soil covering the archaeological site has been most drastic (see report January 2009). Even a rough retrodiction of erosion rates indicates a profoundly modified site landscape over the past 1000 years and the probable loss of large parts of the site. Pictures of the site taken between 2003 and 2009 (Fig. 8) illustrate that the erosion has been most severe in the last few years.



Figure 8. Assessing levels of erosion, January 2009. Numerous burials exposed (white tags) at the surface (left). Crushed skull (top right). Long bones eroding from profile wall (bottom right).

A number of natural and human factors appear to be the most immediate threats to the integrity of the site. Lavoutte is continuously exposed to strong Atlantic winds and subject to wind and water erosion during storm and hurricane seasons. Hurricane Dean, for example, caused major damage to the entire coastline of Cas-en-Bas in the summer of 2007.

Increased transformations of the original landscape include the recent development of the area for tourism. The damage that large groups of horses do to the already eroding soil is immediately apparent. The construction of a new hotel and golf course to the north has led to the use of part of the site as a thoroughfare for trucks carrying construction materials. This has created a deep track that has made the site more vulnerable to erosion. It cuts directly through a previously unknown high concentration of burials in the southeastern part of the site. Human bones are eroding from the profiles on both sides of this track. It seems that the rate of erosion is currently increasing; possibly as the result of exposure by previous erosion.

3. Rescue excavations May-June 2009

Rescue excavations at Lavoutte were undertaken by Leiden University at the site in May and June 2009 (Fig. 9).



Figure 9. Overview of the Lavoutte site. Excavation in progress.

The first step was relocating the excavation units of the Bullens in order to complement their data on stratigraphy and chronology and to gain a better understanding of the layout of the settlement. To this end shovel tests and test units were made in the refuse area, and a focus was placed on the southern part of the site where numerous features were exposed. In addition to the burials, the features included postholes, hearths and pits reflecting a high rate of

domestic activity in this area. In total 39 burials were excavated. One radiocarbon date obtained from one of the burials sampled in January 2009 provided a date around AD 1200. Samples from radiocarbon dating were taken from each burial. These have been submitted for dating to the Isotope Laboratory of the University of Groningen and results are forthcoming.

3.1 Fieldwork methodology

A site grid was established according to a Zone-Sector-Square system in which Zones measure 100×100m, Sectors are 10×10m and the smallest unit, a Square, measures 1×1m. Site elevations were mapped with a Total Station (TS). This results in a reference system in which all site locations are known by three coordinates (x, y, z) which can be translated to the St. Lucia national grid.

Those features which were most directly adversely affected by the erosion were excavated first. This was the case with clusters of burial features on either side of a vehicle track and an erosion gully used by horses. Feature excavation proceeded as follows: Posthole and hearth features were cleaned in plan view, measured in with the TS, and sectioned. Burial features were defined in plan view and the grave and fill was excavated following the contours of the grave pit in horizontal layers according to the arrangement of bones in the pit. A levelling instrument was used to record the elevation of the grave elements during excavation and a photographic (stereo) documentary record was made before and after bone removal to enable reconstruction of burial taphonomy. Each feature was fully described on a feature form. For the texture description of the features, the soil texture classifications of the United States Department of Agriculture (USDA) have been used ^[1]. For the colour descriptions a Munsell Soil Color Chart was used (1994 edition).

In addition to excavation of the most vulnerable or exposed features, 13 shovel tests (SH) of 0.5×0.5m were manually dug to the northwest of the burial clusters. The shovel tests were made to assess the character and extent of the archaeological remains across the site and to compare results with previous excavations. The shovel tests were mostly in an area of midden accumulations. One shovel test was enlarged (to a 2×2m unit) in an area of greater artefact concentrations (Fig. 10). A plan of the excavation and site features can be seen in figures 11 and 12.



Figure 10. 2x2m unit in midden area.

Five points were taken from the corners and centre of each shovel test, and excavation proceeded according to stratigraphic layer. Material was collected per layer and sieved. Profiles were drawn and described for each shovel test. Three profile sections were made in the midden area, the most extensive 10m long following the eroded gully (Fig.14), and two further sections of 2m in length which were the walls of the 2x2m unit. After documentation, all features and excavated units were filled in and closed.

An archaeological survey of the Cas-en-Bas bay and surroundings of the site was carried out to establish the extent of the archaeological deposits. The survey area was divided into eight transects. The site has a surface area of approximately 2000m².

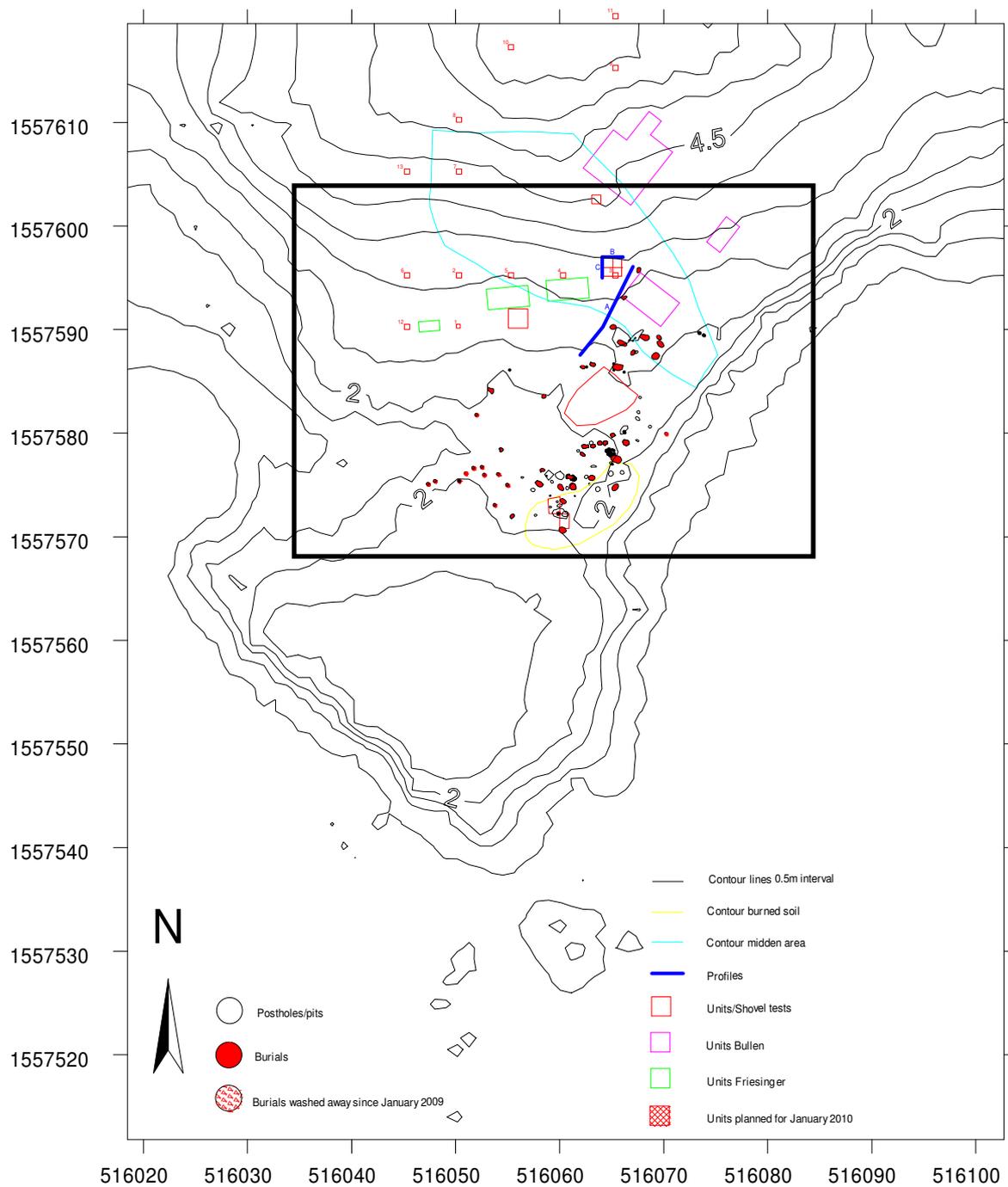


Figure 11. Elevation map of Lavoutte peninsula showing the location of excavated units, features and burials. Black rectangle indicates detailed view in Fig. 12.

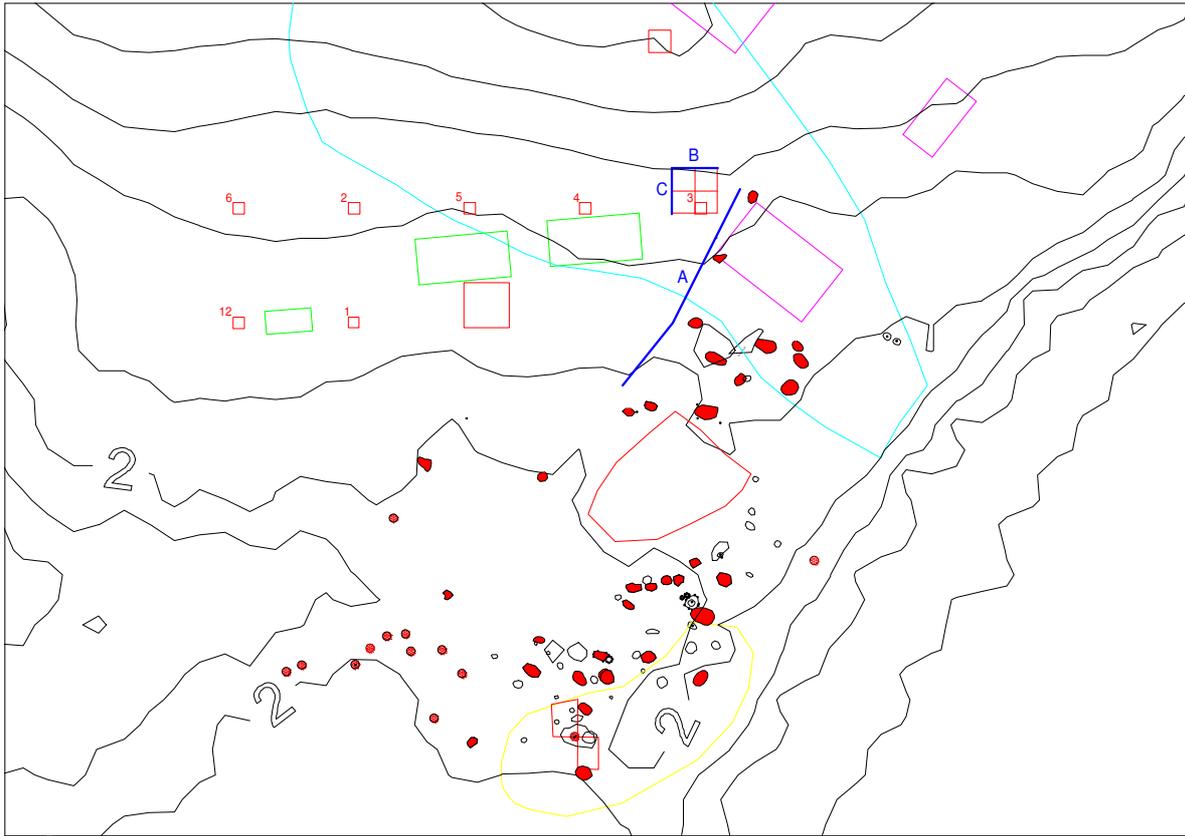


Figure 12. Detailed view of Lavoutte site. See Fig. 11 for Legend.

3.2 Preliminary results

The sections below describe the preliminary results of the May and June 2009 fieldwork including a description of site stratigraphy, features, habitation area, burials and preliminary results of specialist studies. Finally a synthesis of the results will be presented to give an overview of Amerindian occupation of the Lavoutte site.

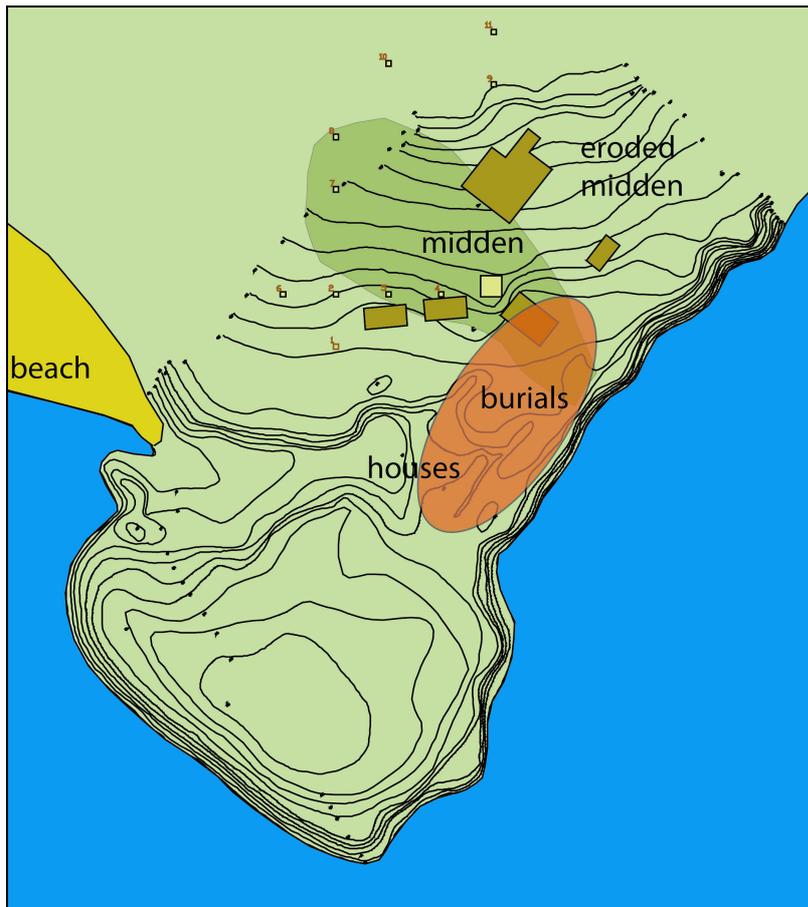


Figure 13. An interpretative site plan showing the settlement layout.

The evidence suggests a habitation area with structures and burials in the southern part of the site and a garbage dump (midden) to its north that also has a few burials underneath it (Fig. 13).

3.2.1 Midden area

The extension of the dump is estimated at approx. 350m². The stratigraphy of the dump reveals an accumulation of classic refuse material over a depth of 40cm covered by a layer of large broken pots.

3.2.1.1 Stratigraphy

Three profiles were documented through the midden area: a long profile, Section A, and two shorter profiles Sections B and C which were walls of the 2x2 m unit. Section A (Fig.14) measures 10 meters in northeast-southwest direction. Elevation of the sections range from 2.06 to 3.55m above sea level. Five distinct stratigraphic horizons are recognised in profile A. (1) At the bottom the weathering layer occurs which consists of a sandy loam or sandy clay texture with an olive or yellow colour. (2) In places, a dark greyish brown sandy clay horizon

is present. (3) This is overlain by a brown sandy clay/sandy loam horizon. This layer is the illuviation horizon. (4) A very dark grey sandy clay horizon was present in the northern half of the profile. This layer contains shells, shell and ceramic fragments and some roots. This layer is designated as the midden layer. (5) The top layer consists of very dark greyish brown sandy clay with little ceramic and shell remains. Just beneath the midden layer a posthole was found (feature 69-06). The extent of the midden area is indicated in Figures 11 and 12 (cyan contour line).

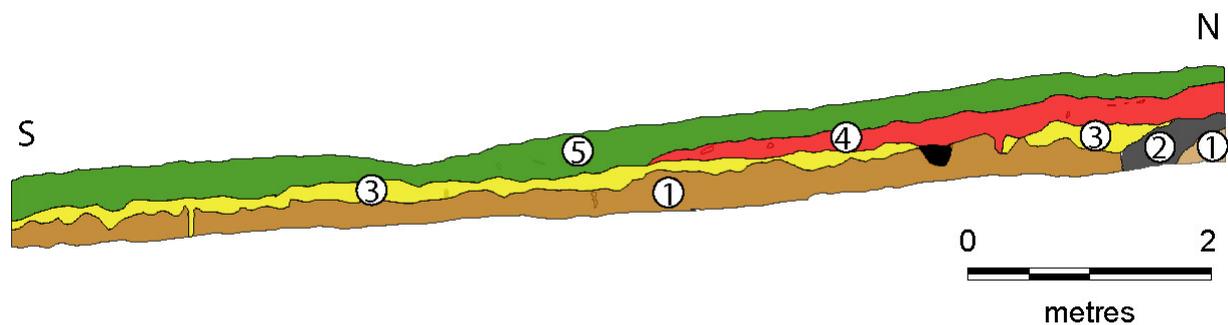


Figure 14. Profile drawing of Section A. Legend: (1) sandy loam weathering layer; (2) dark sand/clay; (3) sand/clay; (4) midden layer; (5) sand/clay minimal remains.

3.2.1.2 Material culture of midden

In addition to a fair amount of subsistence remains the shallow garbage dump yields mostly Suazan Troumassoid pottery (Fig. 15). The Bullens also noted a handful of Late Saladoid and Troumassan Troumassoid ceramics in some parts of the dump; the 2009 excavations did not confirm this picture. However, Caliviny red-painted and polychrome pottery noted for its burnished surfaces and ware was found in the lower levels of the refuse area. The majority of the pottery is heavy and thick. Vessels include bowls, plates and griddles with rounded to slightly thickened rims. Oval shapes and spouted vessels are typical. Footed vessels, footed griddles and support rings are very common. Some vessels have tabular lugs. Red slip, incision and finger indented rims occur besides a fair number of *adornos* with the typical Suazoid eyebrows. Other ceramic artefacts include loom weights, spindle whorls, body stamps and fragments of figurines. A thorough analysis of the pottery by Corinne Hofman and Alistair Bright is currently underway in Leiden University, Faculty of Archaeology.



Figure 15. Suazoid pottery from the refuse area. (Find numbers 51, 37 and 32)

Along with the pottery in the dump, artefacts of shell, coral and stone include celts, grinders, axes and ceremonial paraphernalia. Preliminary analysis by Sebastiaan Knippenberg (Appendix C) suggests that the lithic assemblage consists of a variety of local rock types such as chalcedony, red, yellow and green jasper and non-local rock types such as Long Island flint and St. Martin greenstone. Long Island flint occurs only occasionally and it seems that jasper, which is locally abundant, is the main rock type used for the production of cutting, sharpening and engraving tools. The faunal remains will be analysed by Denis Nieweg, Leiden University. Preliminary observation of the marine mollusc shells and the remains of other marine animals in the midden deposits suggests that the lifestyle of the inhabitants was dominated by the exploitation of the marine environment, and the pre-Columbian inhabitants relied mostly on fishing and the capture of turtles.

The refuse deposit is sealed with a fair number of large broken pots which may relate to the abandonment of the settlement. This pottery does not have the characteristic scratched surfaces and finger indented rims and may represent the latest Suazoid phase. Allaire (pers.comm.) has noticed a similar development in the Suazoid at Macabou in Martinique.

3.2.2 Habitation area

The habitation area is distinguished by a number of features including postholes and cooking features indicating the presence of house and auxiliary structures and a large number of burials.

3.2.2.1 Features

In total 76 features were documented. This comprises 33 postholes and 4 pits and 39 burials (Table 1). These are located in close vicinity to a gully eroded by anthropogenic and natural phenomena. No soil is present at these locations, only a thin weathering layer. Examples of features together with their texture and colour description are shown in Appendix B.

	N	%
Postholes	33	44
Pits	4	5
burials	39	51
<i>Total</i>	<i>76</i>	<i>100</i>

Table 1. Overview of the features by type.

Domestic features include postholes and a cooking pit (Figure 16a-b). The reasonable diameter and size of the posts suggest the construction of fairly heavy structures needed as a protection from the heavy Atlantic winds. Posthole features could be identified by the darker coloured clay infill. The carbonized core of some posts and evidence of a burned house floor suggests that the structures were burned. A few postholes still contained remains of wood. In the southern part of the excavation an area with burnt patches of clay was uncovered interpreted as burnt house floors (Fig. 16).



Figure 16a-b. a. Posthole with burned core. b. cooking pit with large quantity of *Cittarium pica*. (Feature numbers 67-06 and 67-08)

3.2.3 Burials

In January 30 burials were documented, and in May-June, nine more were recovered. This is 39 burials in total. Great consistency is found in the orientation of the burials. More than 90% of the individuals face east. Grave goods are rare, but include volcanic stone flakes and a shell ornament (Fig. 22). Particularly rich is the grave of a seated adult male buried with two tools (one of stone and one of coral) with clear use marks and a fragment of very weathered manatee rib, resembling the Greater Antillean vomiting sticks. Other artifacts of manatee bone like snuff-inhalers have been found in similar contexts elsewhere in the Lesser Antilles. Only in the far southeastern portion of the site do burials appear to be clearly linked with house structures. These burials are the only ones not facing east; instead they either face northwest or southeast. The burials are all located near the wall of the structures, reflected by the close proximity of the posts and grave pits.

The preservation of the human skeletal remains varied depending on the degree of erosion. In many cases parts of the skeletons were missing or severely damaged. The physical anthropological and taphonomical study is carried out under the responsibility of Dr Menno Hoogland and Dr Darlene Weston (see Appendix C). In previous years taphonomical studies by the Leiden team at other sites have highlighted an array of mortuary practices in the Caribbean, crucial for providing the socio-cultural dimension to complement palaeodemographic and isotopic data (Hoogland et al. 1999; Hoogland and Hofman in press). Samples for strontium isotope analysis have been taken for all individuals; they are currently being processed by Jason Laffoon at the Free University of Amsterdam in collaboration with Prof. Dr Gareth Davies. Initial results are expected at the end of this year. Hayley Mickleburgh is carrying out dental anthropological analysis of the burials at the site to gain

insight into diet and lifestyle. Preliminary results are included below (Section 3.2.3.2). All this information is expected to give insight into the origin, mobility, residence rules, lifeways and customs of the people that once lived or were buried at Lavoutte.

A detailed description of burial taphonomy was made on an individual form for each burial feature which included information regarding the grave dimensions, preliminary age and sex determinations, the position and orientation of the body and various skeletal elements and an overall interpretation of taphonomy based on observations in the field. These burial forms are included in Appendix C. What follows here is a summary of the age, sex, interment type, facing, completeness, dental anthropology and taphonomical descriptions.

Age	N	%
Adult	23	59
Juvenile	2	5
Adolescent	2	5
und.	12	31
<i>Total</i>	<i>39</i>	<i>100</i>

Age description distinguishes several categories (Table 2): adults (N=23), Juvenile (N=2), Adolescent (N=2) and undefined (N=12). See Fig. 17 for a pictographic overview of the distribution of the different age classes.

Table 2. Overview of the number and percentage of burials per each age category.

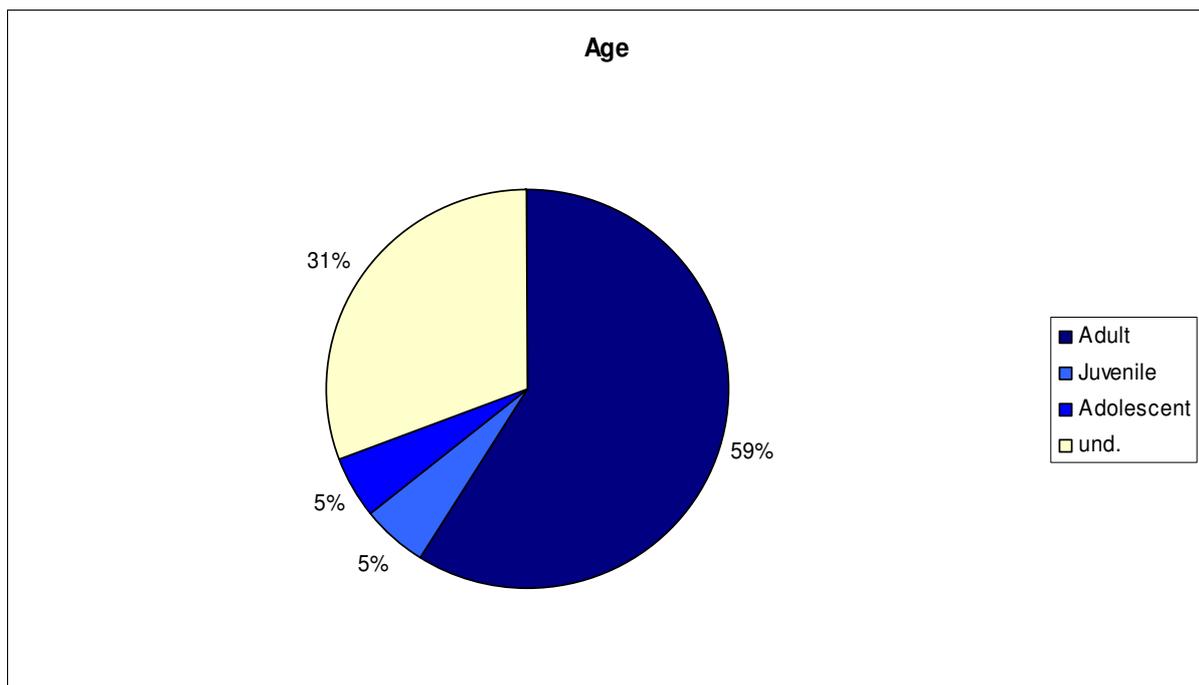


Figure 17. Pie chart of the percentage of burials per age category.

Sex	N	%
Male	7	18
Possible Male	3	8
Female	0	0
Possible female	2	5
Indifferent	1	3
und.	26	66
<i>Total</i>	<i>39</i>	<i>100</i>

Of the 39 graves, seven were positively identified as males, while three are possible males. Two are possible females, one is indifferent and the remaining 26 are undefined (Table 3). Figure 18 gives a pictographic overview of the percentages per sex class.

Table 3. Overview of the number and percentage of burials per sex category.

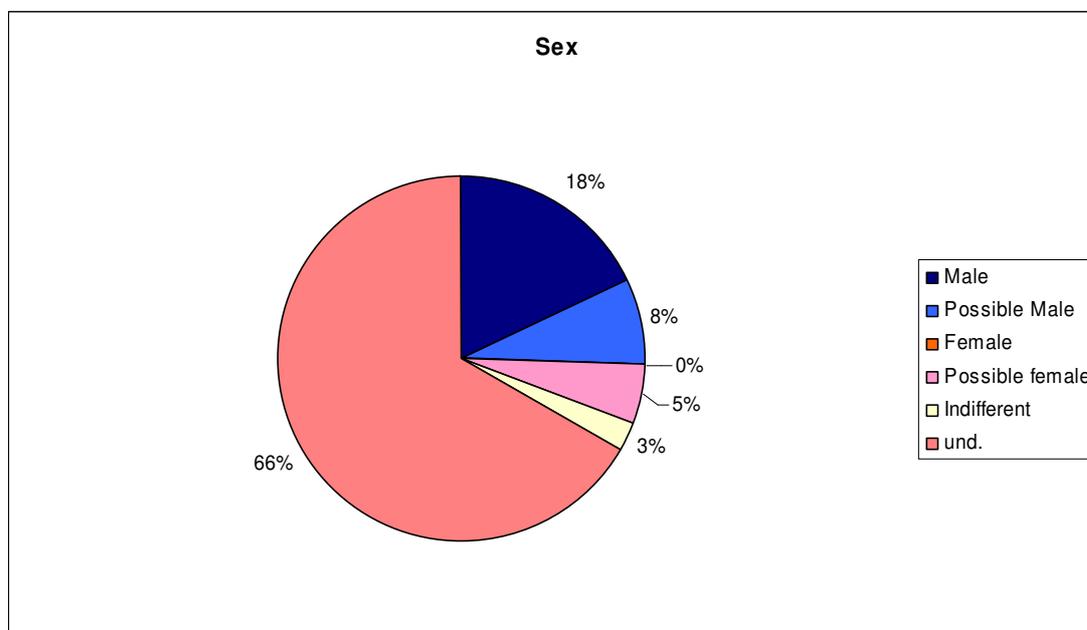


Figure 18. Pictographic overview of the percentage of burials per sex category.

Interment type	N	%
Primary	29	74
Secondary	1	3
Prim./second.	2	5
und.	7	18
<i>Total</i>	<i>39</i>	<i>100</i>

The majority of the burials are primary interments (N=29). Only one secondary burial was found and two which could be either a primary or a secondary burial. For seven burials the interment type could not be determined (Table 4). See Figure 19 for a pictographic overview of the percentages per interment type.

Table 4. Overview of the number and percentage of burials per interment type.

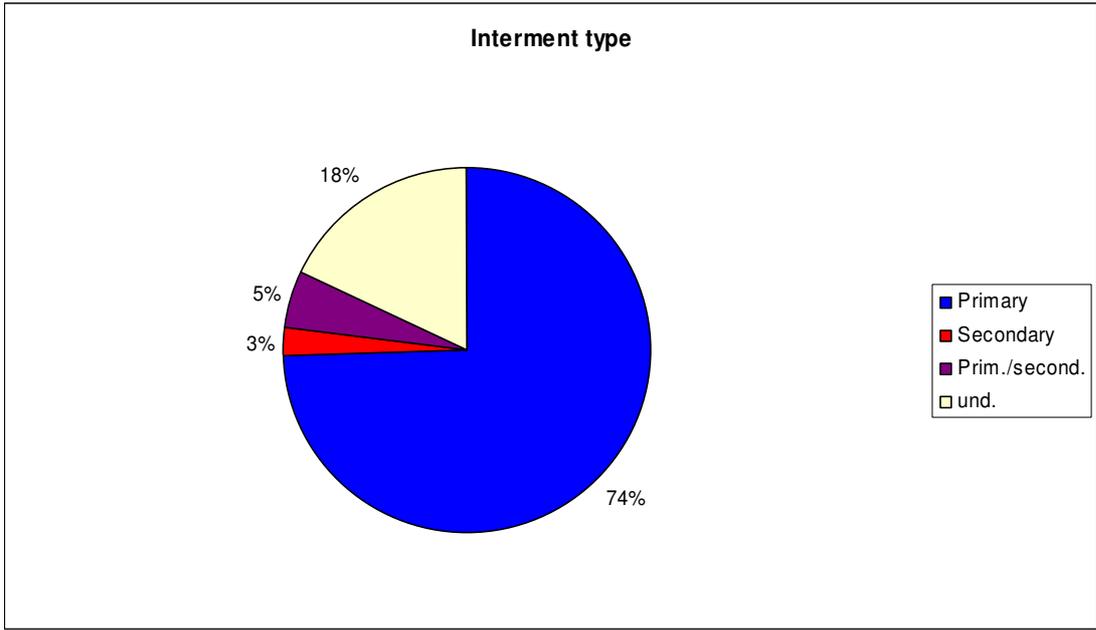


Figure 19. Pictographic overview of the percentage of burials per interment type.

Facing	N	%
South	1	3
Southeast	2	5
East	22	55
Northeast	5	13
North	1	3
und.	8	21
<i>Total</i>	<i>39</i>	<i>100</i>

Facing of the burials is predominantly to the east (N=22). Other cardinal directions to which the deceased stared are north (N=1), south (N=1), southeast (N=2) and northeast (N=5). Eight remain undefined in this matter (Table 5). See Figure 20 for a pictographic overview of the percentages per cardinal direction.

Table 5. Overview of the number and percentage of burials per cardinal direction.

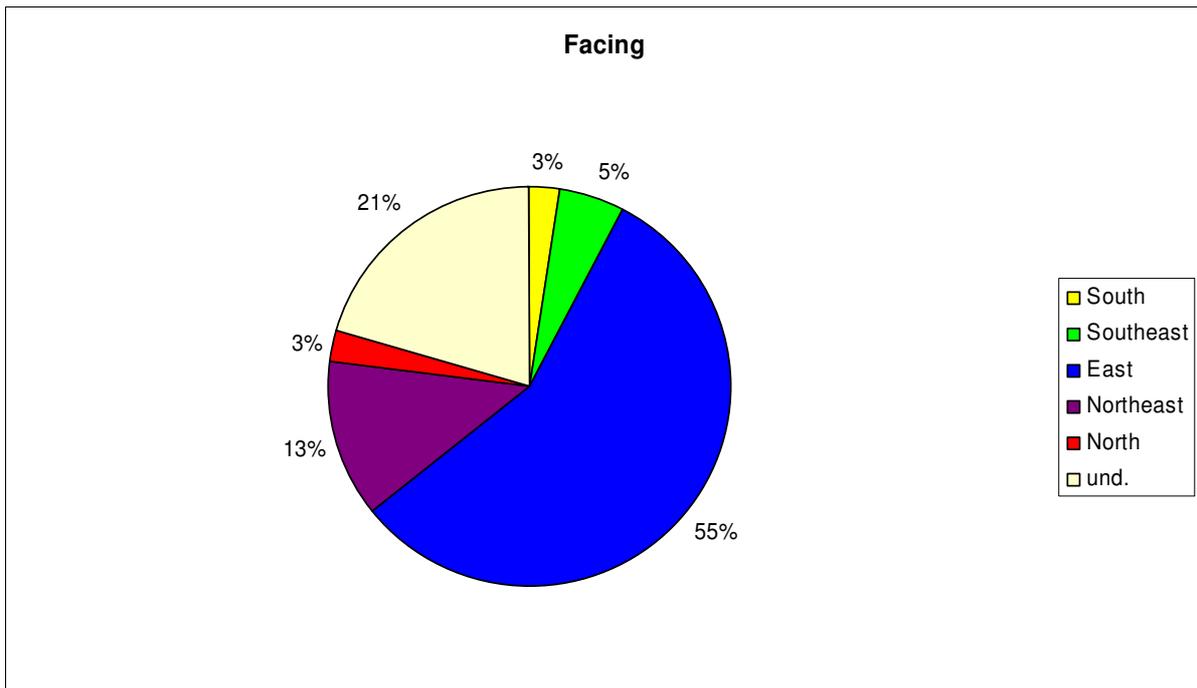


Figure 20. Pictographic overview of the percentage of burials per cardinal direction.

Completeness	N	%
0-25%	6	15
25-50%	8	21
50-75%	9	22
75-100%	8	21
und.	8	21
<i>Total</i>	<i>39</i>	<i>100</i>

Completeness of the skeletal remains was expressed in percentages (Table 6). A total of five categories were distinguished: 0-25% (N=6), 25-50% (N=8), 50-75% (N=9), 75-100% (N=8) and undefined (N=8). See Figure 21 for a pictographic overview of the percentages per completeness category.

Table 6. Overview of the number and percentage of burials per completeness category.

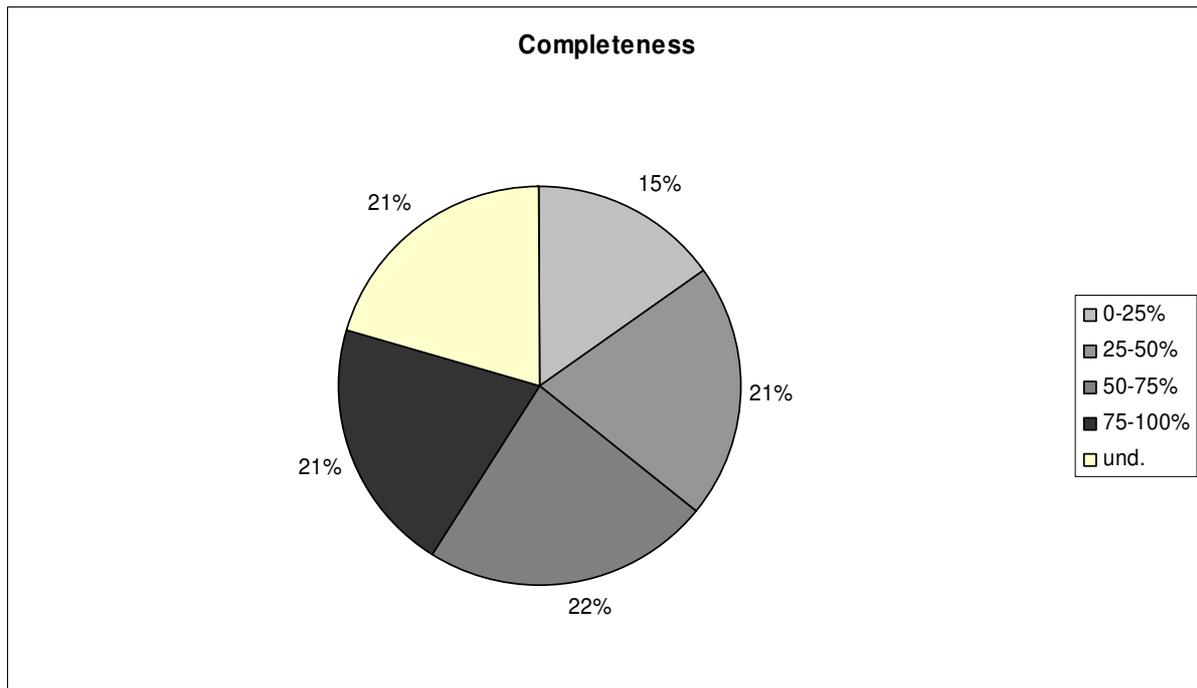


Figure 21. Pictographic overview of the percentage of burials per completeness category.

3.2.3.1 Taphonomical descriptions of the burials

Burials occur in clusters. The majority cannot be associated with recognizable domestic features at this moment. With the exception of three children, all individuals are adults, mostly males. Mortuary treatment is complex, including both primary and secondary depositions (see Appendix C and Figs. 22 and 23). Single and primary burials are the most frequent. There are many similarities in the way these people were buried. Most of the deceased are inhumed in an extremely small grave pit in a seated or reclined position with the legs tightly or semi-flexed and lower arms crossed on the chest or the pelvis. An exception to this is one cluster of three burials where the deceased have been buried in elongated grave pits in a supine position, but still with flexed legs. Whether this is a diachronic difference needs to be confirmed by radiocarbon dating. It is suggested that the deceased were wrapped in hammocks or put into baskets in very small grave pits. In a number of cases, observation of taphonomical processes suggest that the grave pit was left open for a certain period of time which allowed the displacement of bones beyond the extent of body volume after an advanced stage of decay of soft tissues and ligaments. However, there is no evidence that bones were taken from the grave after decay as has been documented elsewhere (see Appendix C for an extensive description per burial).



Figure 22. Primary, single burial (left); primary burial with additional skull (bottom right); burial detail with shell ornament (top right). Feature numbers 68-04, 58-23 and 68-06.



Figure 23. Burial associated with burned house floor (left) and burnt posts (right). Feature numbers 67-33 and 67-08.

3.2.3.2 Dental anthropology (by Hayley Mickleburgh, PhD student, Leiden University)

A dental anthropological analysis was carried out on the human dental material. In total the dentitions of 26 individuals and a further three surface or separate finds of individual teeth were studied during excavations at the site in June 2009. The remaining individuals did not have (enough) surviving teeth, and were therefore not included in the study. A further two dentitions from the site of Anse Lavoutte, which were excavated in 1986 under the direction of Prof. Dr. H. Friesinger, University of Vienna (currently housed at the Vigie depot, Castries, St. Lucia), were incorporated into the study, bringing the total number of individuals to 28. The individual teeth were scored for degree and type of dental wear and for any apparent dental pathology. Preliminary results of this study indicate a high caries percentage, in keeping with a diet rich in cariogenic foods, such as carbohydrate rich plants (staple crops). In general the degree of wear is high, indicating high abrasivity of the diet. Furthermore, *ante mortem* tooth loss was frequent, while conditions associated with periodontal disease are also prevalent. Further analysis of the results of this study should lead to a better understanding of dietary patterns and health at the site.

4. Concluding remarks

The preliminary results of the 2009 excavations at Lavoutte reveal a small Amerindian community in a dynamic coastal landscape. From AD 1000 this community exploited the marine and littoral resources of the surrounding area, slightly more sheltered from the Atlantic winds than the exposed woodlands on the other sides of the bay. The poor condition of the dentition of many of the individuals suggests a reliance on plant carbohydrates in addition to marine proteins, well represented in midden deposits. A range of domestic ceramics for cooking and food preparation, flake tools of local stone, as well as artefacts of non-local stone varieties and pottery figurines show a full range of quotidian and ritual activities occurring at the site, illustrating that the community was tied into local subsistence and wider social networks.

The settlement layout comprised a habitation area on the coast with probably multiple post-built houses, a cemetery area adjacent to this to the north, and a refuse area behind the settlement. The dominant burial practice seems to have been primary inhumation of adults in small pits with a consistent orientation, however, the close proximity of posthole features with certain burials and exceptional grave goods with some individuals suggests a variety of burial practices and the marking of difference at death.

The layout of the Lavoutte settlement, burial distribution, mortuary treatment and the nature of the material culture remains sketches a picture of a small scale community in which a close relationship between the living and the dead persisted over time. As suggested in earlier papers the worship of ancestors was an important aspect of the worldview of these insular communities, reflected in the continuous occupation of the same locales, the rebuilding of structures and the deposition of kin on ancestral grounds in the context of the household, be it within or outside the physicality of the house structure. This may strengthen the idea of social memory proposed by Morsink (2009) and others whereby people rebuild their houses and bury their dead in the same location for many centuries. Data from other Troumassoid and Ostionoid sites demonstrate a recurrent pattern of village life, shared worldview and exchange of goods and ideas throughout large parts of the archipelago. However, individual community identity and affiliation are expressed and communicated through specified customs, mortuary practices and particular stylistic aspects of material culture.

The repeated presence of non-local pottery and lithic materials and artefacts throughout the region accentuate the integration of the Late Ceramic Age communities in millennia year old regional social networks in which people, perishable and non-perishable goods, ideas and information as well as cultural and social practices originating from various ‘homeland(s)’ amalgamated over time. The maintenance of inter-community contacts throughout the circum-Caribbean has always played an important role in successful settlement, movement and establishment of social networks (Hofman et al. 2007). The presence of Taíno-style ceremonial paraphernalia at Lavoutte reflects the geographical extent of this network and emphasizes the impact of ‘Tainoness’ far into the Lesser Antilles around 1200-1300 AD. Habitation at Lavoutte may well have continued after this time and its abandonment would then finally be marked by the burning of ancestral structures and the deposition of large vessels on top of the garbage dump.

The increase in the speed of erosion at the site over the last few years has had a destructive impact on the remaining traces of the past Lavoutte community. Fieldwork was carried out to salvage information from the most vulnerable parts of the site and to expand on previous knowledge of this aspect of St. Lucian history.

5. Public outreach

In total approximately 2000 people visited the excavations (including government officials, school children and the general public) at the Lavoutte site throughout May and June 2009. Giving guided tours of the site, interviews to local press, and informing the general public about the history of the Lavoutte habitation, local area and the process of archaeological excavation was an important aspect of the fieldwork. Masters student Anne van Duijvenbode visited a local school in Gros Islet to give a presentation to the students about the archaeological work at the site.



Figure 24. Visitors to the site. Left: Members of the public. Right: the Honorable Guy Joseph, Minister of Works, and Mrs Rosemary Husbands-Mathurin, President of the St Lucia Archaeological and Historical Society.

6. Proposition for additional field campaign January 2010

Planned excavations of an additional 40m² with a small field team in January 2010 are envisaged. This is the extension of an already-excavated area which had a cluster or burials and which is less impacted by erosion (Fig.25). Further analysis of the skeletal remains are envisaged during this period.

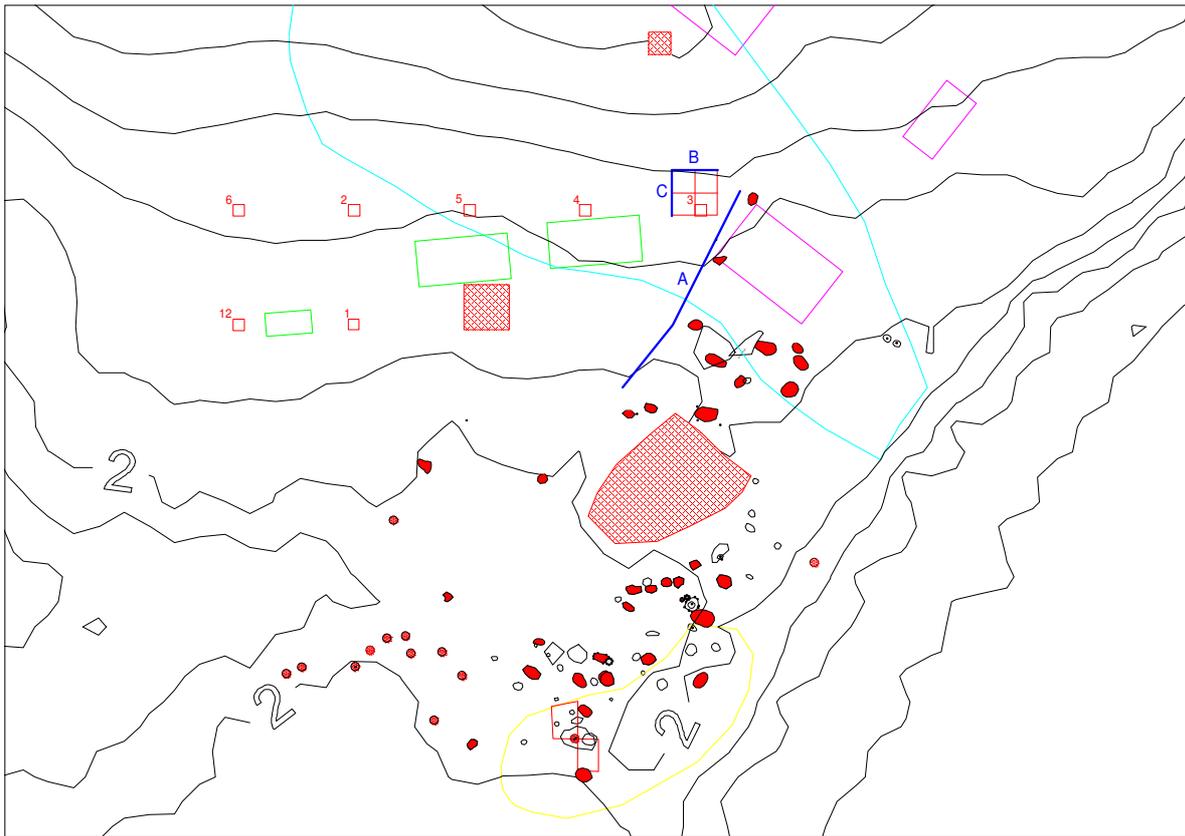


Figure 25. Units planned for excavation in January 2010 hatched in red.

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