

# **ARCHAEOLOGICAL RECONNAISSANCE AT SAINT LUCIA, WEST INDIES**

**4-18-2004 to 5-12-2004  
ANNUAL REPORT**

**Corinne L. Hofman, Menno L.P. Hoogland and William F. Keegan**



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**This report is available with color photographs at:  
<http://www.archeologie.leidenuniv.nl/index.php3?c=109>**

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## PREFACE

### ARCHAEOLOGY OF THE LESSER ANTILLES

The volcanic island of St. Lucia is one of the Windward Islands of the Lesser Antilles. The island lies approximately 210 miles north of Trinidad, at a position of 13° 50' latitude by 60° 58' west longitude. A 21-mile ocean channel separates it from St. Vincent to the south, and Martinique lies 24 miles to the north. St. Lucia is one of the larger islands in the chain measuring 27 miles in length and 14 miles in width, with an estimated area of 233 square miles.



***Map of  
the  
Lesser  
Antilles,  
detail  
showing  
St. Lucia***

St. Lucia played a central role in the earliest systematic study of Caribbean prehistory. Through the efforts of the St. Lucia Archaeological and Historical Society (AHS) the Fourth International Congresses for the Study of Pre-Columbian Cultures of the Lesser Antilles was held at Reduit Beach in 1971 (AHS 1973). The AHS was one of the first heritage organizations in the islands, and has continued to serve the people of St. Lucia through its daughter organizations the St. Lucia National Trust and the St. Lucia National Archives. Despite its early role in stimulating archaeological research in the West Indies, very little formal archaeological work has been conducted in the past 25 years. Notable exceptions are the research undertaken by the University of Vienna in the 1980s (Friesinger 1986; Friesinger and Devaux 1983). However, prior to these, the last major field investigation was conducted by Marshall B. McKusick during his Ph.D. research in 1956 and 1957 (McKusick 1960); and the last major summary of St. Lucian archaeology was compiled by the Reverend C. Jesse in 1960 and revised in 1968. Archaeologically, the island can be divided into three main areas: the interior, the leeward coast, and the windward coast.

The interior is very densely vegetated and therefore very difficult to prospect. Only a few pre-Columbian sites are known from that area. Most of the known sites are situated along the coast. In total about 40 pre-Columbian sites have been inventoried up until now. The AHS has continued to maintain an inventory of archaeological sites as they are discovered, and has provided excellent care for the collections recovered during archaeological work on the island. All of the collections from our research are deposited with the AHS at their facility in Vigie.



***Pottery statuette from the Lavoutte site stored at Vigie***

On the basis of the earlier work a

chronological sequence that is still in use today was established for St. Lucia (Jesse 1968; McKusick 1960:152-154). The sequence starts within Rouse's Period IIb (A.D. 150) with the Cedrosan Saladoid subseries. Cedrosan ceramics are characterized by their thinness, hardness, and overall quality. They are highly decorated with paint, incisions, and modeled-incised adornos. Ceramics of this subseries have been found at the site of Grande Anse, and others. A Troumassoid series divided into Troumassée A and B follows the Cedrosan Saladoid series during period IIIa (A.D. 350) and a late Troumassée during period IIIb (A.D. 750). Troumassoid ceramics are thick with relatively soft, grit-tempered paste, which splits rather easily. Vessel shapes are varied with forms including boat-shapes, kidney-shapes, pedestal, bottomless, double, hemispherical, and inverted bell shaped bowls. Rims tend to be thickened with a variety of forms including flanges and rim bevels. Painted decoration is common including bichromes and polychromes with red, white, and black. Some modeled-incised motifs are present. Over time the painted decoration disappeared, as did fine-line crosshatching. Tripod griddles were introduced and modeled-incised decorations became more elaborate. The type-site for the Troumassoid series is the site at Troumassée River. Period IV (A.D. 1150) is characterized by a Micoid series with the Choc and Fannis style ceramics. Dominant characteristics of the Micoid series are the introduction of leg bases, clay pestles, and a thickness and crudity of construction. Decoration tends to garish -- heavy incised lines and complicated model-incised lugs frequently with human figures. Overall red paint is common and bichrome is rare. Finger-notched rims become predominant in the later phase of the series. The Choc style is named after the site with the same name in the northwestern part of the island, and Fannis is named after the proprietor of a property at Micoud.

It should be apparent from this brief outline that St. Lucia has had a significant impact on the archaeology of the entire region. All of the archaeologists who work in the West Indies use this terminology and compare their materials to artifacts described from St. Lucia. However, time and knowledge march on. It is clear from research conducted on other islands that this schema is now outdated and that it needs to be refined and reconsidered. For example, there are problems with the notion Troumassoid, and the Micoid is no longer used in Caribbean terminology. This does not mean that these concepts are no longer worthwhile. What is needed is new efforts to integrate this earlier work into a modern frame of reference. Although prospecting for sites and describing their characteristics is a major part of what we do, our primary objective is to redefine the sequence and put it in a regional framework. In sum, we hope to develop a better understanding of the native peoples of St. Lucia as well as their place in the broader Caribbean culture history.



## INTRODUCTION

In July 2001, the St. Lucia Archaeological and Historical Society invited us to undertake archaeological investigations on St. Lucia. The main purpose of the project was to familiarize the investigators with the archaeology of St. Lucia, and to investigate sites to establish a possible field school. Known sites around the island were visited. The 2001 campaign focused on the southeast coast between Micoud and Vieux Fort. The project was highly successful. New information was collected on all of the sites, several new sites were identified and mapped coordinates for all of the sites were recorded.



***International cooperation between St. Lucia, Gainesville and Leiden:  
Eric Branford, Corinne Hofman, Bill Keegan and Menno Hoogland***

Following that initial investigation we decided that a long-term program of archaeological research in St. Lucia was needed. Our overall aim is to conduct thorough surveys along river drainages to identify unknown sites, and to continue testing sites that were known previously. The specific objective is to work within clearly defined areas of the island, rather than skipping around, and continue this work until most of the island has been

examined. During this season we focused our efforts between Vieux Fort and Dennery/Fond d'Or on the southeast coast. In this regard, we have now completed a 100% coastal survey from Dennery to Choiseul.

Upon the conclusion of last year's survey, the pre-columbian site tally was 110. This year, through a combination of archaeological survey (35) and literature study (18) at the National Archives, a further 49 sites were added to the site total, which now stands at 159 (Appendix 1). First, we relocated all of the known sites in the area between Dennery and Micoud by undertaking a walkover survey. The vehicle stopped at all level areas of land and a walkover survey was conducted during which we looked for artifacts on the ground surface. Second, we covered the coastal area in the southwestern part of island, to the northwest of Choiseul (Pointe Caraïbe), which had not been surveyed during the previous year. Archaeological research involves the balancing of needs and opportunities. One of the benefits of a long-term project, such as ours, is that there is the opportunity to re-examine aspects of the research upon the collection of additional data and further reflection. In this regard, we have taken the opportunity to re-evaluate known sites and to change our research strategy as new sites are discovered and new situations develop. For example, our survey of the southwest coast in 2003 revealed a substantial number of sites along the river valleys in this area. For this reason we made very effort to cover all of the river valleys on the southeast coast that had not been covered in our previous survey in 2002. You will notice that this report is more diverse than previous reports because we have expanded on previous surveys, added new investigators and investigations, and have gone back to sites from which additional information was deemed useful.

The result of our 2004 survey was the discovery of 31 previously reported and unreported pre-Columbian archaeological sites. Dense surface materials characterize some of these sites suggesting that they were occupied intensively. Many of these sites, however, consist of small scatters of pottery and isolated finds that reflect the use of an area, but not permanent settlement. We observed at least four different kinds of sites: 1) places where particular resources were obtained and where one or a few artifacts was discarded; 2) sites with a few potsherds that may reflect farmshelters where temporary structures were located away from the main village for use during the agricultural cycle; 3) hamlets at which there is a substantial scatter of pottery indicative of more permanent settlement by an extended family; and 4) village sites with pottery scatters that cover an extensive area.

Several sites located in the two previous years were visited again this year in order to make GPS recordings. On a number of these sites additional artifacts have been collected.

An archaeological reconnaissance was made of the site of Giraudy, in Beane Field, Vieux Fort, where the Bullens and Eric Bradford had done some



previous work during the early seventies (Bullen et al. 1973). This research was undertaken because the site is again threatened by new development. One of the primary goals of the investigations was to identify undisturbed parts of the site because it had been reported that construction works during WWII in addition to the building of the Hewanorra airport had seriously disturbed the site. In this context 13 test units (0.80 X 2.50) were dug with a backhoe. It appeared that the site has lots of potential and that parts of it are still intact.

A clay provenance project took place in collaboration with the geology department of the Faculty of Life and Earth Sciences of the University of Amsterdam in the Netherlands. Under the responsibility of Prof. Gareth Davies, two graduate students (Mathijs Booden and Dina Hooijkaas) from this faculty joined the archaeological team to sample different clay sources on the island. These will be subjected to isotope analysis for characterization. Leiden PhD student Daan Isendoorn fulfilled the archaeological part of this project in collaboration with Bram van As and Loe Jacobs of the Leiden Institute of Pottery Technology. This part focuses on the workability properties of the clays and their relation with the pre-Columbian sherds discovered during the island survey. This project is part of a larger program on provenance of clay and lithic materials covering the whole of the Lesser Antilles.

In addition to archaeological research, ethnographic and ethnoarchaeological investigations also were conducted. These terms refer to the study of modern lifeways with an emphasis on traditional and artisanal practices. The goal is to preserve a record of these practices for the people of St. Lucia because they are quickly disappearing and are being replaced by “modern” technologies. The ethnographical research started in 2003 with the recording cassava processing, pottery, fish-trap and grass-mat making was continued. This year the research focused more on aspects of the pottery manufacturing process (i.e. the firing). A documentary film about all aspects of our research is being made by one of the Leiden students (Jimmy Mans) in the context of his BA/MA studies. Copies of these digital recordings will be provided to the A&HS for dissemination to the education department.

This report is organized according to the aforementioned categories. First the archaeological survey is discussed, with reporting based on location rather than day-by-day activity. For example, we visited several sites on different days, and rather than break up the record by using chronology to order the report, we have recorded all of work at one site and in one area together. Then an ample description of the archaeological dig at Giraudy is provided. Next, an preliminary description of the archaeological excavations at Giraudy is provided. This is followed by an account of the clay provenance project, provided from both a geological and an archaeological point of view. Finally, this year’s ethnographic and ethnoarchaeological investigations undertaken among the potters at Morne Sion are described.

## **2004 ARCHAEOLOGICAL SURVEY**

Archaeological research in the Windward Islands has tended to focus on pre-Columbian sites that were discovered years ago during construction activities along the coast (Bradford 2002). The issue at hand is whether such localized and happenstance discoveries accurately reflect the settlement history of an island. In an effort to develop a more complete understanding of the pre-Columbian settlement history of St. Lucia we developed a research program in which we sought a more complete coverage of the island. The field component of this program involved what are called walkover (or pedestrian) surveys during which a team of investigators looks at exposed surfaces to find prehistoric artifacts. Although such surveys will miss archaeological sites that are buried, modern activities are such that farming, road cuts, construction activities and the like have brought buried artifacts to the surface. In this regard, the walkover survey is an efficient method for covering large areas in a short period of time. In 2002 and 2003 the southern coast between Choiseul and Micoud was surveyed.

In 2004, efforts were focused on the southeast and eastern coast of St. Lucia between Vieux Fort and Fond d'Or (Appendix 2). The southeastern coastal survey had been the focus of the 2002 campaign but several parts in the inland remained unsurveyed then. These parts were added to this year's objectives. Additionally, some as yet unsurveyed areas near Pointe Caraïbe and Morne Sion in the southwestern part of island were covered. Walkover surveys were conducted by working from the coast into the interior of the island. What follows is a description of the sites found in these three areas, starting with the southwestern coast, followed by the southeastern coast and finally the eastern coast.

### **The Southwestern Coast**

#### *Pointe Caraïbe*

The area of La Pointe is known to be the one area on St. Lucia where Caribs lived until well into the 20<sup>th</sup> century. It is also the area where many traditional crafts survive until this day (see section on ethnography below). During the 2003 campaign a survey was started in this area and several sites were found (CH01-16). This year, the team returned to the area starting at Pointe Caraïbe on the 26<sup>th</sup> of April. Two hilltops and some fields were surveyed along the coast. Sherds were found on both hilltops. The first hilltop yielded colonial pottery (La Pointe 1, CH21). The second hilltop is situated at the beginning of the village (when coming from Morne Sion) near the turn-off for the "Gros Piton Nature Trail". The hill features a gut along

which sherds, some with a handles, were found (La Pointe 2, CH22). The house on top of this hill is called “Jamaican House”. The field opposite the bus stop at the cross roads to Morne Sion - La Pointe was also surveyed, just like last year.

### *Morne Sion/Fiette*

On the 20<sup>th</sup> of April Joost, Alistair and Iris walked down the road from Kathy the potter to do a survey of the area. They found three sherd scatters. The first one was found in the bank along the side of the road (CH17). The second scatter was found at Celine’s house (CH18) and the last one was found across the road from Celine’s house (CH19).

On the 26<sup>th</sup> of April a survey was undertaken along the coast, near the road junction that leads up to Morne Sion. Bob and Warren checked close to the beach and found nothing. This area has been used as a quarry and the area is very disturbed. On the higher ground north of the quarry there are several houses. The fields around the houses were surveyed, yielding a lot of modern pottery (from coal pots and *kannawi*). Across the road there is a small bar with an outdoor barbecue. In the fields above the bar there are lots of sherds on the surface, many of Amerindian origin, but also lots of modern sherds. A clay sample was collected from this area as well.

## **The Southeastern Coast (between Vieux Fort and Micoud)**

### *Bellevue/La Retraite*

On the 23<sup>rd</sup> of April Menno, Corinne, Alistair, Dina, Yann, Jimmy and Auda surveyed the area around Bellevue. From there they went to Joiyeux and Grace (sand quarry). A few Amerindian sherds and a small jasper flake were found in the side of a bank that had been left standing by digging activities on either side (VF12). Then a stop was made at a bridge over Vieux Fort River near La Retraite. The riverbank appeared to consist of a stony/sandy fill (from the roadworks). A few Amerindian sherds were found (VF13).

### *Desruisseaux/Delome/Blanchard*

On the 23<sup>rd</sup> of April Bill, Joost, Bob, Warren, Iris and Mathijs surveyed the area around Desruisseaux. When a flat area was found the vehicle stopped for a walkover survey. Most ‘flat’ areas were banana-fields. First a survey was done on the flat area close to the highway (Micoud-Dennery), but nothing was found. After a drive through Desruisseaux, the village of Delomel was reached. Here banana and mango fields were surveyed. Only a colonial site was found. The trip continued towards the village of Blanchard (MI21). Some sherds were found there of which at least a few are colonial.

On the way back to Deruisseaux, an attempt was made to find the site of Anse Ger, where post-holes have been dug into the rock during colonial times. The presence of rock carvings has been reported near Anse Ger, in the Canelles River. The attempt to find both sites failed. The Anse Ger site was visited a few days later with a local guide. The rock-cut basins in the site appear to be of colonial origin.

## **The Eastern Coast (between Micoud and Dennery/Fond d'Or)**

### *Vierge Point*

On the April 29<sup>th</sup> of April, Menno, Corinne, Yann, Joost, Jimmy, Daan, Micheline, Annabella, and Benoit went to Vierge Point. Three different sites were located at Vierge Point. The first is comprised of scattered materials at the beginning of the point (MI25). The second is located between the end of the point and the beginning, and more material was found here than at the first site (MI26). The third site is at the end of the point. It was about 65 m long, and a lot of sherds were found here. All of the sherds came from the first 10 cm below ground surface (MI27).



***Vierge Point***



***The site at Vierge Point and its Suazan Troumassoid pottery***

### *Des Cartier/La Tille*

On the 24<sup>th</sup> of April Menno, Corinne, Yann, Iris, Dina, Jimmy, Auda and Mathijs went to the area of Des Cartier. From the main road just outside Micoud, the road led through the rainforest, along the Troumassée river. This road led to the beginning of the Des Cartier Forest Trail. A man who hitched a ride with us (Sirius), said that he sometimes found weird-looking stones on his banana-field, but that he usually threw them away. Only the road-cuts were surveyed. Most parts were covered with banana-fields. No artifacts were found. On the way back a stop was made at La Tille Waterfall. Some Amerindian sherds were found.

### *La Pointe*

On the 25<sup>th</sup> April Bill, Auda, Iris, Bob, Warren and Alistair did a survey of the region around La Pointe in the district Praslin. First a walkover survey of the peninsulas was done, which seemed to be very densely vegetated. Most parts were accessible and some potsherds were found. At first Bill and Iris continued the path straight ahead, where they found a few sherds on Albert Point (PR04). The rest of the group turned left down another path, where large potsherds were found on the path east of La Pointe, between La Pointe and Anse Violon (PR05). Both colonial and pre-Columbian sherds were found around the concentration in low densities. The path carried on to a open area with cacti, agave and very steep cliffs. No sherds were found here. Bill, Alistair and Iris made their way through dense vegetation on the ridge. On the other side there seemed to be a flat grassy area, with a pebble beach and a dry river stream. When they climbed down the ridge the flat area did not turn out to be as flat as it appeared from above. No sherds were found there. Then the whole group went to the peninsulas that Bill and Iris first surveyed. The group took a path that lead through a grassy area with a lot of bushes and climbed all the way up the hill, but without any results. Only the eroded



parts of this area were surveyable, but most parts were covered with grass and/or bushes.



***View of Anse Violon***

### *Fond River*

On the 28<sup>th</sup> of April Menno, Ben, Bill, Warren and Bob did a survey in the Micoud area. They took the road down to Fond River, but they could not cross it because the water level was too high. In the field, they found pre-Columbian sherds and half of a greenstone axe (MI29). Then they went the ESCAP area where they did a walkover survey and found some colonial sherds. On their way back they went to Micoud Hill where they found some (probably colonial) sherds. On the 30<sup>th</sup> of April Bill, Ben, Bob, Dina and Warren went to the ESCAP area again and also to Fond Estate. There they asked permission to survey the ESCAP area. They went down to the peninsula, but could not get to the beach because there was no path leading there.

## *Eastern Nature Trail*

On the 29<sup>th</sup> of April Bill, Iris, Ben, Bob, Warren, Auda, Alistair, Dina and Mathijs started the survey at the beginning of the Eastern Nature Trail from the Heritage Tourism. In total, seven new sites were discovered (PR7-13), of which six had sherds (sometimes with jasper) and one site is a possible chert workshop (white chert). Most of the sites were found on the high cliffs above the sea along the coast between Anse Galet and Trou Barlow. One small find area was found at the south end of Anse Galet where the sherds were found in the profile walls created where the sea had eroded the cliff face.



***View of the Eastern Nature Trail***

## *Praslin*

On the 24<sup>th</sup> of April Bill, Joost, Bob, Warren and Alistair headed for Mamiku, from where they surveyed all flat land or banana fields along the way. They started at the road that led down to Mamiku Gardens. On one side of the road, shells were found suggesting an old beachfront. On the other side an old riverine environment, bordering a hilltop with gullies running down, was documented. One of the fields seems to have been lowered, and now



contains just rocks and clayey earth. In between proceedings, another banana shed was documented as well as a large charcoal pit where a wood sample was collected for Iris' experiments. Then Praslin beach and Praslin Bay were surveyed. On Praslin beach nothing was found, nor were any artifacts found along the coast at Praslin Bay. Alistair and Bill went up a little further towards the mangrove where they found some colonial sherds (PR14). No pre-Columbian sherds were found.

### *Praslin Island*

In the afternoon of the 24<sup>th</sup> of April Bill went to Praslin Island by boat with some American scientists. By chance, Bill met Donald Anthony, who works with the Forestry Department, at Praslin. Donald was taking a group to Praslin Island to look at a population of St. Lucia whiptail lizards that they had transplanted a number of years ago. The island is very small and can be completely walked in about 15 minutes. The land rises sharply from a small beach, and it is covered by dense vegetation. On the western and eastern slopes the ground surface is littered with potsherds. In some places they occur in dense concentrations. The quantity of pottery suggests that the island was used for a long time and probably supported permanent habitations. On the island he found some Amerindian pottery and a large piece of white flint. This site was already known and a large collection of material is stored at Vigie (PR2).



***View from Praslin beach and pottery from Praslin Island***

## *Frigate Island/Trou Zombé*

In the afternoon of the 29<sup>th</sup> of April Bill, Iris, Ben, Bob, Warren, Auda, Alistair, Dina and Mathijs went to Frigate Island and Trou Zombé, where the group was split in two. Auda, Bill, Bob, Mathijs and Warren took the trail to Frigate Island (which is also a Nature Trail from the Heritage Tourism) and Ben, Alistair, Dina and Iris went to the area of Trou Zombé, which is an already known archaeological site. No artifacts were found, however, not even at the spot where Trou Zombé was pinpointed on the map. There are a large number of sherds from “Trou Zombé” in the archaeological collections at Vigie. It is unlikely that we would not have been able to relocate this site. Thus, it is possible that one or more of the sites along the Eastern Nature Trail were called “Trou Zombé” because they are near this point.

The other group went down the peninsula opposite Frigate Island. The peninsula has a large and dense scatter of sherds, including a bird-head adorno. There is a low and narrow sand bar connecting the peninsula to a headland. Several sherds were discovered eroding out of the cliff face on this headland (Frigate Island Trail 2, PR03), but the vegetation was too dense to detect a more substantial site. In addition, sherds were found on the beach that runs along the sand bar (Frigate Island Trail 1, PR01). There are two very small islands off the coast, one of which is Frigate Island on which the Frigate bird nests. They are steep-sided, rise sharply from the sea, and appear to be unsuited for human habitation. Given the large collection of sherds in the collections room at Vigie, it is likely that the Frigate Island site is actually on the peninsula and not on the island itself.



***Bird head adorno found on the peninsula opposite Frigate Island and view from the peninsula on Frigate Island.***

## *Dennery*

Bill, Warren, Bob, Ben and Joost went to Dennery on the 3<sup>rd</sup> of May. First the beach was surveyed. Joost and Warren went to the south of the bay where they found nothing. Bob, Bill and Ben went to the north of the harbour. Some potsherds were found directly behind the harbour along the main road near the compound that was built for the fishing cooperative (Dennery, DE06). The area is very disturbed by various types of modern construction, and there was no concentration of sherds.

Bill continued to the high point to the north of Dennery, called La Croix Pointe (DE07). On the ridge along this point he found two sherds. After this, the survey was continued up the road inland from Dennery. No surveyable land was encountered; the plots were either too steep or the visibility was hampered by too much vegetation.

## *Fond Estate*

On the 30<sup>th</sup> of April Bill, Ben, Warren, and Bob returned to Fond Estate. When the team had been there several days earlier it had found several sherds and a broken ground-stone axe in the fields near the road. Upon returning, the team members found that a locked gate blocked the road, and they were directed to talk to Mr. Ferdinand about permission to visit the property. They continued on to Malgretout and drove along the road toward the beach. When they approached the end of the road they walked through coconut and banana plantations but found nothing. Much of this area is very low, close to the Fond River and a lot of it was swampy and flooded. A trail leading to the south brought the team back onto the Fond Estate property and the paved road that goes to the beach. Some of the banana fields were checked and the team continued on to the beach. There is a large open field with coconut palms behind the beach, but nothing was found here. Toward the western end of the beach the team members found several Amerindian sherds and a *Melongena* on the sand (Fond Beach, MI30). Bill continued across the river and found a small site in a low area along the river. There are several natural terraces here, and the site was on the highest terrace. The site is a very light scatter of pottery with a wide variety of shells (mostly *Cittarium pica*, but also *Nerites*, *Chitons*, *Strombus*, *Melongena*, etc.). The team returned to the truck and headed to Mr. Ferdinand's house. He gave permission to survey his property. In his driveway there were several sherds that may be Amerindian (Ferdinand's Yard, MI31). They next headed to the ESCAP housing development across the street to try and gain access to the highlands above the beach. They talked to Tracy Healey, who manages the development, and she directed them to a trail that should have led to the point. Instead, the team ended up on a road that led down to the beach at which Bill had found the site earlier. Some sherds were collected, but unfortunately the finds bag was left at the site.



## *Anse Louvet*

On the 6<sup>th</sup> of May Corinne, Menno, Yann, Daan, Joost, Jimmy, Ben, Paula (St. Lucia), Bram, Loe and Raymond undertook a fieldtrip around the southern part of the island (from Vieux Fort up to the fond d'Or area and back via Soufrière and Choiseul), On the way a survey was done of the Anse Louvet area. Jasper flakes and some Amerindian sherds were found on eroded bedrock near the coast (Anse Louvet North, DA06) and further on the beach (Anse Louvet South, DA07).



***The beach at Anse Louvet***

## **Laboratory analysis**

All survey samples were washed and bagged on St. Lucia. An inventory has been made including number, weight and temporal assignment of the assemblage. A sample has been selected for further technological analysis at Leiden (Appendix 3).

## Summary

The majority of Amerindian sites discovered in 2004 continue to be in coastal settings. Based on our investigations in 2003, we made a concerted effort to investigate inland locations along the main river drainages between Vieux Fort and Dennery. To accomplish this goal we followed virtually every road that leads into the interior and examined every relatively flat area along these roads. This required the re-examination of some areas in which coastal surveys already had been completed. The fact that far fewer new sites were discovered this year is the result of several different factors. First, there are far fewer level areas above the rivers along the southeast coast. Many of the roads are barely the width of the ridge tops. Thus, there are fewer possible settlement locations along this coast. Second, level areas that do occur closer to the coast often were not under cultivation, and the dense grasses covered these areas making it impossible to observe the ground surface and any artifacts that might have been located there. It is likely that we did not discover existing sites because our field methodology, based on a walkover survey, was not appropriate for the ground cover in an area. We recognize this problem, but the methodology was chosen as a means to obtain a rapid reconnaissance of a very large area.

A final consideration is the extensive floodplains along the rivers. These offer a variety of problems. First, most of these areas are planted in bananas. Banana plantations are highly destructive of subsurface archaeological deposits. The digging of drainage ditches and the deep plantings required for these plants disturb most of the land. Moreover, many of the older fields are so overgrown that there is very limited surface visibility. Second, most of the soils in these plantations appear to be clays. Given McKusick's work at the Troumassee site, one would conclude that the overlying topsoil, in which site deposits would be located, has eroded into the rivers. Finally, in some cases the annual deposition of clays during the period of high rainfall, flooding and siltation may have buried deeply some of the early sites along the rivers, such as the site at the Cannelle River bridge.

In sum, archaeological research is conducted in phases. The first phase involves the rapid reconnaissance of a large area. The next phase involves more detailed studies of particular areas, be it the testing of a known archaeological site, random-stratified subsurface test excavations in areas of high probability, and the more detailed examination of areas deemed to be of potential archaeological significance. Research is an ongoing process in which gaps in our knowledge are expected, but the research strategy makes best use of the resources that are available at any given time. It should be apparent from this report that we are pursuing different objectives according to needs and opportunities to obtain the most complete knowledge available within current constraints.



***Ben, Auda and Bob surveying along the Eastern Nature Trail***



## OTHER SITE INVESTIGATIONS

At various times different combinations of team members visited known sites outside the primary survey area. The main goal was to make proper GPS recordings of these sites. A great number of them had been documented during last year's survey. These trips included visits to Gayaboïs, Parc Estate, Saltibus school, Balembouche, Black Bay, Vieux Fort, Saltibus Point, Troumassee, Micoud Beach (Fannis), Lavoutte and Choc.

### *Gayaboïs*

On the 25<sup>th</sup> of April Menno, Corinne, Yann, Dina, Jimmy, Mathijs, Joost and Daan went to Gayaboïs. During last year's field campaign many potsherds had been found there. The site is situated near a (dry) river and lake near which a couple of houses have been built. Many sherds were found behind the houses and some on the field in front of the houses. The site was 50 meters wide and 60 meters long. The sherds are clearly a mix of pre-Columbian and modern day pottery. One griddle leg was identified as Suazan Troumassoid. Interesting to note is the continuity in discard pattern through time from pre-Columbian to the present.



***The present day hamlet of Gayaboïs established on a Suazan Troumassoid site. A perfect example of continuity in settlement location through time***

### *Parc Estate*

On that same day the team went to the site Parc Estate, which was also surveyed last year. The pepper field that was surveyed last year had been turned into a banana plantation. More pottery was collected from this field. There was still a pepper field behind the banana field, where more pottery was collected. However, the prickly plants hampered the accessibility to the field.

### *Saltibus school*

Finally that day, the team went to the Saltibus school to take a GPS recording. The site is situated behind the school and was surveyed last year. No additional artifacts were collected.

### *Balembouche River*

In the afternoons of the 29<sup>th</sup> of April and the 11<sup>th</sup> of May Corinne, Joost, Jimmy, Daan, Micheline, Annabella and Benoit went to Balembouche. They visited the Barnards who kindly showed them the collection of axes they had found on the property. One of these axes was a greenish, nicely polished axe. The stone from which the axe was made cannot be found on the Antilles and must have its origin on the mainland. The axe collection was drawn last year and will be part of a forthcoming publication on the Balembouche River. The team then went down into the valley where the Balembouche river snakes through tiny cascades of rock. GPS recordings of the many petroglyphs, which were recorded and drawn last year, were made. Measurements were taken at the beach, at the bridge, the dam (where many of the petroglyphs are to be found) and at the end where the recordings were stopped last year.

### *Black Bay*

On the 22<sup>nd</sup> of April and again on the 29<sup>th</sup> of April the team visited Black Bay. The pepper field was not under cultivation this year, which enhanced the visibility on the surface. Diagnostic sherds were collected. The field measured 90 by 20 metres. The longest part runs parallel to the sea. Corinne also found a very badly weathered greenstone axe. Menno and Corinne took a further look next to the river, where they found a colonial site.

The next stop was Black Bay Cove. This site was also known from last year, when three find spots were recorded (BBCove 1, 2 and 3).

BBCove 1: a profile wall that is eroding due to the sea. Many artifacts were visible in the profile wall, from what seems to be a dark brown earth layer.



Last year the profile had also been cleaned and artifacts had been collected. BBCove 2: a profile wall opposite the profile wall of BBCove 1, which yielded Amerindian sherds.

BBCove 3: a profile wall further along from BBCove 1. Thinner sherds were found here, as well as a very large piece of jasper.

All the pottery at the Black Bay site belongs to the Saladoid series.

To the north of Black Bay Amerindian potsherds were washing out of the profile wall. According to the profile, the first 40 cm consisted of yellow earth; loose, crumbly and studded with large rocks. The next 30 cm consisted of dark brown to black earth, very hard and compacted and rich in ceramics. Beneath that layer was a sterile layer of brown-red earth.

Unfortunately all artifacts suffered from erosion by the sea.

After that the team went to the Black Bay River valley. Nothing was found there, except some colonial sherds and some jasper.

On the 29<sup>th</sup> of April the team returned to Black Bay with Benoit to investigate possible jasper sources in the vicinity of the site. Benoit investigated the possibilities of jasper occurrences around the northern part of Black Bay. Jasper is normally found at higher elevations and Benoit was not able to find the source. The only location where large jasper cobbles were identified was along the coast where they had been molded to the beachrock by the waves.

### *Saltibus Point*

On the 29<sup>th</sup> of April part of the team went down to the site of Saltibus Point where a test unit had been dug in 2002 and where the Austrians had carried out large excavations during the 1980's. The objective was to investigate any potential jasper sources in the area. Benoit, who was with the team, did not recognize any sources.

### *Troumassee*

The team visited the site of Troumassee on the 21<sup>st</sup> of April. Part of the site was cleared of banana-plants which enhanced survey possibilities. Most sherds were found in the road cut next to the field. According to Menno the banana-field was raised for cultivation, therefore only two sherds were found on the field.

### *Micoud*

In the village of Micoud the team searched for Fannis' garden on the 21<sup>st</sup> of

April. McKusick undertook an excavation in this area in 1959 and a ceramic style (Fannis style) was assigned on the basis of the ceramics yielded by excavations at Micoud Beach. One of Fannis' relatives, living next to the former house of Mr. Fannis donated a shell axe found on the property (see figure below). Then the area between the beach and the cemetery in Micoud village was surveyed and a few sherds were found. The team went back to Micoud on the 29<sup>th</sup> of April when Benoit was there in order to make a geological core in Fannis' garden. The result was negative, no archaeological remains were found.



***The site of Micoud and shell adze from Fannis's garden***

### *Anse Lavoutte*

In the afternoon of the 10<sup>th</sup> of May the team visited the site Anse Lavoutte. The Bullens excavated this site during the 1960's and there is still a lot of material to be found. The site is famous for its Lavoutte statue; a statue of a woman sitting on a stool (*duho*) with a plate (sniffing bowl?) on her head. The site is endangered because some 100 meters away from the site, a very large hotel is being built. If this project also encroaches on the beach area around the hotel it might drastically affect the Amerindian site. This project should be closely watched.

### *Choc*

That same afternoon the Choc site was also visited. A large part of the site is under a parking lot of a Mitsubishi dealer nowadays. No sherds were found.

## TEST EXCAVATIONS AT GIRAUDY

During this year's campaign test excavations were carried out at Giraudy between the 29<sup>th</sup> of April and the 6<sup>th</sup> of May. Excavations were initiated because of the accidental find of archaeological remains in a construction pit along the main road from Vieux Fort-Micoud next to the Giraudy site at Beane Field. There were Amerindian sherds sticking out of the excavation profile at a depth of 80 cm. In addition, the new hotel on the property formerly owned by Club Med is developing a new entrance to the property that could have impacted the site. Corinne, Jimmy, Alistair, Joost, Yann and Iris searched through the spoil pile and found more sherds, including handles, large griddle sherds, adornos, and two fragments of a support ring. These pottery fragments all belong to the Suazan Troumassoid series.

A large part of the Giraudy site is situated on Government land and currently is not under construction. The site is covered by a dense growth of trees and bushes. It lies on a flat piece of land, situated between the coast (sand beach) to the east and a hill approximately 300 m to the west. This hill is composed of andesitic agglomerate tuff. To the north the site extends towards the property of the Club Med. It currently is not known exactly to what extent the site stretches underneath the hotel constructions, although in 2002 one Amerindian sherd was found on the surface near the child care area. To the south, the site is bounded by the main road, that leads from Vieux-Fort to Micoud in the vicinity of the Hewanorra airport.

Ripley and Adelaide Bullen previously investigated the site of Giraudy in collaboration with Eric Branford (Bullen et al. 1973). They found two occupations at the site, representing a modified Saladoid and a Suazan Troumassoid component. They excavated several test units at the site and obtained many pottery fragments and artifacts of shell, bone and stone. These are currently stored at Vigie. The Bullens and Branford reported a general disturbance of the site due to construction activities of the Hewanorra airport and a U.S. military base during and after WW II.

The goals of this year's test excavation were to:

1. Reconstruct the geomorphology
2. Document the level of disturbance
3. Identify undisturbed areas
4. Verify the stratigraphy and chronology of the site as documented by Bullen et al. (1973).
5. Collect a sample of the range of artifacts including ceramics, lithics, shell, coral and animal remains
6. Document the potential of the site for future field-school activities

To fulfill these objectives a series of 13 machine-made test units were dug in the Giraudy site area. It was decided to hire a backhoe to clear the densely vegetated area and dig the test units because it would provide a rapid method for obtaining a substantial amount of information and would cause very limited disturbance to the site. Moreover, other excavation strategies would have required substantially more time, there were concerns that the site was already very disturbed by previous construction activities, and we have found that dense clay deposits are virtually impossible to penetrate using manual techniques.



***Location of the test units***

Eleven test units (numbered 1 to 11) were set out at a distance of 20 - 40 m from each other, perpendicular to the coast. The test units were dug until the groundwater level was reached. Two additional test units numbered 12 and 13 were set parallel to the coast but perpendicular to the first series of test units at the height of test units 8 and 9. The distance between unit 12 and 13 was 40 m. All units measured 0.80 X 2.50 m. The section of the units was described and drawn by Menno, Mathijs, Joost and Daan. Munsell colors were taken.

Of the 13 units, only nine units yielded archaeological materials. Little was

found in the first five test units (some sherds, shell and crab), although their excavation was very useful as it gave a lot of geological information on the stratigraphy. Units 10 and 11 were heavily disturbed by the American activities in the area during WWII, including a buried sewer pipe. No artifacts were found in these units.

Units 7-9, 12 and 13 yielded the most artifacts. Shells, conch shells, a shell axe, a lot of crab and turtle remains, some birds bones, pot sherds and several complete spindle whorls were found. Human bone was found in units 6, 8 and 9.

Units 8 and 9 yielded both Suazan Troumassoid (unit 8 layer 1 and 2/unit 9 layer 1) and modified Saladoid artifacts (unit 8 layer 3/unit 9 layer 2 and 3), pottery in all of the other units belonged only to the modified Saladoid series.

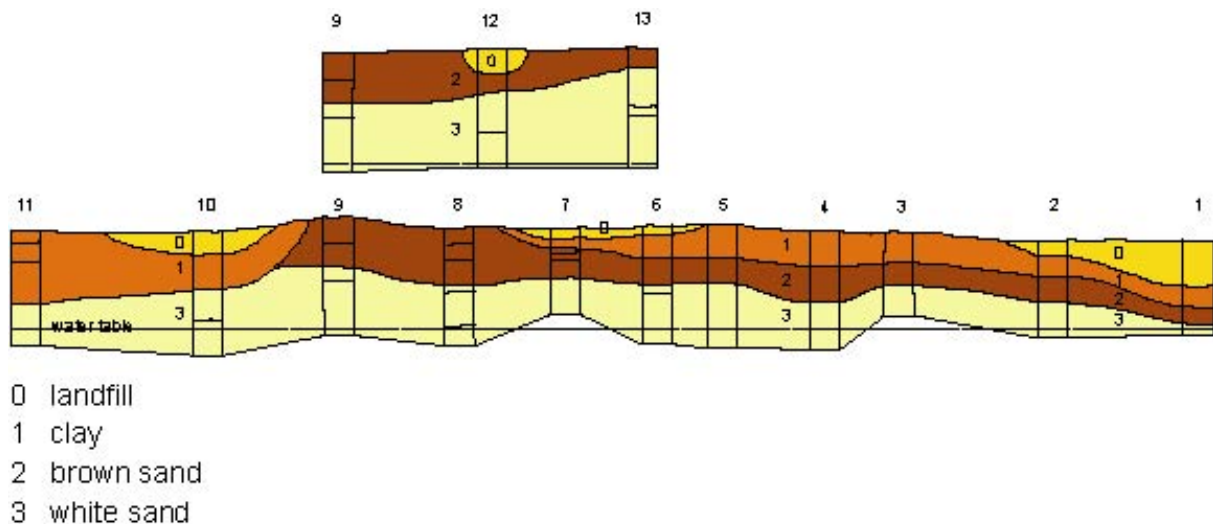
### *Geomorphology and Stratigraphy*

Mathijs and Menno documented the stratigraphy in the different units. The stratigraphy consists of three layers, overlain by a plough zone of approximately 80 cm. The latter is a layer of disturbed soil. From top to bottom the three layers consist of a clay layer (layer 1) and two layers of sand (layers 2 and 3). The clay layer covers the two layers of sand. Benoit, who was present during the first hours of excavation at Giraudy, suggested that it was depositional clay derived from the interior of the island. In the 17<sup>th</sup> century deforestation was very high, which would have led to an increase in erosion in the island interior. The eroded material (clay) would have been deposited near the coast. He had observed a similar pattern in Martinique.

### *Description of the Stratigraphic Layers*

Layer 1 is composed of dense clay. This layer is only present in units 1-7 and 10, and has an average thickness of 30-50 cm. The clay is mostly brown to dark brown in color, sometimes a bit darker towards the top (except in unit 4 where it has a grayish color, and in unit 7 where it shows a brown color with gray patches). The clay contains a small fraction of fine quartz and dark crystals (possibly amphibole). The base of layer 1 is abrupt, very sharply drawn. In units 3-7 the layer continues up to the surface; in units 1, 2 and 10 it is covered by coarse, anthropogenic material. It is assumed that originally layer 1 formed the surface in those units as well.





***Section showing the three main stratigraphic layers at the Giraudy site***

Layer 2 is composed of quartz sand of a brown color. At the top of this layer the sand may be black and contain a large clay fraction. The sand contains small fractions of dark crystals, but without the carbonate fragments that typify layer 3.

The lithological transition between the brown sand of layer 2 and the white sand of layer 3 is a gradual one in all units. The minimal thickness of the transitional zone is c. 20 cm in units 4-6 and 9. In units 1 to 3 the transition is smoother, and is estimated at c. 50 cm thickness. In these units the base of layer 2 is placed in the middle of this transition zone between brown and white sand. In all other units the transition is gradual and it is thus not possible to delimit the basis. In units 6-9, 12 and 13 it is this layer that yields the most archaeological materials.

Layer 3 is composed of middle- to coarse-grained, white quartz sand. The quartz grains are well rounded. This layer is further characterized by the occurrence of carbonate fragments (possibly shell). There is also a small fraction of fine dark grains, probably amphibole. The base of layer 3 is not exposed. This sand layer has a yellowish-white color, and in units 6-9, 12 and 13 it yields artifacts. In all units the ground water level is approximately 0.85 m below the surface. The lithology of layer 3 gradually makes a transition to layer 2. The transition occurs at an irregular depth, and the thickness of the transitional zone varies per unit. This suggests that the difference in color and composition has a diagenetic origin and that the sand was deposited as a homogeneous unit.



***Menno describing the stratigraphy of one of the test units***

In units 1,2,10 and 11 an anthropogenic layer covers the stratigraphy. This layer is c. 80 cm thick (25 cm in unit 2) and mainly consists of coarse, poorly sorted sand, deposited on a sharp contact with the underlying stratigraphy (sand or clay). This landfill was presumably mainly deposited during the construction of Hewanorra airport, the airstrip of which is located c. 200 m away from the Giraudy site. In unit 1 this layer is topped with another c. 30 cm thick layer of sand with angular stone fragments of c. 3 cm.

#### Auger program

Dina and Mathijs initiated auger tests with a riverside auger to obtain insight in the geological formation of the area beyond test unit 11 towards the hill in the northwest. Due to the coarse texture of the, augering proved to

be very difficult in this part and therefore the program was stopped after two tests.

From auger 1 it is obvious that both sand layers continue up to the foot of the hill. Auger 2, which was set between unit 1 and the coastline, also contains both sand layers. The composition, color and grain size of the beach sand itself appear to be identical to the white sand of layer 3. It is therefore plausible that this sand layer continues from the hill to the beach. In this case layers 2 and 3 formed approximately synchronically as one sand unit by deposition in a beach environment. In this case the beach must have moved from the foot of the hill towards the present coastline (which means the sand layers are oldest at the foot of the hill and youngest at the coast, i.e. the present beach).

Layer 2 distinguishes itself from layer 3 by its brown to black color and the absence of chalky fragments. Both characteristics can be attributed to organic activity (soil formation), or to leaching by organic, acid material. The latter could explain the gradual transition with the white undisturbed sand. The clay content, which characterizes the top of the layer in some units, is possibly a result of leaching of clay from layer 1 into layer 2.

A layer of clay locally covers the sand stratum. The layer disappears to the east and west, and fills a depression, which was probably located behind a small beach wall. Such situations are present in other locations along the Atlantic coast of St. Lucia, for example c. 1 km to the north of Giraudy. That depression is covered with mangrove. It seems plausible that this same situation also occurred at Giraudy. However, with the available data it remains speculative.

## **Synthesis**

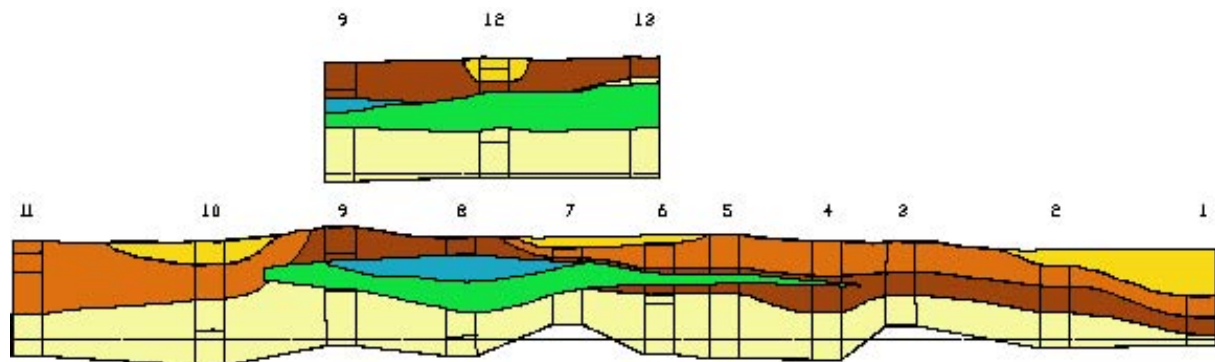
A preliminary model of the formation of the Giraudy stratigraphy can be proposed:

- 1) There seems to be a Miocene deposition of andesitic tuff. After deposition, erosion took place up to the present relief of Hewanorra Hill.
- 2) At that time the coastline ran along the foot of the hill, where a sand beach was formed. This sand deposit was composed entirely of white sand. This beach gradually built outward towards the east, and this newly formed land was slowly vegetated. The top of the sand deposit gradually changed color and composition, under the influence of the vegetation and soil formation processes.
- 3) Due to unknown reasons a depression formed behind the

outstretching beach. The depression became a lagoon, largely closed off from the sea, in which only clay was deposited. It is possible that this lagoon was surrounded with mangroves.

- 4) During the construction of Hewanorra Airport a fair amount of coarse sand was deposited, which now covers large parts of the site. It is also with the construction of the airport and the Club Med resort that drainage took place, so that the groundwater level of this once swampy area is now c. 1.7 m below the surface.

The archaeological remains of the modified Saladoid and Suazan Troumassoid occupations are located in the brown sandy layer (2) and white sand layer (3). The modified Saladoid occupation was identified in units 3 to 9 and 12 and 13 whereas the Suazan Troumassoid occupation was only found in units 8 and 9. East of this occupation at the level of units 10 and 11 there is a severe disturbance. To the west a layer of clay covers the sandlayers.



Green: Modified Saladoid component

Blue: Suazan Troumassoid component

***Stratigraphy with the two amerindian occupation layers in green (Modified Saladoid) and blue (Suazan Troumassoid).***

### *Sampling procedures and artifact recording*

As the test units were dug with a backhoe the dirt of the three different stratigraphic layers was put aside in different piles. Each pile was sieved separately and the artifacts were recorded according to these layers. The dirt from all test units was sieved through a 6mm mesh. At home all artifacts were washed, separated in bags per artifact category and in some cases analyzed and described.



Menno, Jimmy and Joost assisted Corinne in counting the ceramics, which are left on St. Lucia and stored at Vigie. The sorting included keeping all the rims, decoration and other diagnostic features separate. These have been taken to Leiden for further analysis. The material to be left on the island was counted on the base of rims, body, griddle, number and weight. Appendix 5 includes the quantitative record of this collection. The rims and decorated pottery, stones, jasper and human remains from units 8, 9, 12 and 13 have been taken to Leiden and all fauna remains (shell and animal bone) have been taken to Florida. Bill and Ben finished sorting the fauna samples from test units 8 and 9. The remaining samples have been stored at Vigie for further research next year.



***Corinne, Alistair, Bill and Ben sorting faunal remains***

## **Human bone**

Human bone was recovered from units 6, 8 and 9. Only a few bone fragments were recovered from unit 8 level 2. Noticeable is one fragment, possibly of a tibia, which has been decorated with incisions (see below). From unit 9 level 1, skeletal remains of one individual, an adult female, were found. From unit 9 level 2 some fragments of human bone were found belonging to an adult individual of undetermined sex. Appendix 5 includes an extensive inventory of the human remains.

## **Subsistence remains**

Numerous subsistence remains were collected from all layers. The majority came from 6 mm-mesh sieving of the strata piles. In addition, 10 liter samples were collected from the sieved backdirt and were re-sieved using 2 mm mesh sieves. There were very few small bones in any of these samples. The samples were sorted at the house into separate bags for bone, shell,



shell tools, pottery, lithics, and ornaments. Human bone was also separated for reverential treatment. None of the shell or bone was washed, and an effort was made to separate shell tools in the field to limit potential damage that might mask use-wear evidence. Shell and bone was air-dried and then resieved using a 2 mm mesh screen to remove excess sand. Finally, *Anomalocardia Brasiliana* shells were separated, counted, and discarded.

The Giraudy site is unusual for St. Lucia in that a substantial number of mollusk shells and animal bones are preserved in the site. To date, such remains are poorly studied from sites in the Windward Islands. The collection is all-the-more important because the pottery indicates that two of the excavation units preserve remains from two different time periods. The preliminary sorting of the materials indicates significant differences in the fauna from these deposits. With regard to mollusks, Unit 9 has thousands of valves (more than 8,000 from one level of the excavation) from a clam known as *Anomalocardia Brasiliana*, and very few shells from the large conch, *Strombus gigas*. In contrast, Unit 8 has very few *Anomalocardia* and a lot of *Strombus gigas*. Explanations for these differences await more detailed analysis, but they probably relate to changes in the local marine environment, cultural food preferences, and the use of *Strombus* for tools. There are also significant differences in the animals that were eaten during the two time periods. There appears to be much greater use of sea turtle (*Chelonia mydas*) during the earlier period, and an increase in the number of small fish in the later periods. Again, these preliminary observations require more detailed studies. The bone samples are being sorted and analyzed by Lindsay Keegan, Dr. Sandrine Grouard, and Dr. Betsy Carlson at the Florida Museum of Natural History.

## *SPECIAL ARTIFACTS*

### **Pottery**

Ceramics from two time periods have been collected. They belong to the modified or Late Cedrosan Saladoid and Suazan Troumassoid subseries.

The Saladoid ceramics exhibit a large variety of vessel shapes. Rims are often thickened, triangular or flanged, sometimes painted red and surfaces are mostly polished. Decorations consist of areal painting of white on red, white on black or black on red, curvilinear incisions and a large range of modeled-incised anthropomorphic and zoomorphic adornos. Only a few fragments bear zoned-incised cross-hatching.

When comparing this Late Saladoid ceramic assemblage to assemblages on St. Lucia and neighbouring islands, similarities are seen with Troumassee A on St. Lucia (McKusick 1960); Chancery Lane and Hillcrest on Barbados

(Drewett 1991), Chatham Bay on the Grenadines (Rouse 1992); Salt Pond on Grenada (Rouse 1992), Arnos Vale on St. Vincent (Rouse 1992); Diamant II on Martinique (Petitjean Roget 1968; Allaire 1977), Morel II (Rouse and Allaire 1978; Rouse 1992) and Anse à la Gourde on Guadeloupe (Hofman et al. 1999).

On the 1<sup>st</sup> of May, a remarkable find came to light in unit 9 layer 3: a matching pair of pottery heads. These are called adornos and were attached to the rim of pottery vessels for decoration and as a way to hold the vessel. Such adornos and lugs function in the same way as handles on coffee cups do today; by being peripheral to the vessel they do not get as hot as the body of the vessel during cooking and thus allow for the easier handling of a hot vessel.

The anthropomorphic (human) heads feature incision/modeling but no painting (a). Unit 12 layer 3 yielded a handle with a zoomorphic figure (b), and from unit 13 layer 2 a bat-head adorno was collected (c). An anthropomorphic mask-like head was found in unit 8 layer 2 (d). A large pot fragment was found in unit 9 layer 3 bearing white on black painting (f), another one bearing black and red painting was recovered from unit 13 layer 2. Zoned-incised cross-hatching was found on a few potsherds among which in unit 13 layer 2 (h). Incised decoration on a red surface was found in unit 13 layer 2 (i).



**a**



**b**



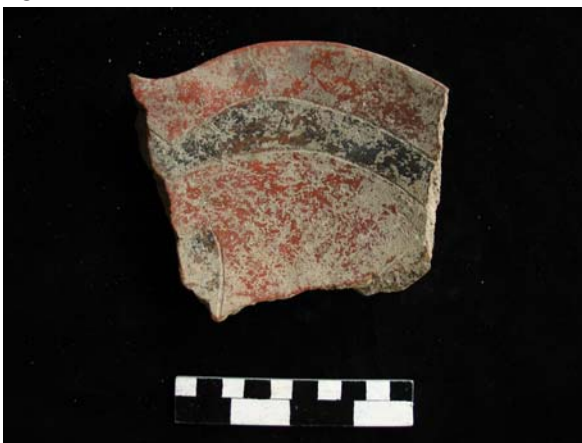
c



c



e



f



g



h

**Saladoid ceramics: antropomorphic and zoomorphic adornos, white on black and red on black painting, zoned incised cross hatched and incised decorations**

Ceramics of the Suazan Troumassoid series were only collected from units 8 (layer 1 and 2) and unit 9 (layer 1). Simple vessel shapes, scratched surfaces and legged vessels and griddles characterize these ceramics. Vessels are thick and poorly made alongside some finer ware with polished surfaces. The

latter are often decorated with red paint, linear or areal painting and painted scrolls (Caliviny buff on plain), simple incisions of parallel lines, circles or scrolls on the rims or walls. Other typical decorations are finger-indentations on the rims, anthropomorphic adornos, figurines and clay pestles. Suazan Troumassoid pottery is among the least finished and crudest pottery of the West Indies (McKusick 1960; Allaire 1977). Suazan Troumassoid ceramics are found from Tobago in the south (Boomert 2000) up to Terre de Bas, les Saintes (Hofman 1995).



**a**



**b**

***Suazan Troumassoid ceramics: finger notched rim, scratched pottery, spindle whorl and griddle leg***

### **Beads, pendants and other paraphernalia**

The different units yielded a fare amount of paraphernalia including beads, pendants and a *zemi*. Four beads have been collected of which an oblong diorite bead and a small round shell bead from unit 9 layer 3 (a); another diorite bead from unit 9 layer 2. In addition, unit 8 layer 3 yielded a small bead made of greenstone (b).

Pendants made out of shell have been collected from unit 9 layer 2 (c-d). A small stone *zemi* was recovered from unit 12 layer 2 (e). A small fragment of human bone decorated with incisions was found in unit 8 layer 2 (f).



**a**



**b**



**c**



**d**



**e**



**f**

***Paraphernalia: stone beads, shell pendants, zemi and worked fragment of human bone***



## Tools

Various tools have been recovered made from ceramic, lithics, shell, coral and bone. These tools include adzes and axes, scoops, scrapers and a fishhook. Three coral scrapers were recovered from unit 13 layer 1 (a). Worked bone was found in unit 9 layer 1 (b). The left piece on the figure possibly served as a handle for a coral implement. A shell axe was recovered from unit 8 layer 1 (c). Two other axes were found in unit 13 layer 2 and one more in unit 9 layer 3. A fishhook of *Cittarium pica* was found in unit 9 layer 2 (d).



**a**



**b**



**c**



**d**

***Worked coral, bone and shell implements***

## **GEO-ARCHAEOLOGICAL PROJECT: IDENTIFYING CLAY PROVENANCES**

The aim of this project is to link the clay source sites to pre-Columbian pottery found at various sites on St. Lucia through archaeological and geo-chemical analyses. This project is part of a larger program on the provenance and exchange of pre-Columbian clay and lithic materials in the islands of the Lesser Antilles. It comprises a geological part, involving geo-chemical analysis, and an archaeological part involving the testing of the workability properties of the clays in conjunction with fabric analysis.

### *Geological part*

Dina Hooijkaas and Mathijs Booden, two Master's students from the University of Amsterdam (VU) joined the team this year to take part in the project focusing on clay provenances.

### ***Sampling clay for geo-chemical analyses***

A total of 104 samples were collected from clay outcrops on St. Lucia. Clays are amply available in the southern part of the island but seem to be scarcer in the northern part. However, this may be due to a sampling bias as 1) the coastal parts in the north are difficult to access and 2) the clay yielding locations in the north are more intensively planted with bananas in comparison to the south of St. Lucia.

Several geo-chemical analyses will be conducted on these clay samples at VU. These analyses will be compared with other samples taken from neighboring islands. Results will hopefully give a detailed account on the geo-chemical variations between the various clays on St. Lucia and on the geo-chemical variations of clay between islands.

The geo-chemical analyses will be conducted in the laboratory in Amsterdam during the coming months. First, all samples will be analyzed with the x-ray fluorescence technique (XRF). This technique gives the general element distribution of a sample (major and trace). Based on these data, the sample population is divided into groups. A representative sample of each group was then selected for further analysis.

The representative samples are processed in a thermal ionization mass spectrometer (TIMS) and in a multi-collector inductively coupled plasma mass spectrometer (MC-ICP-MS), where characteristic isotope ratios can be determined (Rb/Sr, Sm/Nd, Pb/Pb). A certain percentage of the solution prepared for the TIMS is taken and processed in the inductively coupled

plasma – atomic emission spectrometer (ICP-AES). This technique will give a distribution in trace elements, which is more precise than XRF and will be used specifically to obtain rare earth element (REE) patterns with a +/- 5% error.

Using the same methods as with the clay samples, the geo-chemical characteristics of pre-Columbian pottery from St. Lucia will be analyzed. Eighty potsherds have been selected for this purpose originating from various sites on the island. By comparing both datasets, it will hopefully be possible to link clay sources with specific potsherds from pre-Columbian sites. This knowledge is of great importance when determining the existence and nature of pre-Columbian exchange routes.



***Mathijs taking clay samples on St. Lucia and processing them in the VU laboratory***

### *Archaeological part*

The archaeological part of this project is conducted by Daan Isendoorn, PhD student at Leiden University in cooperation with Dr. Bram van As and Loe Jacobs of the Laboratory of Pottery Technology at Leiden.

Not all of the clay samples that were collected by the geological team are useful samples in terms of their workability properties. Some of them may not have enough cohesion or plasticity to be suitable for making pots. Therefore all of the clay samples were tested for their workability properties.

The clay samples were given consecutive numbers replacing the more detailed coding system used by the geologists. Short numerical information is easier to use on test bars. Because soaking the clays turned out to be very time consuming, it has been decided to pound the samples that were too hard to handle.



***Clay samples numbered from 1 to 104***

Selection for workability properties took place in two stages. In a first stage a pre-selection was made on the basis of general criteria.

These criteria in this first stage are to test the plasticity and coiling technique. A workable clay should have a high enough yield point to prevent accidental deformation before drying and a large enough extensibility to allow for forming without cracking. The workability of the clay can be expressed as the product of the yield point and the maximum extension. In second stage the main criterion is to test the drying properties. Drying shrinkage is measured by change in either length or volume of a test piece. It is a property of direct concern to the potter because excessive shrinkage will cause large or heavy pieces to crack.

The clay samples were laid out on the table, water was added to them and then they were kneaded. After that, it was attempted to make small pots by using the coiling technique.





***Bram and Loe testing the workability of the clays***

The small test pots were then put to dry. Those test pots that did not break during drying were further tested by scraping and smoothing/burnishing their surfaces with a shell and a polishing stone respectively.

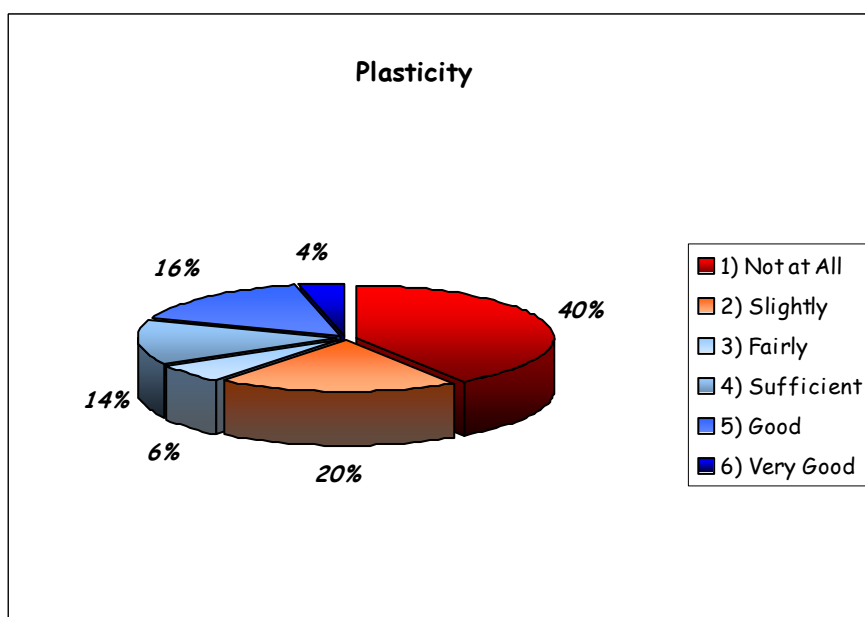
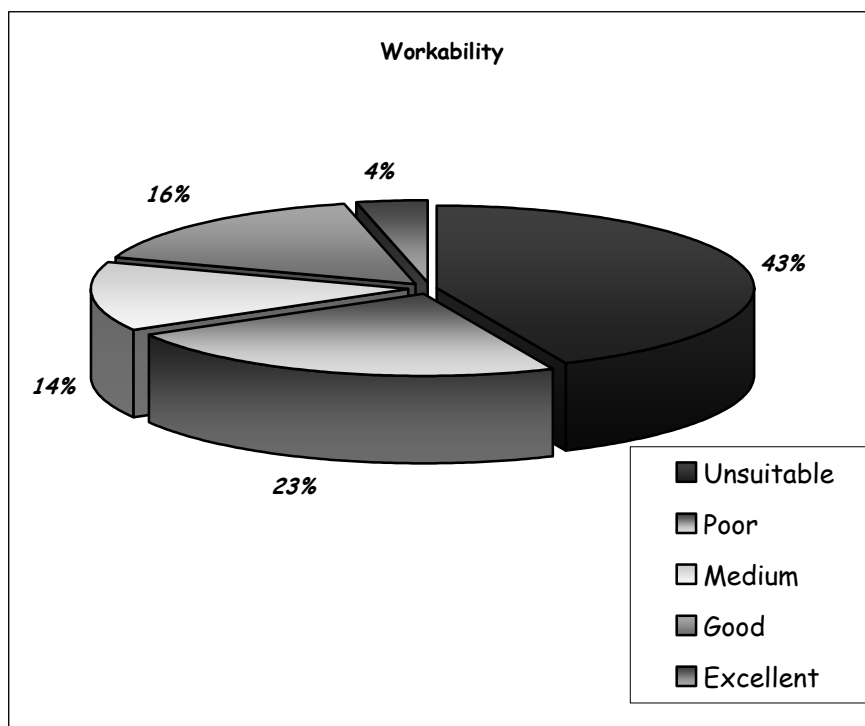


***Scraping the inner surface of a pot with a shell and polishing the outer surface with a polishing stone***

The samples that were not workable were discarded on St. Lucia and the others were kept for further study in the Netherlands. In the laboratory at Leiden the team will further investigate which clay samples could possibly have been used as base clays by the pre-Columbian potters.

Information obtained from the analysis of the clay samples has been stored in a database. This database contains information on provenance of the sample, the degree of workability, inclusions in the clay, grain size and cohesion of the material.





***All clay samples were tested for their workability and plasticity properties***

Summarizing, one can say that, most “ingredients” necessary for the production of pottery are clearly available on St. Lucia (i.e., a large number of natural clay sources are located on the island and numerous clay samples seem to be very useful and workable). The island also provided several

sources of pigments (red ochre, kaolin) that could be used for the decoration of pottery (e.g., some of the samples that were taken near the Sulphur Springs are likely to have been used as color pigments). Further analyses at the Faculty of Archaeology in combination with the geochemical analysis at the VU are expected to provide information on the uses of these pigments as paints and slips.



***The Sulphur Springs where kaolinite samples were taken***

This project will be continued in the coming years on other islands of the Caribbean chain. The main objectives will be to identify clay sources that were used by the pre-Columbian potters and to get a better insight into exchange patterns among Amerindian people. These samples will be subjected to similar analysis (i.e., workability tests and geo-chemical analyses).

## ETHNOGRAPHIC AND ETHNOARCHAEOLOGICAL RESEARCH

### *RECORDING OF TRADITIONAL CRAFTS*

#### **Local pottery**

On the 20<sup>th</sup> of April the team went to Morne Sion and La Pointe. Kathy (the potter the team met last year) took everybody to the place where she gathers clay. Mathijs and Dina took some clay samples there. They also took a sample from the clay behind Kathy's workshop. Kathy explained that she had reverted to firing in the open air. Last year she was still using a kiln, which was introduced to her by an American woman.



***Traditional pottery from Morne Sion***

Corinne, Daan, Auda and Jimmy went back to Morne Sion on the 26<sup>th</sup> of April. Kathy first collected some clay near her workshop. She uses this clay as a temper for the basic clay, which she collects elsewhere (a 10 minute walk towards *Gros Piton* from her workshop). Corinne learned how to dig this



clay and became aware of how hard the work actually is. Kathy told Corinne that her husband usually digs the clay and chops the wood for firing. But her husband was out in the field and she wanted to start making *tesons* the following Monday. In the meantime, Jimmy took digital images of her workshop and the discarded ceramics that are scattered around her workshop. Daan and Auda went to visit other potters in this area. After digging the clay Corinne was taught how to burnish the leather-hard ceramics (i.e., those that have dried for a week) with a polishing stone. This process takes Kathy about three minutes. After that, Kathy wanted to start the firing process. She began by taking all of the pots that were ready for firing (i.e., those that had dried for at least three weeks) out in the sun to dry for an additional half-hour.



***Drying the pottery in the sun before firing***

During this time she turned the *tesons* around. Meanwhile, she started to prepare the fire by placing rusted iron plates on the ground surrounded by a square of wooden sticks (*bwa madanm*). She told Corinne that she preferred the open fire process to the kiln, because it requires less wood and it takes only one hour. The kiln takes eight hours, but has a better result because

open firing seems to cause more cracks in the pots. The return to open firing is very interesting. It will be worth examining whether the increased time of firing and the increased demand for fuel-wood significantly increases the cost of pottery production. By her behavior Kathy seems to think so.

During this preparation time Kathy looked up at the sky and felt that it was going to rain. She started taking all the pottery inside. As soon as all of the pots were inside, it started raining! The team had to return another day to witness the firing process.

While sheltering from the rain Jimmy saw a *teson* with supporting legs on top of the bowl (upper side of the *teson*). Apparently this was a *teson* especially made to support a *kannawi*. We have not seen this elsewhere. Kathy has only one of these, which she uses herself. There was also a small *teson*, which Kathy uses for incense burning. The incense is of local origin. It is a sun-dried, creamy resin of a tree.

Daan and Auda talked to Mary, another potter in Morne Sion. She gave them a pot with adornos attached to it. She told Daan that her husband made that bowl. Afterwards it seemed to be an experiment of this man.

Corinne, Menno, Yann, Daan, Jimmy, Auda, Bram, Loe, Raymond, Dina and Mathijs went back again to Morne Sion on the 3<sup>rd</sup> of May after having received a phone call from Kathy saying that she was going to make another attempt to fire that day. First, Corinne introduced the newcomers Raymond, Loe and Bram to Kathy. After looking around for a while, she started to turn around the pots to dry and warm better in the sun. She started to put iron plates in a square, bounded and covered with some chopped wood. She dripped some petrol on the bottom and threw some salt on the wood. Then she looked up to the sky and looked very skeptical at the clouds. After this, she started to store half of the pots under the shed again and waited for a while. After a while the sky cleared up, and Kathy started to take all of the pottery outside again. Her sister came out to help her and brought a big *teson* and a *kannawi* with her to be fired. Then the building up of the pile began. The potters placed the pots on top of each other and placed the smaller pots inside the pile. After that they placed some wood and coconut shells inside the pile and fenced the pile with chopped branches and charcoaled wood. Kathy's sister lit the fire with petrol and a match. She fired only one side of the pile. During the firing, which took approximately an hour and a half, the wind diffused the fire in a particular way that gave Kathy the opportunity to control it more easily. Kathy changed her clothing for the occasion and put on some thicker ones to have a better protection against the heat. The pots then had to cool down for a few hours before they were taken out of the fire.





***Kathie demonstrating the firing process***



***After as few hours the pots are taken out of the fire***

On April 27<sup>th</sup> Joost and Jimmy spent some time at the Central Market in Castries doing ethnographic research. The main objectives were to document photographically the kinds of pottery that were sold in the market and to get information on the source(s) of the local pottery. They spoke with five women vendors all of whom reported that all of the pottery comes from Choiseul. Moreover, they said that the potters come to Castries themselves



to sell their pots to local vendors. They also stated that there were no special relationships with any of the potters, and that they bought pots from whoever was selling them when they needed pots to sell. In addition, those who were selling grass mats said that these had also come from Choiseul.

### **Thatched houses, canoes, fish pots and grass mats**

After having spent some time with Kathy in Morne Sion on the 20<sup>th</sup> of April the team went to La Pointe (=Pointe Caraïbe). Here the team members met Michaela Antoine who introduced them to several people still involved in traditional crafts. For example, some people in La Pointe still construct wooden (wattle and daub) houses like the Caribs used to do in former days.

The team also was introduced to Rosaline, a local potter still making the *platine* or cassava griddle, a pot shape not encountered at Morne Sion. On their return on the 3<sup>rd</sup> of May, Rosaline had just been firing, enabling the team to catch a glimpse of her opening up the pile and taking the pots out.

In the meantime, Michaela's son showed part of the team the canoes (made of the white gum tree) that were located on a black sandy beach below Pointe Caraïbe.

After that, the team was introduced to a man making fish pots. He uses the *bwa mayann* or *bwa patat* to make the pots. These two species of wood are tied together with a vine that is called *bwa ki bon*.

The last visit was to a woman who made mats and baskets from khus khus grass (= *panash*). After cutting the grass, she dries and plaits the grass. Finally, she sews the plaited strands together and shapes them into mats or baskets.



**Traditional crafts: tatched houses and grass mats**



**Traditional crafts: fish pot and dug-out canoe**

## **Banana shed**

From our first encounters with banana sheds, during last year's campaign, the team has developed a special interest, even fondness, for these ubiquitous structures. For although they share a similar function, there is a remarkable degree of variability and style. For example, this year we encountered banana sheds that had plastic (banana bag) lined pits with charcoal at the bottom. In addition, a shed of apparently recent manufacture had its own outhouse. Some are made of new lumber, while others incorporate recycled materials. They provide a fascinating window on behavioral diversity. We are especially pleased that the St. Lucia Banana Corporation has offered a banana shed to the A&HS as the central component of a banana museum.

This year, while surveying in the Bellevue area on the 23<sup>rd</sup> of April, Menno, Corinne, Alistair, Dina, Yann, Jimmy and Auda documented another banana shed. The farmer explained the complete chain of events of the shed. On the left side of the structure is a rack on which bananas are placed that have been brought in from the field. From there, they are moved to the plastic lined tabletop, where they are washed and boxed. Finally, the boxes are placed on a raised plateau at the other end of the shed. This was an eye-opener because we initially had interpreted the plateau as a bed, which has all sorts of implications for the banana farming process).

The wood species that are used for the different parts of the banana shed are *bwa Tan* (*Byrsonima coriaca*, *Malpighiaceae*), *bwa madanm* (*Guettarda scabra*, *Rubiaceae*) and *Mahot Piman* (*Daphnopsis americana*).





***Banana shed near Bellevue***

According to the farmer, the average shed can last up to 30 years, though it will need repairs from time to time.

During the survey of the Des Cartier area on the 24<sup>th</sup> of April the team also witnessed the building of a banana shed. The main posts of this one were from the Red cedar tree (*Bwa vet*).

## *Experiments*

### *Knapping jasper*

Benoit Berârd from Martinique came to St. Lucia for a few days. He is one of the few experts on lithic materials and working in Caribbean archaeology. Benoit showed Iris how to knap jasper and volcanic rock. The jasper flakes will serve as experimental tools for use-wear analysis. Jasper (or jaspis) is a red chalcedony stone, which was flaked by the Amerindians just like flint. During this process of jasper knapping he explained to Iris which angles to use, which hammerstone to use, how to get small and large flakes, how to do the bi-polar technique, and other things. He also explained where on



Martinique jasper sources are found and how jasper is found in primary context.

Benoit and Iris also tried to refit the white chert flakes recovered from a scatter along the Eastern Nature Trail. An effort was made to refit the flakes because this will provide information on the manner in which the rock was broken. A few pieces fit together, but they were not able to reconstruct the whole core.



***Benoit knapping jasper***

### *Use-wear analysis*

This year nine experiments were done in preparation for use-wear analysis. Six experiments were carried out with jasper flakes, the other three were done with shell. In order to do use-wear analysis a reference collection is needed. As there is none for jasper and shell, this had to be created. It is important to use as many indigenous materials (flora and fauna) as possible.

Benoit helped Iris with one of her experiments, i.e. the splitting a *bwa mayann* branch (experiment 4). *Bwa mayann* is used to make fish-pots by

the men on St. Lucia. It was thought because Benoit has feeling with the jasper and the strength of a man he would be better suited to conduct this experiment. However, it still appeared to be very difficult to split the branches.



***Iris experimenting with jasper flakes on grass and bwa madanm and with shell (Codakia orbicularis) on campeche wood and (Tellina radiata) on liana.***

The following experiments were carried out with jasper flakes:

Exp. 1: cutting unknown species of tree (15 min.)

Exp. 2: scraping the bark off a branch of the *Bwa Mayann* tree (latin name unknown) (40 min.)

Exp. 3: cutting unknown species of grass (20 min.)

Exp. 4: splitting a branch of *Bwa Mayann* (15 min.)

Exp. 5: scraping the bark off a branch of the Red Gum tree (*Bursera simaruba*) (30 min.)

Exp. 6: scraping the bark off a branch of the *Bwa Madanm* tree (*Guettarda scabra*) (30 min.)

The following experiments were carried out with shell (*Codakia Orbicularis* and *Tellina radiata*):



Exp. 7: scraping the bark off a branch of the Campeche tree (*Haematoxylon campechianum*)

Exp. 8: cutting a branch of the Campeche tree (*Haematoxylon campechianum*)

Exp. 9: splitting an unknown species of vine



***Iris removing the bark of a branch with a piece of jasper***

## CONCLUSION

The archaeological reconnaissance of St. Lucia over the past three years has greatly enhanced the perspectives on Windward Island archaeology. The database for the island now includes 159 pre-Columbian sites spread around the entire island.

This year's research has added 31 sites. The survey of the mid-eastern part of the island (Vieux Fort-Dennery/Fond d'Or) conducted this year has demonstrated that Amerindian occupation in this area is mostly concentrated in the coastal areas and on the islands facing this coast (i.e., Praslin Island, Frigate Island, Dennery Island).

Notable also is that all the headlands along the coast have been occupied in one-way or another. All of them yield Amerindian artifacts, sometimes a mix of pottery and lithics and sometimes only scatters of jasper.

This point merits further emphasis because it is contrary to prior beliefs about settlement patterns in the Windward Islands. To date, we have found sites and activity areas on virtually every headland, peninsula, and high ground above the windward coast. In the past it was assumed that Amerindian peoples preferred to live on the low ground next to the coast. The fact that many of them chose to live on high cliffs above the coast, which would have required them to descend steep hillsides to reach beaches and freshwater sources, indicates that their settlement behavior was influenced by variables that are as yet undefined. One possible reason for settling on these cliff faces is that they provide very defensible locations including a broad view of anyone approaching the settlement from the sea or adjacent lowlands. This phenomenon is also known for other islands in the Caribbean chain (Hofman 1995).

The interior of the island in this region is very intensively cultivated and densely vegetated. This hampers the visibility on the surface. In addition, the rolling landscape of this area does not seem to favor habitation. However, it might have been very suitable for horticulture and it would therefore not be surprising if stone tools used for would occasionally turn up on these plots. Combining the data recovered over the past three years, it might be suggested that the earliest settlers confined the majority of their activities to the coast. All of the early (Saladoid) sites on the island are located in the coastal zone. Later peoples spread into the interior and established villages and hamlets up to 10 km into the interior. This 10 km distance is about as far inland as one can get on St. Lucia. Our investigations also indicate a variety of land-use practices. As reported in the introduction, we have identified at least four different kinds of sites that can be characterized by the length of time during which they were occupied.



These are:

- 1) *Procurement sites* at which resources were procured but which were never settled;
- 2) *Farmshelters* that were occupied for a short period during seasonal agricultural practices;
- 3) *Hamlets* that were permanent occupations by an extended family whose lifecycle would have been tied to the longevity of the family and
- 4) *Villages* that were occupied for extended periods of time by multiple families.

With the exception of Saltibus Point and Giraudy, all of the sites that were tested have very shallow subsurface deposits. In fact, most of these sites are best described as surface scatters. Shells of marine mollusks and animal bones have not been preserved at these sites, probably



***Bill, Warren, Iris and Mathijs surveying bananafields in the area of Anse Ger. The interior part of the island is intensively cultivated and densely vegetated***



due to matters of soil acidity. In contrast, at Saltibus Point and Giraudy mollusk shells and animal bone are present in very large quantities and are very well preserved.

The absence of deeply stratified middens in most parts of the island suggests that either surface erosion has washed away most of the sites, or that the sites were occupied for a very short time. The first scenario is a real possibility given the intensive land-use practices on the island. All of the sites that were investigated have been disturbed greatly by farming and other historic activities.

Excavations at Giraudy, revealed an extensive undisturbed midden area comprising two components, i.e. one modified or Late Saladoid and one Suazan Troumassoid. This places the site's occupation between AD 400 and 1200/1400. In addition to large quantities of faunal remains, the site produced a substantial number of pottery, shell, coral, bone and stone artifacts. The 13 test units also produced an interesting view on the geomorphology and stratigraphy of the site.



***Corinne, Raymond and Winston with schoolchildren of grade 5 of the Vieux Fort primary school during their visit to the house to see the excavated collections***

These positive results certainly emphasize the potential of the Giraudy site and one may consider large-scale excavations in the area in the near future possibly involving the establishment of a fieldschool uniting students from St. Lucia, Leiden and Florida.

Schoolchildren from grade 5 of the Vieux Fort primary school came to visit on the 10<sup>th</sup> of May. They were introduced to archaeology in general, to Amerindian lifeways and subsistence strategies, to the site of Giraudy and the various categories of artifacts found at that site. One of our goals is to provide archaeological experiences for all of the people of St. Lucia who are interested in order to help them appreciate their Amerindian heritage.



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***The team on a fieldtrip to Dennery and Soufrière. Tour guide for the day was Paula***

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This project would not have been possible without the extraordinary contributions of our volunteers and staff. Bob Gezon, Warren Stortroen, Dr. Ben Castricone, Auda Velasquez and Micheline and Anna Blancaneaux were invaluable volunteers. Bob and Ben did a great job recording GPS measurements of the various sites, and they also documented much of this year's work with digital images that can be viewed in this report and on the web page. In addition, Winston Phulgence, a history teacher at the Sir Arthur Lewis Community College, who went to great lengths to assist us, joined us. His contributions are gratefully acknowledged.

We are very fortunate to have extremely motivated graduate students from Leiden University: Alistair Bright, Daan Isendoorn, Iris Briels, Joost Morsink and Jimmy Mans. Iris and Joost maintained meticulous notes for the daily report. Iris also continued to work on experimental studies of stone-tool use-wear. Jimmy made video recordings for his documentary 'From Suazan Troumassoid to folk pottery'. Alistair, Joost and Daan were also very good photographers! Alistair is particularly acknowledged for his help editing the English text in this report. Daan and Alistair are responsible for the databases included in the appendices as well as the site map of appendix 2.

We must also mention Dina Hooijkaas and Mathijs Booden, the two geology students from the Faculty of Life and Earth Sciences at the VU (Amsterdam University), who for the first time joined an 'archaeological team', to good effect. Working with archaeologists was a new experience for them, but hopefully they appreciate the ways in which geology can contribute to another discipline. Dina was fully equipped to face the fearsome 'fer de lance', but ended up only seeing a dead one!!!!

We spent a very nice and inspiring week with our colleagues from Martinique, Dr. Benoit Ber  ard, and from Leiden: Dr. Raymond Corbey, Dr. Bram van As and Loe Jacobs.

We would like to acknowledge Neville, Angel, Britney and Zack Labadie for their hospitality, help and particularly their patience for having us (and our artifacts) at their guesthouse. We are also grateful to Jolien Harmsen for providing good company and sound advice concerning local operations in Vieux Fort. We also thank Jolien as well as Tony, Debbie and her boys for their assistance at Giraudy and for washing tons of artifacts at home. Paula



Polidore-Edward is thanked for her contribution to the project and for her guided tour to Au Leon and Louvet. We really enjoyed the cold drinks at her aunties home! Mr. Barnard again provided access to the artifacts from the Balembouche Estate.

Finally, we spent a great deal of time in the countryside this year where we met dozens of St. Lucians (Katherine Osman and Mary Phamphille in Morne Sion and Michaela Antoine and Rosaline in Pointe Caraïbe) who we would like to mention for their hospitality, sharing their knowledge with us and their friendship.



***In this regard, “Simply Beautiful” refers not only to the natural beauty of the island, but also to the warmth of the people who live here. We appreciate the friendship and assistance that was extended again to us throughout our stay in April and May 2004.***





**MAP OF PRE-COLUMBIAN SITES FOUND  
DURING THE 2004 SURVEY**