Field Report
Barbuda Historical Ecology Project 2008
Antigua & Barbuda National Parks Dept.
&
City University of New York

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Report Objectives

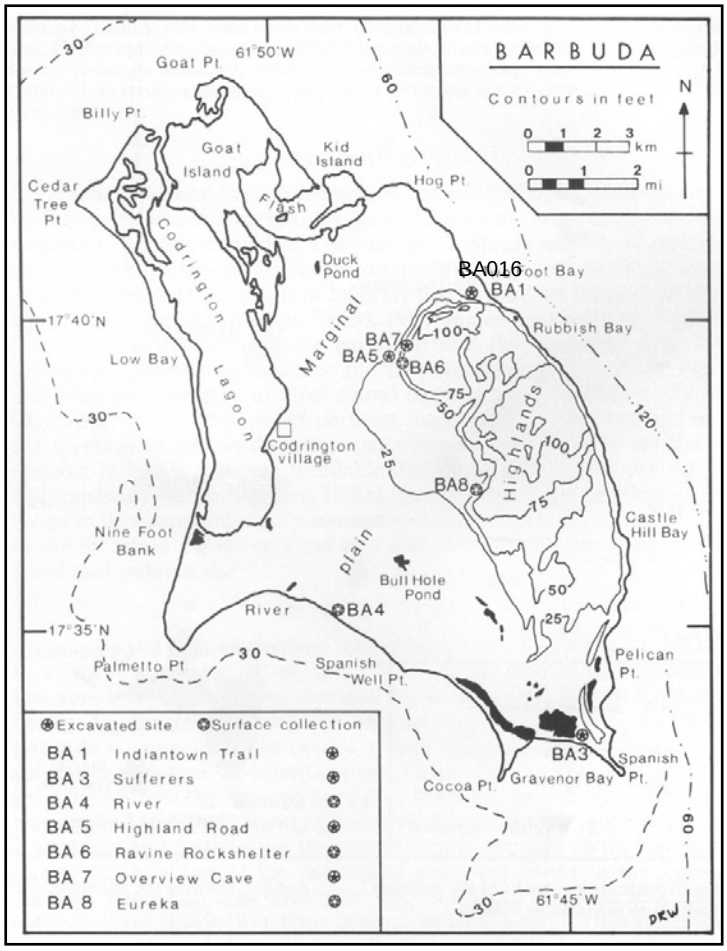
Since 2000, CUNY archaeologists and international team of environmental scientists have collaborated with Antiguan & Barbudan scholars and agencies, by the invitation of Dr. Reg Murphy, head of archaeology for National Parks Department of Antigua and Barbuda. Since 2006, small teams of CUNY faculty and students joined by natural science colleagues from Iceland and the UK have begun assist the National Parks Department in investigation of the archaeology and ecology of Barbuda, revealing some exceptional opportunities for combining science, education, and outreach. The 2007-08 seasons indicate exceptionally rich archaeological resources on Barbuda and the need for wider distribution of a preliminary field report to the wider Caribbeanist community. Two nearby prehistoric sites at Seaview (BA016) and Indian Town Trail (BA01) have intact stratigraphy, middens, a large volume of finds, probable structural remains, and excellent conditions of organic preservation. Seaview appears to have a previously unknown early Saladoid component, while Indian Town Trail appears to extend into post-Saladoid times. This report provides an overview of work completed to date as a preliminary field report of the January 2008 season. A full site archive is available on request, and AMS radiocarbon dates and additional specialist reports are in process. This is thus not a final field report but an attempt to rapidly disseminate unexpectedly productive results to the wider community.

Acknowledgements: Our thanks are due to the excellent 2008 field crew, to Mr. Calvin Gore for his deep expertise and excellent advice and to all the people of Barbuda, whose kindness made the fieldwork a pleasure. Funding for this project was kindly provided by the CUNY PSC-CUNY Grants Program, the CUNY Northern Science and Education Center, the CUNY Honors College, Stirling University, and the CUNY STOCS Program. This research was made possible by the hard work and dedication of the 2007 and 2008 field crews, who have our warmest thanks.

Introduction

Background

Antigua and Barbuda are the two main islands of a small independent English-speaking Caribbean nation. The two nearby islands have different geology and ecology; Barbuda is a low, dry limestone island while Antigua is a mountainous sub-tropical "high island". The two islands were both English colonies from the 17th to 20th centuries, but followed distinctive development paths, Antigua becoming a heavily fortified, sugar producing island dominated by plantation agriculture. Barbuda specialized in food production to provision the Antiguan sugar plantations and was far less heavily developed. Both islands have rich prehistory dating back as far as 5,000 B.P. and have been successively colonized by Archaic- age hunter foragers, and S. American agriculturalists bearing the Saladoid ceramic tradition. After 1493, the island was caught up in the complex contact between New and Old Worlds, eventually becoming colonized by English settlers in 1628. Despite pioneering work by Dr. Watters in the late 1970's-early 1980's (Watters 1976 et seq.) and subsequent survey work by Mr. Calvin Gore for the Barbuda council, Barbuda has had less archaeological research than has taken place in Antigua and most of the other Lesser Antilles.



In January 2007 a field school in archaeology run by Brooklyn College CUNY (Dr. Sophia Perdikaris director) took place in Barbuda, with the Icelandic Mývatn Science Center (Dr. Arni Einarsson) and Antigua and Barbuda National Parks Department (Dr. Reg Murphy) with close cooperation by the Barbuda Council and invaluable help from Mr. Calvin Gore. The 2007 season established a solid working relationship with the Barbuda Council, and agreements were set up whereby artifacts (mainly pottery and lithics) will be permanently housed in Barbuda pending the construction of a local museum while zooarchaeological and geoarchaeological samples and samples for radiocarbon dating would be

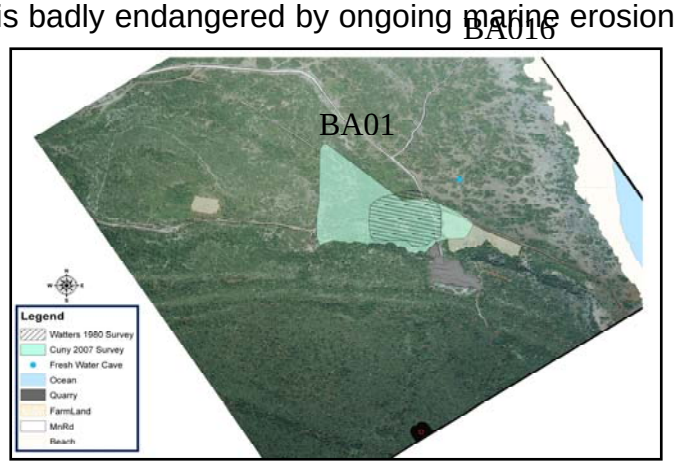
loaned to international partners for analysis. The zooarchaeological research will be carried out under the direction of Dr. Sophia Perdikaris (Brooklyn Zooarchaeology Laboratory), insect analysis and coordination of bulk soil samples will be directed by Dr. Allison Bain (Université Laval, Quebec), geoarchaeology (soil micromorphology) will be carried out by Jennifer Brown under the supervision of Prof. Ian Simpson (U Stirling), with AMS radiocarbon analysis submitted to the Scottish Universities Reactor Center (SUERC) in East Kilbride (Dr. Gordon Cook director). Additional collaborators from the University of Edinburgh's School of GeoSciences are currently preparing to test for the presence of recoverable volcanic ash layers (tephra) and pollen grains from Barbuda. ***Additional potential collaborators are very welcome- please contact Dr. Perdikaris*** (sophiap@brooklyn.cuny.edu)***.***

The 2008 field school built directly upon this prior experience and brought eleven CUNY and Notre Dame students to Barbuda for three weeks, supervised by Dr.s Perdikaris, Murphy, & McGovern ably aided by experienced field supervisors from CUNY and Macalester College (Brown, Look, Smiarowski, McGovern & Palsdottir), with the active participation of geoarchaeologist Jennifer Brown of Stirling University.

The 2008 project was intended to provide:

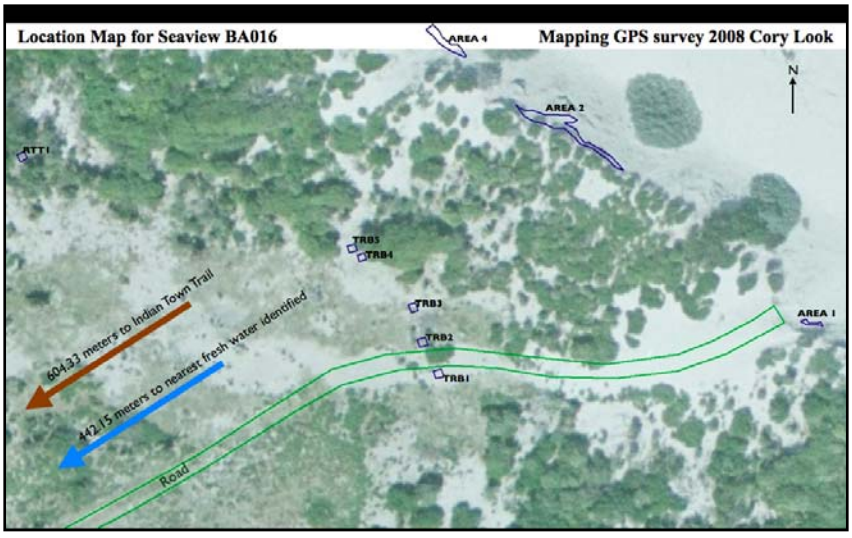
- **Field training** to beginning archaeology students (all of whom had participated in lectures and hands-on training in archaeology prior to their trip). Lectures, excursions and hikes within Barbuda (guided by Mr. Gore) and to archaeological and historic sites in Antigua (guided by Dr. Murphy) were integrated with natural history walks and some well-earned beach time.
- **Community outreach** via the Barbuda school system, a temporary museum display of finds and archaeological field methods (kindly hosted by the Barbuda Pentecostal Church in Codrington) was combined with an opening ceremony by the Barbuda Council (televised locally). School groups and many residents toured the exhibit, and very productive discussions regarding development of a heritage center and museum and more effective management of historical/environmental tourism took place with Council members and Mr. Chad Knight Alexander of the Barbuda Planning Office. Site visits by Barbuda High School students (Dr. John Massington headmaster) were particularly successful. We were fortunately able to locate a cache of un-curated finds (and some human remains) in the basement of the historic Government House structure in Codrington. This basement has now cleared for secure storage of the excavated 2007-08 artifacts and the re-discovered materials and we hope that it may be possible to repair this 18th c structure as a Barbuda Museum and outreach center. Community interest in the archaeological heritage of Barbuda is high, and plans for an effectively signposted and appropriately managed national park are under development.

- **Rescue Excavation** of archaeological deposits exposed at the I**ndian Town Trail** (BA 001) and **Seaview** (BA016) sites in NE Barbuda. These two localities had been surveyed in 2006 and in 2007 had produced substantial collections of bone, shell, lithics, and pottery from exposed archaeological deposits. Pottery recovered at Seaview the distinctive white on red (WOR) high quality painted pottery of the early Saladoid agriculturalists as well as zone incised (ZIC) pottery and less decorated wares. The Seaview site is badly endangered by ongoing marine erosion, and the rich artifact finds and human and dog burials eroding from the sand sea cliff face have attracted looters in the recent past. The Indian Town (BA01) trail site first discovered by Dr. Watters is a very extensive spread of artifacts, shell, and bone now shown to cover an area of at least 80,000 sq meters (Figure 2 above, air photo with GPS superposed, showing location of Indian Town Trail BA01 and Seaview BA016). Pottery recovered from surface and test pits at Indian Town Trail indicate later post-Saladoid occupation. This site had been endangered by construction, now kindly halted by the Barbuda Council following the 2007 report by Matt Brown and Cory Look. The 17th-19th c historic **Highland House** ruin was also visited in 2008, and plans were made for a full survey with mapping GPS in the next season.



Excavation Overview

When we arrived on January 3rd it was immediately apparent that erosion had accelerated over the past year at the exposed Seaview beachfront cliff. Despite major surface collections made during the 2007 season, substantial quantities of eroded shells, pottery, bone, and lithics littered the surface of four beach cliff areas that were not



covered by stabilizing patches of sea grape. These areas were labeled (from south to north) A1, A2, A4, and A3 (see location map, Figure 3).

As the urgency of the threat to these exposed cliff deposits at Seaview became apparent, it was decided to put most of the 2008 effort into rescue excavation of the most vulnerable portions of the Seaview site and to restrict planned work at Indian Town Trail to a single 1 x 1 m test pit designed to test the stratigraphy in the area initially selected for major work in the 2008 season. Subsequently (on the initiative of Dr. Murphy) we expanded investigations at Seaview by placing a series of test pits into the area on the landward side of the modern beach ridge. These units were initially simple shovel tests, but some rapidly produced evidence of significant cultural activity and were enlarged to 1 x 1 m, and one (TRB5) was enlarged to a full 2 x 2 m unit and dug stratigraphically. This unit provided evidence of surviving structural remains; a post hole possibly associated with what may be a floor deposit and a deep storage pit. Other pits produced high quality painted Saladoid pottery and clear evidence of widespread intact cultural deposits. It now seems possible that the long midden exposed in the Seaview erosion face is in fact not the remnant of a largely eroded site, but the outer edge of a settlement further inland that may remain substantially intact.

Excavation & Recording Methods

The 2008 CUNY field project made use of a modified version of the *Archaeological Institute of Iceland* (FSI) field manual (available as download from www.archis.is). Wherever possible, excavation was by natural stratigraphy (though in some test pits artificial 10 cm levels were used in 2008), single context plans were drawn, and all finds were tied to a stratigraphic context within a sampling area. Context form descriptions prompt for compaction, color, composition, inclusions, thickness, boundary, homogeneity, and disturbance and for Harris Matrix position.

Except in very small shovel tests, all soil was sieved (dry sieve mesh of ca 2.5 mm mesh was used in 2008) backed by systematic 2 liter/context bulk soil samples plus spot samples of potentially rich contexts determined by site supervisor. Supervisors regularly checked backdirt for small bones and artifacts to monitor recovery, and excavators were trained to clear the sieve directly into bone bags rather than attempting to hand pick each tiny element. While bone elements (and some shell and stone beads) were generally small, the fine dry sieve mesh combined with sharp eyed student workers seems to have produced consistently high recovery rates and spoil heaps were commendably sterile. Soil profiles exposed were sampled by Jennifer Brown (U Stirling) for soil micromorphology using Kubiena tins, and Jennifer also provided invaluable help in profile description and student training in geoarchaeology.

The large numbers of marine shells in Caribbean sites (the West Indian Top Shell is the most common at both Seaview and Indian Town Trail) regularly present a curation problem for local museums, and our collections protocol

required collection only of shells from documented *in situ* contexts (these have been included with the rest of the zooarchaeological samples for shipment to CUNY). In erosion face surface scatters and in the initial shovel tests at Seaview, shells were counted but not retained as samples. A digital finds and samples register was maintained (in MS *Access*) by Albina Palsdottir for both bulk finds recorded by context and unit (soil samples, bone bags) and for individual small finds (worked bone, worked shell, pottery, lithics, beads, worked coral, worked pumice). High resolution (>8 megapixel) photos were taken of potentially diagnostic finds (all beads, painted or incised pot sherds, most rim or base sherds, all ground stone objects, modeled *adorno* figures and all refitted vessels). We attempted to also enter and photograph the many unlocated finds that were discovered late in the season in the basement of Government House, but this task remained unfinished- we simply ran out of time despite long hours in the field lab. The 2007-08 finds and samples are now cataloged for study and display, and while a great deal more can be done to improve this data base and much typological work needs to be completed in future seasons, the Antigua & Barbuda Parks Department and the Barbuda Council now have a workable first stage digital record of their holdings from the Seaview and Indian Town Trail sites.

Site photography was entirely digital, making use of 9 megapixel SLR cameras for all record photos. Plans (1:20) and profiles (1:10) were drawn by hand as usual, making use of permatrace drawing film. Drawn plans were scanned and digitally photographed in the field, with the aim to create an all-digital site record that could be securely curated on (multiple) DVD and distributed widely to specialists and archived with the Barbuda Council and Dr. Murphy. The archive of all digital site records is on file at both CUNY and Antigua & Barbuda Parks Dept. will be updated as radiocarbon dates and additional specialist reports become available. It will be available for wider distribution on DVD on request.

Vertical and horizontal control was maintained primarily mapping GPS (Sokkia *Stratus* system, which achieved millimeter scale horizontal accuracy when a least 5 satellites were over the horizon), combined with a Laser Total Station mainly used to calibrate and check vertical measurements. This allowed the project great flexibility in aligning working grid systems within the different sampling units for the best fit to conditions along the steep erosion face, and to tie in scattered test units to a common system. This combined digital mapping program worked well to connect the 2008 excavations and surface collections to the previous survey plans and the Barbuda Planning Office digital grid system and provided welcome flexibility in the field.

Site Conservation Efforts

The whole Seaview beach cliff area is very unstable; with loose natural sand stratified both above and below the denser layers of cultural deposits now being worked loose by wind, rain, and crab burrows (both ancient and modern land crab burrows were very evident throughout the deposits). The cultural deposits at

Seaview are so rich in shell that in the sand matrix the combined effects of sun and salt spray have produced concrete-like indurated deposits, especially in the A3 area where lumps of fused bone and shell are falling down slope to the beach area like boulders. Human or animal traffic from the camping area to the west of the dunes down to the Two Foot Bay beach area had the potential to cause large scale slumping and collapse, as did our own surface collection and mapping activity. Our strategy at the Seaview erosion face was thus to control sand sliding from above (both for safety and for site working conditions) and establish safe crew access routes into and along the cliff face area as a precondition to better defining the surviving *in situ* midden deposits (Figure 4 above). We needed to make sure we did not ourselves destroy these fragile deposits before we could effectively excavate them, and much of the first week of the project was taken up by sand bagging and construction of a stable safe access path. Thanks to the care and dedication of the crew and supervisors, the 2008 project was able to excavate three long profiles (totaling >18 m) and recover extensive collections of artifacts and ecofacts without injury to the site. While the Seaview cliff face deposits remain highly endangered by storm erosion and slumping, the 2008 program of excavation, sand bagging, backfilling and re-planting of sea-grape should at least somewhat stabilize the excavated area, and the project was able recover a substantial archaeological record without doing harm.

Seaview BA016 Erosion Face (Units A1, A2, A4)

Figure 5. View from the shoreline SW towards the Seaview erosion face under excavation, Area A1 is off photo left, A3 is off photo right.

Seaview BA016 area A2- the central erosion face. Initially we believed (as in 2007) that there were two bands of *in situ* midden deposit in the broad A2 area: an "*upper band"* slanting along below the modern cliff surface and a "*lower band"* 30-50 cm further downslope. However, as we began clearing the modern drift sand and better defining the extent of the deposits; it became clear that what we had called the "lower band" of 30- 50 cm thick cultural material (brown sand, charcoal, shell, bone, artifacts) was in fact a broad slumped deposit created by erosion undermining the denser and far more compact cultural layers from below, causing large lumps and whole sections of deposit to slide down slope. These detached clumps did form apparent bands of deposit, but excavation revealed that in fact the "lower band" is the same deposit as the "upper band" but re-deposited down slope by erosion. As we cut back the disturbed portion of the A2 erosion area to reach *in situ* stratified deposits, the "lower band" rapidly disappeared, its sloping bedding angle revealing that it had to have been deposited after the beginning of the erosion cut. The "upper band" by contrast revealed a bedding angle running into the modern cliff face horizontally. As the erosion slump was cleared, two thin dark cultural horizons bearing charcoal, West Indian Top Shells and some pot sherds emerged well below the thick "upper band". These two lower in situ contexts [853] & [857] are definitely cultural, and appear to reflect an occupation of the Seaview cliff area well before the thicker early Saladoid midden deposit above. These two thin cultural layers are separated by 20 – 50 cm of natural sand (Figure 6) and thus appear to represent two distinct occupational horizons well prior to the main early Saladoid midden deposits. These lower cultural layers [857], [853] contained small amounts of shell (mainly West Indian Top Shell) stone tools, and a few pieces of pottery. When exposed horizontally these early layers produced a thin and discontinuous surface of charcoal patches and scattered finds. Figure 7 at right shows the surface of the [857] context after exposure.

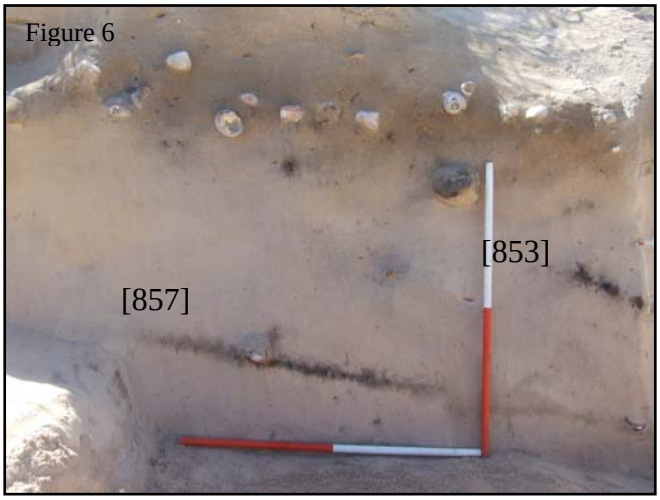


Figure 6

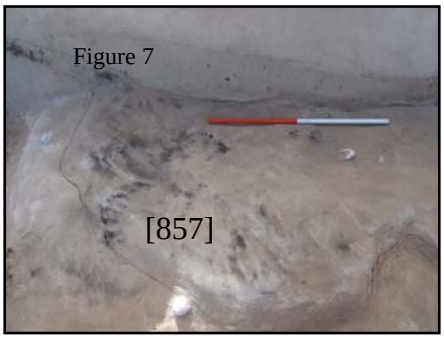


Figure 7

Despite the difficulties of working in strong sunlight and blowing sand, the A2 team (led by Konrad Smiarowski) were able to excavate stratigraphically from both above and from the erosion face exposure and recover an 8 m long profile as well as clearing successive horizontal

surfaces of up to a meter in width (Figure 8). Figure 8 provides an impression of the surface of the upper midden deposits (which produced much ZIC and WOR pottery, beads, lithics, shell and bone). The horizontal stratigraphic excavations also allowed crews to document and recover conjoinable vessels and better detect crab burrow intrusions. The close proximity of the conjoinable vessel fragments suggests that despite bioturbation and some downhill movement the upper (Saladoid) midden deposits have not been extensively reworked.


Figure 8

As is evident in Figures 5 & 6 (above) the bedding angles of the earlier layers are not parallel to the modern beach ridge surface, slanting downwards sharply to the north. The upper Saladoid-pottery bearing contexts (marked in figure 6 by the lines of West Indian Top Shells) followed a similar if less extreme bedding angle, and grew thicker towards the base of the former slope at the north end of the profile. This thickening appears to continue to the north, and substantial amounts of pottery and one large grinding stone were visible in another large erosion slump on the northern side of a large stand of well rooted sea grape (see figure 5 above).

Seaview BA016 area A4- the northern erosion face: rather than disturb the large patch of sea grape which appeared to be stabilizing one of the thickest midden deposits, we opened an additional sampling unit A4 approximately 20 m further north, centered on this concentration of eroding cultural material, and again worked to stratigraphically excavate surviving *in situ* deposits while stabilizing the erosion front with sandbags. Area A3 from 2007 was approximately 50m further north along the erosion face and was not excavated in 2008. These in situ contexts in A4 seemed very similar to the main upper layers in area A2, producing fine white on red (WOR) and zone incised (ZIC) potsherds (and at least most of one conjoinable vessel) as well as


Figure 9 BA016 Area A 4

concentrations of lithics, some of which appear to be made of Antiguan Long Island flint. Beads and substantial amounts of bone and shell (mainly West Indian Top Shell) were recovered from the small ca 1x 5 m unit. This area appears to have a disproportionate concentration of finds (see table 1 below), and may repay additional work in the future.

Seaview BA016 area A1- at the southern end of the Seaview beach erosion cliff the visible *in situ* upper layers (containing many West Indian Top Shells, fire cracked stones, and Saladoid pottery) come close to the modern surface. In both 2007 and 2008 the erosion slope below was heavily littered with shells, pottery, and lithics. Following surface collection the *in situ* layers were localized along the upper edge of the erosion cliff and expertly excavated by a team led by Albina Palsdottir. This exposure revealed a shallow depression containing charcoal, fire cracked stones and burnt bone; probably a small cooking pit or hearth (Figure 10). While surrounding contexts appeared to represent a midden dump of processed West Indian Top Shells and bone, it would appear that activities besides discard took place on this surface.


Figure 10

Seaview Inland: Test Trenches B 1-5, R 1-3

In 2007 our working assumption had been that the band of cultural material eroding out of the Seaview beach cliffs was the last remnant of a site that had been largely destroyed already by erosion. Fortunately in 2008 Dr. Murphy decided to test this assumption by placing a series of test units on the landward side of the modern beach ridge to investigate potential cultural deposits on the inland side of the Seaview site area. He set out a series of five units (TRB 1-5) along a transect "B" (see location map, Figure 3). These were initially dug as shovel tests (ca. 50 x 50 cm), most of which produced no cultural material. TRB 5 was enlarged first to a 1.5 x 2 m and then to a 2 x2 m unit to allow for deeper excavation. This unit produced finds at 82 cm from the surface, and a widespread cultural surface at around 80 cm from surface. As none of the other TRB series were carried this deep, it is possible that cultural material in fact is present below their maximum depth. The TRB 5 unit (crew supervised by Dan McGovern with geoarchaeology by Jennifer Brown) eventually provided a view of a dark cultural layer extending over the whole surface of the expanded unit at around 80 cm from surface (context [1002]). This layer is approximately 20 cm thick and contained charcoal fragments and one nearly complete conjoinable vessel (WOR). Below this widespread layer a post hole was encountered. The post hole was sectioned, and proved to approximately 15 cm in maximum diameter and approximately 20 cm deep, with some charcoal in the infilling. Just


Figure 11

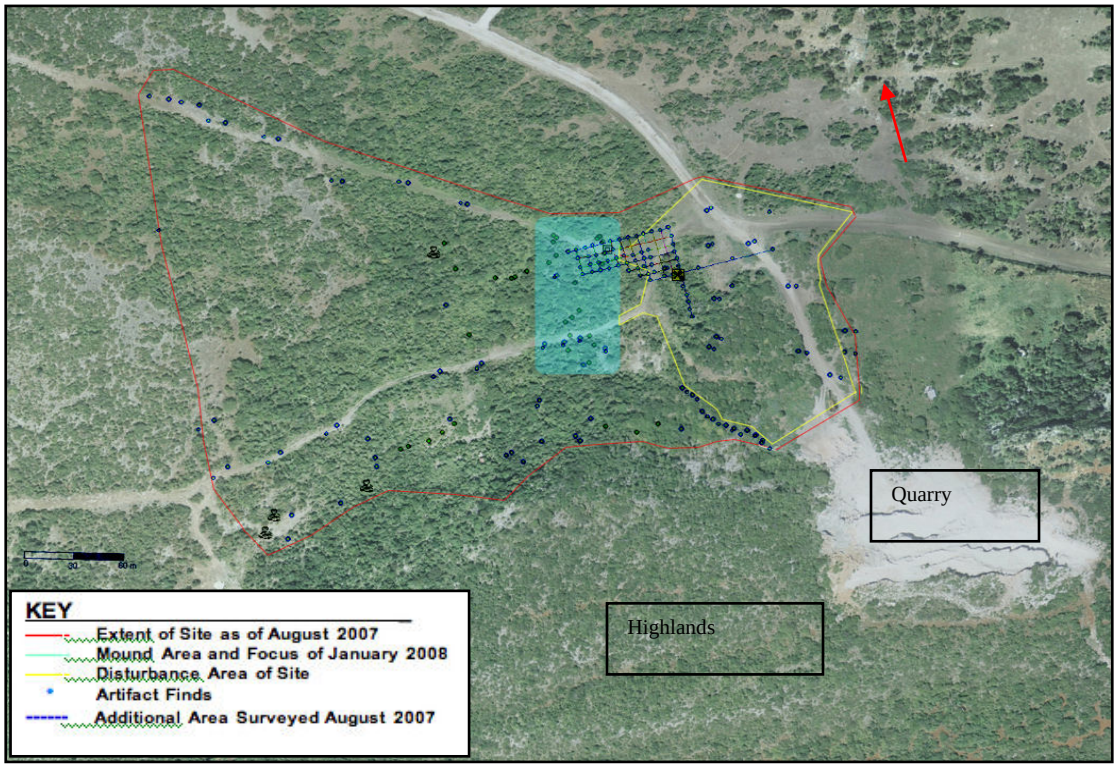
to the south of the post hole, and extending into the south profile, a semi –circular dark layer appeared ([1003]). This proved to be a deep pit (storage pit?) reaching its bottom at 2.4 meters (Figure 11). This pit had many charcoal fragments present, and charcoal and whole soil samples were taken for possible dating and flotation. The pit had been dug down into very loose natural sand, and would have required a liner of some sort to be kept open for any length of time. The 2 x2 m pit by this point had reached the limits of safe excavation (bankside spotters were used below 1.5 m, and only supervisors worked in the unit after this depth. Charcoal samples were taken regularly from TRB5 and we hope to use them for C14 dating following species identification (U Stirling). While it is impossible to interpret the features revealed by TRB5 without an expanded horizontal exposure, it seems clear that these cultural deposits are very different in character from the midden dumps encountered along the Seaview erosion face just to the east. Have living areas with structural remains been encountered by the TRB 5 unit? Is this the Saladoid village center?

The transect B test units were supplemented by three additional test pits (RTT 1-3) again begun as shovel tests. RTT 2 (1 x 1 m) was carried to 80 cm with the find of one non-diagnostic sherd, but RTT 1 encountered intact stratigraphy at ca 60 cm from the surface, and one exceptionally fine painted small bowl in early Saladoid style was recovered from this unit. RTT 3 (1 x 1m) was placed near an open looter's pit noted by Dr. Murphy, and it rapidly produced lithics, pottery (WOR), and a large stone griddle at 30-50 cm from surface. This pit seems to have encountered either a living floor or the edge of a midden dump, and we chose not to expand it given the time and crew available.

Dr. Murphy's exploratory test pits in the Seaview Inland area thus proved remarkably productive, changing our understanding of the Seaview site and its potential archaeological value. The suggestion of structural remains and the deep [1003] pit in TRB 5 may hint at the presence of an intact residential area. The finds of high quality expertly painted fine ceramics as well as beads made from carnelian and other hard stone exotic to Barbuda may suggest the presence of high status households. Seaview is clearly *not* simply a remnant deposit suitable only for salvage work, but appears to present a significant resource for ongoing research, education, and public outreach.

Indian Town Trail – BA01

Indian Town Trail is located on the eastern side of Barbuda about 3 km SW of Seaview and Two Foot Bay (see Figures 1 & 2 above). The site is bordered by an active limestone quarry and ridge of the Barbuda highlands to the south. The earliest archaeological work at BA01 was carried out by Dr. Watters in 1980 (Watters 1980) which was part of a systematic transect survey of Barbuda. Test pits produced faunal material and artifacts from the site (Watters et al 1984). Survey work at BA01 has been carried out by CUNY since 2005, and it has become apparent that the surface scatters of bone and artifacts extend over a much wider area than previously thought (Figure 12 below).



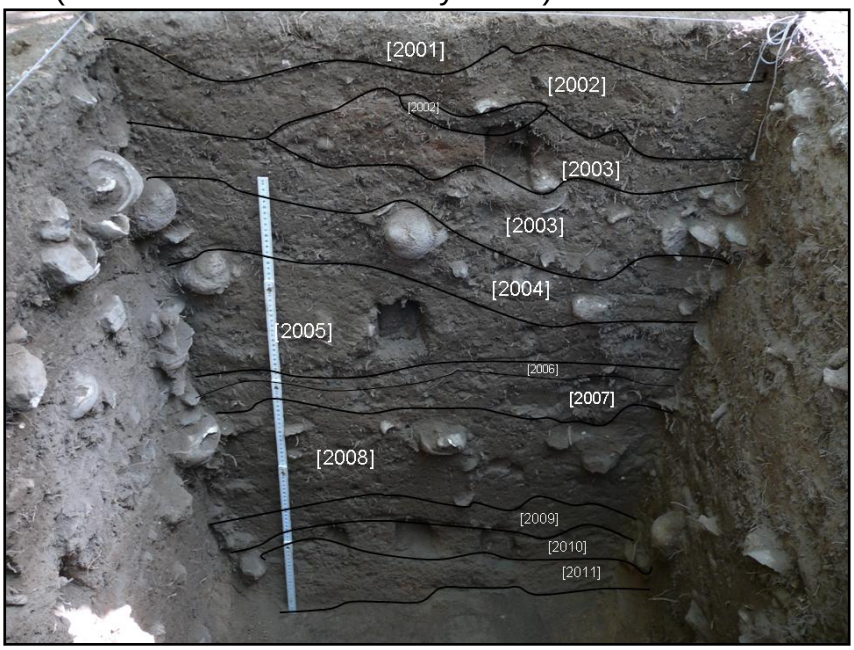
The majority of the Indian Town Trail site area is covered with dense xerophytic scrub vegetation, with limited archaeological visibility except along the roads crossing the site area and in a zone near the active limestone quarry which had been partially bulldozed for the construction of a quarry building (fortunately all work has been halted by the Barbuda Council and the site is not now endangered). The surrounding undisturbed vegetation included lignum vitae (*Guaiacum officinale*), cacti (*Cephalocerus millspaughii*), agave, lob-lolly, and yellow balsam (*Croton flavens*). Ceramics, lithic material, conch shell adzes, fish reptile and mammal bone, crab and shell were all found on the surface, and multiple mounds and linear ridges suggesting a settlement area have been mapped in the dense forest area extending along the base of the Highlands escarpment. The eastern edge of the site seems to end at the modern main road (Two Foot Bay road). Survey has not yet identified any cultural material on the

eastern side of Two Foot Bay road, and Indian Town Trail is definitely separate from the Seaview site to the northeast.

Test pits were opened in 2007 by the first CUNY field school in the site area partially damaged by bull dozing associated with a planned expansion of the quarry. These revealed extremely rich midden layers with extensive concentrations of shell, pottery, beads, bone, charcoal, and fire damaged stones. The pottery suggested a post-Saladoid occupation, though a few pieces of WOR pottery have been found during survey.

Indian Town Trail BA01 2008 Excavations

While the main 2008 CUNY effort was centered upon the endangered Seaview deposits, we did open a 1 x 1 m test unit (Area C) supervised by Matt Brown and Cory Look. Area C was set up near the apex of a large midden mound located during field work conducted in August of 2007. This trench is approximately 20 meters west of Area B (1X1 excavated in January 2007) at coordinates SW 519,429; NW 520,429; NE 520,430; SE 519, 430. This area provided an opportunity to collect stratified finds and also provided an opportunity for Jennifer Brown to collect systematic soil micromorphology samples from a complete and undisturbed part of this substantial site (Figure 13 at right). Bones of fish, small mammals (rice rat), crustaceans, mollusks, sea mammals and reptiles were all present in the deeply stratified test unit. While fish were present in all contexts the upper layers showed patterns of larger sized parrot and barracuda with other species that have not yet been identified. Other faunal remains included turtle and manatee bones as well as a single manatee tooth. A large fragment of red pottery was excavated from within context [2008]. This pottery displayed thick incised lines in large 'S' shaped patterns. Dr. Murphy identified this fragment as associated with the Marmora Bay Post-Saladoid style. Dates for this phase of ceramic chronology in Antigua falls around 900-1200 AD. Beads and lithics were also recovered in substantial



amounts from this small unit suggesting the richness of the surrounding midden deposit.

Artifacts Recovered: A Preliminary Overview

Analysis of the over 2000 registered finds collected in 2007-08 is still ongoing, and a full typological treatment is planned for next year. This report will present a brief overview but it is inevitably incomplete and subject to revision. A count of artifacts (worked material only) broken down by material extracted from the working data base provides a general impression of the distribution of finds at Seaview (Table 1), including both surface collection and excavated *in situ* artifacts. Note that the sampling units are very different in total area, but the high density of artifacts present in the eroding coastal midden deposits is clear (conjoinable vessel fragments are counted as one find). Coral artifacts are worn spikes apparently used as abraders for working some hard material.

Table 1

	Seaview Erosion Front Units 1-4				Seaview Test Pits							
	A1	A2	A3	A4	TRB1	TRB2	TRB3	TRB4	TRB5	RU1	RU2	RU3
Ceramic	400	874	81	158	9	1	2	2	49	47	1	61
Lithic	149	120	31	117	2		2	1	21	5	1	9
Coral	1			8								
Shell	14	37	3	6		1		1	9			

Table 2 presents a similar breakdown of artifacts by material for the Indian Town Trail test units. Note that the 2008 Unit C (1 x 1 m) produced over 1,500 artifact finds alone, indicating the amazing richness of the archaeological deposits in this area. Fifty one beads (all materials) were recovered from Seaview, and 24 were recovered from the much smaller Indian Town Trail excavation units.

Table 2

	Indian Town Trail		
	A	B	C
Ceramic	318	447	1405
Lithic	4	7	47
Coral			45
Shell		28	10

Artifact Photographs

All artifacts and ecofacts samples were recorded on an *MS Access* database and most potentially diagnostic finds were digitally photographed. A selection of these photos is provided here for general reference.

Pottery

Refitted vessel with modeled and zone incised decorations (Seaview)

Refitted vessel fragment, White on Red paint with applied decoration

Refitted vessel, red white and black paint (Seaview).

White on Red Vessel fragment (Seaview)

Finely painted red black and white vessel from Seaview.

Unusual zone incised black with red “eye”, rim sherd (Seaview).

Zone incised rim sherd (Seaview)

White on Red painted vessel body sherd, with possible bat image (Seaview)

Modeled pottery "Adorno" images

Manatee? Seaview

Lizard (Seaview)

Bird (Seaview)

Bat (Seaview)

Pumice Abrading Tool (Indian Town Trail)

Coral Abrading Tool (Indian Town trail)

Large ground stone axe, surface find near Indian Town Trail (Mr. Calvin Gore)

Probable Manioc peeler made from Cowry shell

Shell beads

Zooarchaeological Notes & Field Observations

Cory Look

While a complete zooarchaeological report for any of the Barbudan archaeofauna will not be completed for some time, it is possible to provide some observations from the 2007-08 seasons. Conditions of organic preservation are generally excellent given the near-neutral soil pH (limestone substrate overlain by coral / shell sand) and most excavation units produced large amounts of shell, fish, mammal, and bird bone. What may be midden deposits in the Seaview erosion face (areas A1, A2, A4) and at Indian Town Trail (areas A and C) produced multiple 2-3 kg bags of sieved faunal remains in 2008 (79 bags from Indian Town Trail, 141 bags from Seaview erosion face). The test pits inland from the Seaview erosion face were rich in artifacts, but contained comparatively little bone (less than 2 bags total all units). This suggests the sort of concentration of bone in the large midden deposits regularly described by other scholars working on other ceramic-age Caribbean sites, and may indicate that the area sampled by the Seaview test pits had a different depositional history (Keegan 2000 et seq., Wilson 2007).

The most common shells found from both Seaview and Indian Town trail are West Indian Top shell (*Cittarium pica*) mainly large individuals ca 8-12 cm in diameter. Conch (*Strombus gigas*) are present in smaller numbers, again mainly large individuals. Both species are almost always pierced for meat extraction, and most conch shells have had the dense lip broken away (probably for tool use). Fish bones are very abundant at both sites, with substantial numbers of parrot fish and barracuda remains (some from very large individuals) present at Indian Town Trail. Bones of the West Indian Manatee (*Trichechus manatus*) and the extinct Caribbean monk seal (*Monachus tropicalis*) have also been recovered from Indian Town Trail, along with large numbers of the bones of locally extinct West Antillean rice rats from almost all contexts at both sites. Domestic dog bones have also been recovered; mainly from contexts suggesting deliberate burial (see report below).

Overall the rich and diverse zooarchaeological collections now recovered from both Seaview and Indian Town Trail appear to provide a good basis for investigations of past economy, human introductions and impacts, and long term environmental change on both land and sea. The new Barbuda materials thus may soon be able to contribute to a growing Caribbeanist Historical Ecology perspective (Fitzpatrick and Keegan 2007) as well as improving understanding of a previously undiscovered early Saladoid settlement of the island.

A Domestic Dog from Seaview BA 016

Thomas H. McGovern

During the cleaning of the A2 erosion face area a number of disarticulated but well preserved dog bones were found within an area of approximately 2 x 2 meters. This appears to be a dog burial similar to the better preserved individual found in articulation nearby in 2007. These bones can all come from the same individual animal (and must come from a second individual rather than the 2007 dog). Dr. Murphy reports additional dog burials have been eroding out of the Seaview face for the past several years.

Table 1 below presents the count of bones positively identifiable as dog bone. In addition 10 small fragments of cranial bone from a small terrestrial mammal (almost certainly dog) were recovered from the same context and bagged with the other definite dog bones. Measurement Bd follows Von den Dreisch (1976).

Seaview Table 1
BA 016 2008
Disarticulated Dog Burial in Area A2 erosion face

Taxon	count	element	side	end	fusion ?	Bd	comment
dog	1	ulna	l	w	f	3.21	distal lipping, strong muscle marks
dog	1	humerus	l	w	f		
dog	1	radius	l	s	?		
dog	1	femora	r	s	?		prob. Adult, muscle marks
dog	1	scapula	r	p	f		adult some lipping
dog	1	cerv vert	m	w	f		
dog	5	thv	m	f	f		adult some lipping
dog	1	lumv	m	w			
dog	1	caudal v	w	w	f		broken & healed
dog	2	ph1	w	w	f		
dog	4	mtt	w	w	f		
dog	2	mtc	w	w	f		
dog	1	man	lat	r			old adult, short but robust jaw with M2 lost and root reabsorbed.

The dog bones recovered could all come from the same individual, note that both halves of the body are apparently represented, suggesting that this was not originally simply one limb bone. The dog was apparently an aged mature animal of small stature (roughly terrier sized) but with strong muscle markings

suggesting a powerful build. Sex was not determinable from these remains. Figures 1 and 2 below illustrate the jaw (note the missing tooth with totally re-absorbed roots) and the major post cranial bones.

Figure 2 Dog Post Cranial Bones

Field Report and Analysis of Human Skeletal Material from Seaview (BA016), Barbuda

Matthew Brown

Introduction

During the January 2008 archaeological field school in Barbuda, West Indies human skeletal material was recovered from a disused storage facility in Codrington Village. This material was stored in plastic bags labeled 'George' inside a cardboard box. The human remains belonged to a skeleton that was apparently excavated from the Seaview beach cliff on Barbuda following the 1998 Hurricane George (which may have begun the current cycle of beach cliff erosion that has now exposed this major Saladoid site). It has been suggested that the human remains excavated from Seaview were of the Saladoid period, and a photograph of the pottery said to be associated appears similar to some of the more elaborately decorated vessels recovered from the Saladoid contexts at Seaview in 2007-08. Stratigraphy around the reported area of the burial is associated with the thick eroding Saladoid deposits, and the same general area produced dog burials in 2007 and 2008. This osteological summary is not meant as a full in-depth report but is intended to provide an initial assessment of this skeleton as it now exists. The analysis will consist of age and sex determination as well as dental and bone pathology identification.

Skeletal Analysis

Current State of Preservation

The bones from the skeleton at Seaview are generally in fair condition. Some of the bones were found to have evidence of bleaching from being exposed to the sun, validating the initial report exposure prior to excavation. The outer cortex of all of the bones suffered some post-mortem damage (taphonomic/diagenetic) with many of the bones displaying pitting and root damage. The majority of bones were incomplete related to post-mortem damage. In all cases long bones were missing either the proximal, distal or both ends. The teeth were generally in better condition showing some post-mortem damage.

Recording Methods

While the original name given to this skeleton was "George" it has been given the following specimen number: BA016-G1-99. Where BA016 is the site code for Seaview, G1 is refers to Grave 1 (first grave from Seaview) and 99 indicated the year that it was excavated. This coding system was used in order to facilitate a standard system of recording, which will also allow for flexibility if more information on this individual arises.

The methods used to record this material follow standards suggested by Buikstra and Uleblaker (1994) with some minor variations. Each bone will be entered and scored for completeness, side, fusion, post-mortem damage, and pathology. Any short comments or notes are entered next to each bone entry. Dentition will be

recorded in the same fashion using a coding system for specific teeth that follows Buikstra and Uleblaker (1994). No measurements were taken as the result of a lack of proper measurement equipment and post-mortem damage. Estimation of sex and age will follow suggestions (limited by the resources at hand), by Lovejoy et al (1985).

General Description of BA016-G1-99

These remains represent the single adult male individual approximately 29 years old. The skeleton is mostly complete but is missing some cranial bone fragments as well of the smaller bones from the hand and foot. Bones and teeth range from good to fair condition. Post-mortem damage prevented measurement from being taken. The age is based on a combination of dental attrition and the auricular surface of the pelvis. Sex was evaluated using the cranium. Areas of the pelvis used in sex determination were not present. This individual shows evidence of both bone and dental pathologies.

General Dental Notes

The teeth of BA016-G1-99 are in fair to good condition with some displaying minimal post-mortem damage. The mandible is complete except for the left and right mandibular condyles (missing post-mortem). Tooth number 22 (lower right canine) has broken off post-mortem at the root but the crown is still present. No deciduous teeth area present and the teeth are representative of an adult individual. The mandibular molars have been lost ante-mortem and the alveolar sockets are mostly or completely reabsorbed. Tooth 17 and Tooth 32 (left and right mandibular 3rd molars) might not have ever formed however, there is room in the mandible and in all likelihood were present and then were lost ante-mortem. Unfortunately there is no way to tell if the upper 3rds (T1 and T16) were ever present due to post-mortem loss of the maxillary bone.

All dentition displays moderate to extreme wear. As a result of the heavy wear and in some cases the build up of calculus it was difficult to score for hypoplasia. All teeth were checked (all the observable surfaces) for hypoplasia-none were observed. All teeth except for 2 maxillary teeth display calculus that ranges between minimal to extreme deposits. One cavity of was identified on tooth number 4 (upper right first pre-molar). The maxillary lateral left and right incisors both show invagination (non-metric trait) on the lingual side. The upper left right medial incisors do not display this characteristic. Based on dental wear this individual is an adult approximately 26 yrs.

General Dental Pathology Notes

Maxillary and mandibular teeth display moderate to heavy wear and calculus ranging from minimal to extreme deposits. Periodontitis present in the form of calculus below the cemento-enamel junction (CEJ) and reduction of the alveolar bone. The reduction of the alveolar bone should not be confused with post-mortem damage. There is some possible ante-mortem chipping but it is difficult to tell. No hypoplasias were identified however, in some cases heavy wear would

have obliterated any evidence of the lines. The heavy wear and the in some cases the heavy build up of calculus has rendered some of the tooth surfaces not completely observable.

Calculus

There is a range of calculus severity present on BA01-G1-99 (see photo 2). There are only 2 teeth that do not display identifiable deposits. Calculus is found both above (on the enamel surface) and below the CEJ on the root surface. In two cases small deposits were found on the occlusal surface. Calculus was found below the CEJ on the root surface suggesting periodontitis. There is also evidence of the reduction of the alveolar bone, strengthening the case for periodontitis. The deposits ranged from thin to thick patches. Heavy calculus can be the result of a combination of a number of factors including diet and individual variation. The greatest amount of calculus is found on the lower right premolars. Maxillary dentition displayed significantly less calculus compared to the mandibular teeth.

Caries

One medium to large carious lesion (or cavity) is located on the distal surface of T4 (upper right 1st pre-molar). It occupies a large portion of the enamel surface and extends onto and slightly below the CEJ affecting the root (see photo 3). It is slightly but noticeably positioned towards the lingual surface edge. This might be related to the heavy build up of calculus on the buccal surface which extends slightly on the distal surface. No other teeth displayed lesions or recognizable stains.

Dental Attrition

Dental wear ranges from moderate to heavy (see photos). All of the anterior teeth display heavy wear with some only having a thin enamel ring remaining and the pulp chamber exposed. The premolars displayed the least wear compared to the canines and the incisors. Of the anterior teeth, the incisors showed the greatest amount of wear. The wear seems to be comparable between the maxillary and mandibular teeth. On the lower left premolar on both teeth a depression in the area of dentine exposure was observed. The depression in both cases was encircled by an enamel ring. These depressions are most likely due to angles of attrition with upper left premolars. There are slight depressions on the right lower premolars but significantly shallower and smaller in overall area. It is not entirely clear as to the etiology of the depression and the mechanics that led to these pits.

Mandibular Dentition (top) Maxillary Dentition (T5, 6, and 7) Scale in mm

General Bone Pathology

BA01-G1-99 shows evidence of vertebral arthopathies (joint disease) located on the cervical, thoracic lumbar vertebra. Vertebral osteophytosis (VOP) and erosion of the articular surfaces (see photos 6, 7, & 8) can be found on the inferior and superior articular facets of all 3 types of vertebra. There is also evidence of the erosion and pitting on at least one cervical body. Pitting is also found on some of the articular facets of the thoracic. Unidentified (numerically) fragments of thoracic vertebra display VOP, and some erosion of the centrums border.

There is no clear evidence of nutrient disorders. The pitting found in the orbits is most likely the result of post-mortem damage and normal porosity of the underlying bone but CO can not be convincingly ruled out at this point. There is no evidence of any infection (active of arrested). It should be noted that the outer cortex of the long bones display some pitting that is resultant from diagenic/taphonomic processes. Damage to the outer cortex could have obscured any evidence of pathology; however, if there was any remodeled or healed infection, there should be some evidence of the bone modification.

Summary

BA016-G1-99 represents remains of a single individual adult male. The age of this individual was based on auricular morphology and dental attrition. While the age of 29 (average of these two methods) was achieved it is more than likely that this individual was older. The sagittal suture is completely closed suggesting an age greater than 29 and there is some closure of the coronal suture on both the

left and right sides. However, as a result of post-mortem damage to other suture areas, a composite score (see Lovejoy et al 1985) was not attainable. Furthermore, age achieved for dental attrition is based dental quadrants. This method seems to have under aged this individual. Some of the teeth in each quadrant showed enough difference in wear (less wear) to move the entire quadrant in to a younger category. However, if the teeth were scored individually there would have been a significant increase in age, from 26 to 32 and if the averages for individual teeth were used the age range would have been 27-37.5 giving an overall average of approximately 32 years. The difference in quantity of wear could be the result of a number of variables including but not limited to the loss of a mirror tooth, mechanics, or cultural practices. Environmental conditions (grit in food) could have played a role in accelerating dental wear and thereby giving the impression of an older individual. However, with the sealing of the sagittal suture, while not extremely accurate, and the age related to the auricular surface it is more likely, that while environment could have and probably did play a role in attrition, that this individual is older than the 26 years achieved using dental attrition.

This individual suffered bone and dental pathologies. Vertebral Osteophytosis was found to present on a number of vertebral bodies as well as on some of the edges of vertebral articular facets. Cervical, thoracic and lumbar were all affected. There did not seem to be any clear evidence of joint ebrunation on the facets. There was also evidence of erosion on some of the body surfaces. In many cases increase in arthropathies are associated with an increase in age. These can also be related to mechanical stress or trauma (Ortner 2003). Lipping present at the edges of the vertebral bodies is the result of degeneration of the intervertebral disks. The bony reaction to degeneration and or expulsion of the interverterbral disk is for the body to compensate with bone growth. These growths are found at the edges of the thoracic vertebral bodies. The actual cause is no known but age should be taken into consideration (but see age determination summary notes). No other bone pathologies were observable.

Both maxillary and Mandibular dentition displayed dental pathologies. Calculus, or mineralized plaque, was found to be present on all teeth except for one. Severity ranged from minimal to extreme and the presence of calculus below the CEJ combined with the reduction of alveolar bone suggested periodontitis. Calculus has been associated with diets heavy in protein as the presence of protein leads to a more alkaline environment which can lead to greater production of calculus (Lieverse 1999). High protein diets, shell fish, would have been readably available at this site. However, Lieverse (1999) also points out that a diet high in carbohydrates can lead to an increase in plaque production which ultimately can lead to an increase in calculus deposits as well as cavities. The single cavity might not support a diet high in carbohydrates, but isotopic analysis will probably provide the best measure of past diet.

Ultimately a larger sample size, cultural and secure chronological information pertaining to this individual would add to the overall detail of this report as well as to permit us to ask a wider range of questions. It would also allow for more comprehensive statements on diet and the presence of pathological conditions mentioned above.

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Cranial Bones

Bone	Side	NBL	Complete	Path	Count
FRONTAL	NBL	L&R	1	No	1
ORBIT	L	N/A	2	No	0
ORBIT	R	N/A	2	No	0
PARIETAL	L	N/A	1	No	1
PARIETAL	R	N/A	1	No	1
OCCIPITAL	NBL	L&R	2	No	1
TEMPORAL	L	N/A	1	No	1
TEMPORAL	R	N/A	1	No	1
ZYGOMATIC	L	N/A	1	No	1
ZYGOMATIC	R	N/A	1	No	1
MAXILLA	NBL	L&R	3	No	1
MANDIBLE	NBL	L&R	1	No	1

Cervical Vertebra

Cervical	Complete	Body	Arch	Path	Art Pre	Art Poss	Count
C-UI	No	1	1	?	6	6	1
C-UI	No	2	1	?	4	6	1
C-UI	No	3	2	No	2	6	1
C-UI	No	0	2	No	2	6	1
C-UI	No	0	2	No	2	6	1

Thoracic Vertebra

Thoracic	Complete	Body	Arch	Path	Art Pre	Art Poss	Count
T-UI	No	0	2	No	2	12	1
T-UI	No	0	1	No	4	12	1
T4	No	0	1	No	4	12	1
T5	No	0	1	Yes	4	12	1
T6	No	0	1	?	4	12	1
T7	No	0	1	?	4	12	1
T8	No	0	1	Yes	4	12	1
T9	No	0	2	?	2	12	1
T10	No	0	1	?	4	10	1
T11	No	0	1	Yes	4	8	1
T12	No	0	1	Yes	4	8	1
T-UI	No	3	0	Yes	0	0	0
T-UI	No	3	0	Yes	0	0	0
T-UI	No	3	0	Yes	0	0	0
T-UI	No	3	0	Yes	0	0	0

Lumbar Vertebra

Lumbar	Complete	Body	Arch	Path	Art Pre	Art Poss	Count
L1	No	3	1	Yes	5	6	1
L2	No	3	1	Yes	5	6	1
L-UI	No	0	1	No	4	6	1
L-UI	No	0	2	No	2	6	1
L-UI	No	0	2	?	2	6	1

Long Bones

Bone	Side	PRX-EP	PRX1/3	MID1/3	DIST1/3	DIST-EP	ART SUR	PATH	Art Pre	Art Poss	Count
HUM	L	0	2	1	1	0	NONE	No	0	2	1
HUM	R	0	2	1	1	2	DIST	No	1	2	1
RAD	L	0	1	1	1	0	NONE	No	0	2	1
RAD	R	0	2	1	1	0	NONE	No	0	2	1
ULN	L	0	2	1	1	0	NONE	No	0	2	1
ULN	R	0	1	1	1	0	NONE	No	0	2	1
FEM	L	0	1	1	1	0	NONE	No	0	2	1
FEM	R	0	1	1	1	1	DIST	No	1	2	1
TIB	L	0	1	1	1	0	NONE	No	0	2	1
TIB	R	0	1	1	1	0	NONE	No	0	2	1
FIB	L	0	1	1	1	0	NONE	No	0	2	1
FIB	R	0	2	1	1	0	NONE	No	0	2	1

Post-Cranial Bones

Bone	Side	Completeness	Path	Articulations Present	Articulations Possible	Count

CLA	R	2	No	0	2	1
SCA	?	3	No	0	0	1
R1	L	2	No	0	2	1
R2-12	?		No	0	0	0

Pelvis

Bone	Side	Completeness	Path	Count
ILI	L	2	No	1
PUB	?	3	No	1
PUB	?	3	No	1

Metatarsals

Bone	Completeness	Side	Path	Art Sur	Count
MT1	2	?	No	NONE	1
MT2	2	L	No	NONE	1
MT2	2	R	No	NONE	1
MT-UI	2	?	No	PRX	1
MT5	1	L	No	PRX	1

Metacarpals

Bone	Side	Complete	Completeness	Path	Articular Surfaces	Count
MC1	R	No	1	No	PRX-DIST	1
MC4	R	No	2	No	NONE	1
MC-UI	?	No	2	No	NONE	1

Phalanges - Hand

Bone	Phalange#	Side	Completeness	Path	Art Sur	Count
PH-UI	#-UI	?	2	No	NONE	1
PH-UI	#-UI	?	2	No	NONE	1

Mandible Dentition

Tooth Number	Tooth Score	Path	Caries	Calculus	Hypoplasia	Wear	Other	PMD	Count
17	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0
18	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0
19	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0
20	1	Yes	No	Yes	No	Yes	No	No	1
21	1	Yes	No	Yes	No	Yes	No	No	1
22	1	Yes	No	Yes	No	Yes	No	Yes	1
23	1	Yes	No	Yes	No	Yes	No	No	1
24	1	Yes	No	Yes	No	Yes	No	No	1
25	1	Yes	No	Yes	No	Yes	No	No	1
26	1	Yes	No	Yes	No	Yes	No	No	1
27	1	Yes	No	Yes	No	Yes	No	No	1

28	1	Yes	No	Yes	No	Yes	No	No	1
29	1	Yes	No	Yes	No	Yes	No	No	1
30	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0
31	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0
32	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0

Maxilla Dentition

Tooth Number	Tooth Score	Path	Caries	Calculus	Hypoplasia	Wear	Other	PMD	Count
1	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0
2	3	N/A	N/A	No	N/A	N/A	N/A	N/A	0
3	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0
4	1	Yes	Yes	Yes	No	Yes	No	No	1
5	1	Yes	No	Yes	No	Yes	No	No	1
6	1	Yes	No	Yes	No	Yes	No	No	1
7	1	Yes	No	?	No	Yes	No	No	1
8	1	Yes	No	No	No	Yes	No	No	1
9	1	Yes	No	Yes	No	Yes	No	No	1
10	1	Yes	No	Yes	No	Yes	No	No	1
11	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0
12	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0
13	1	Yes	No	Yes	No	Yes	No	No	1
14	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0
15	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0
16	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0

Composite Age Determination

D(AVG-A)	M(AVG-A)	F(AVG-A)	CSC(AVG-A)	PS(AVG-A)	Aur(AVG-A)	Att(AVG-A)	C-AGE
N/A	N/A	N/A	N/A	N/A	32	26	29

General Bone Pathology

Bone Path	Infect	Congen	Neoplasm	Arthrop(Vert)	Arthrop(Non-Vert)	Trauma	Meta/Nutr Disease	ABG	ABL	Asymmetry	O
Yes	No	No	No	Yes	No	No	No	Yes	No	N/A	N

General Dental Pathology

Dental Path	Caries	Calc	Hypoplasia	Wear	Periodont	Resorb	Crowd	Impact	No 3rds	PMC	Other
Yes	Yes	Yes	No	Yes	Yes	Yes	No	N/A	No	?	Yes

Calculus

Tooth	OCCL	DIST	MES	LING	BUC/LAB	SUR-A	SUR-OBS	Total
4	0	1	1	0	3	3	5	5
5	0	0	1	1	1	3	5	3
6	0	2	1	0	1	3	5	4
7	0	0	0	0	0	0	5	0
9	0	0	0	0	1	1	5	1
10	0	1	0	0	0	1	5	1
13	0	1	0	0	1	2	5	2
20	0	1	0	1	1	3	5	3
21	0	0	0	2	1	2	5	3

22	0	0	2	2	0	2	5	4
23	0	1	2	1	1	4	5	5
24	0	3	3	0	1	3	5	7
25	0	2	3	1	0	3	5	6
26	0	3	3	1	1	4	5	8
27	0	1	2	1	1	4	5	5
28	1	3	2	2	2	5	5	10
29	1	3	3	3	2	5	5	12

Dental Attrition Scores

Specimen Number (SP#)	Tooth	Score
BA016-G1-99	4	4
BA016-G1-99	5	4
BA016-G1-99	6	5
BA016-G1-99	7	6
BA016-G1-99	8	6
BA016-G1-99	9	6
BA016-G1-99	10	6
BA016-G1-99	13	5
BA016-G1-99	20	4
BA016-G1-99	21	4
BA016-G1-99	22	5
BA016-G1-99	23	6
BA016-G1-99	24	6
BA016-G1-99	25	6
BA016-G1-99	26	6
BA016-G1-99	27	6
BA016-G1-99	28	3
BA016-G1-99	29	3

Caries

Caries	Tooth	1-Sur-Aff	1-Pos	1-Sco	CARCNT
Yes	4	2	7	4	1

Report and Inventory for Human Remains Excavated from Boiling Rock, Barbuda.

Matthew Brown

During the January 2008 Brooklyn College Archaeological Field School additional human skeletal material was found in a storage room in Codrington Village, in Barbuda at the same time as the “George” skeleton was re-discovered (see above). A ground stone ear spool found mixed in with these remains was removed and cataloged with other un-provenienced finds recovered from the same storage area and all are now curated by the Barbuda Council along with

the CUNY 2007-08 artifact collections. The original bags were labeled with the date of 2001 suggesting that they were excavated during 2001. The contents of this report will consist of an inventory of the bones and an MNI. A single human bone, a right humerus was removed with permission of Mr. Calvin Gore of the Barbuda Tourist Board, for isotopic and C14 dating.

The material had been stored in paper bags in 2 card board boxes. Some of the bags were labeled “Boiling Rock” Q1 or Q2. The bags labeled Q2 had further labeling; NE, NW, and SE. Unfortunately, the material from these bags had broken through the rotten bags and was found on the bottom of the card board boxes. Q2 NE, NW, and SE will be combined and recorded as Q2. The material from Q1 did not have any other labeling. All bones were recorded and entered into an Access database. Upon completion of analysis they were put into new plastic bags and labeled appropriately.

Unlike the skeletal material from Seaview (BA016) (reported above), this material was covered in a brown soil which can not be mistaken for the sandy environment at Seaview. The color of the soil is similar to that found at Indian Town Trail. However, this is not enough the identify BA01 as the origin of these human bones. The label ‘Boiling Rock’ is currently an unknown location on the island. This might have been a name given by the individuals excavating this material as name does not match any site names on Barbuda.

The overall preservation of this material was extremely poor. The majority of the skeletal remains were small fragments which was probably the result of a number of variables including post-mortem damage and excavation methods. Mold could be found on some of the bones, most likely the result of the bags and boxes being exposed to water in the storage facility.

The total bone count for Q2 area excluding very small fragments is 140. The minimum number of individuals (MNI) represented is 2 based on the ulna (2 right and 2 left) and there are no children’s’ bones present. In all probability there are more individuals present, however, due to the poor state of preservation it is difficult to tell exactly how many people are represented. The material from Q1 contains significantly fewer bones, totally approximately 23. The MNI for this area is 1, but again there are probably more represented. All bones are adult, however there are some significant differences in size. Interestingly there is no evidence of pathological conditions except for some calculus found on the maxillary dentition from Q2, a possible ethnesopathy (lesion at the site of a tendon attachment) located on the humerus currently waiting isotopic analysis, and a lesion on the frontal bone from Q2. The lack of pathology might be a consequence of the fragmentary state of these bones. There was no attempt to assess age (other than adult-child) or sex. Elements used for sex and age determination were either not present or present and too fragmented to use. Below are the bone tables for Boiling Rock Q2 and Q1.

Area	Area 2	Bone	Side	Age	Count	Pathology
Q2	NE,NW,SE	ULN	L	Adult	1	NO
Q2	NE,NW,SE	ULN	R	Adult	1	NO
Q2	NE,NW,SE	ULN	L	Adult	1	NO
Q2	NE,NW,SE	RAD	L	Adult	1	NO
Q2	NE,NW,SE	RAD	R	Adult	1	NO
Q2	NE,NW,SE	RAD	L	Adult	1	NO
Q2	NE,NW,SE	RAD	R	Adult	1	NO
Q2	NE,NW,SE	ULN	R	Adult	1	NO
Q2	NE,NW,SE	TIB	R	Adult	1	NO
Q2	NE,NW,SE	TIB	R	Adult	1	NO
Q2	NE,NW,SE	TIB	L	Adult	1	NO
Q2	NE,NW,SE	FEM	L	Adult	1	NO
Q2	NE,NW,SE	FEM	L	Adult	1	NO
Q2	NE,NW,SE	FEM	SND	Adult	1	NO
Q2	NE,NW,SE	FEM	SND	Adult	1	NO
Q2	NE,NW,SE	RAD	SND	Adult	1	NO
Q2	NE,NW,SE	FIB	SND	Adult	1	NO
Q2	NE,NW,SE	FIB	L	Adult	1	NO
Q2	NE,NW,SE	PEL	L	Adult	1	NO
Q2	NE,NW,SE	CAL	L	Adult	1	NO
Q2	NE,NW,SE	CLA	R	Adult	1	NO
Q2	NE,NW,SE	CUB	L	Adult	1	NO
Q2	NE,NW,SE	NAV	SND	Adult	1	NO
Q2	NE,NW,SE	HAM	R	Adult	1	NO
Q2	NE,NW,SE	PAT	L	Adult	1	NO
Q2	NE,NW,SE	FIB	SND	Adult	1	NO
Q2	NE,NW,SE	TAL	SND	Adult	1	NO
Q2	NE,NW,SE	PEL	R	Adult	1	NO
Q2	NE,NW,SE	MAX	R	Adult	1	NO
Q2	NE,NW,SE	ZYG	R	Adult	1	NO
Q2	NE,NW,SE	FRO	N/A	Adult	1	YES
Q2	NE,NW,SE	OCC	N/A	Adult	1	NO
Q2	NE,NW,SE	MAND	SND	Adult	1	NO
Q2	NE,NW,SE	TEM	SND	Adult	1	NO
Q2	NE,NW,SE	CRAN-FRAGS	SND	Adult	18	NO
Q2	NE,NW,SE	C2	N/A	Adult	1	NO
Q2	NE,NW,SE	C1	N/A	Adult	1	NO
Q2	NE,NW,SE	L-UI	N/A	Adult	1	NO
Q2	NE,NW,SE	T-UI	N/A	Adult	6	NO
Q2	NE,NW,SE	T-UI	N/A	Adult	5	NO
Q2	NE,NW,SE	SCA	L	Adult	1	NO
Q2	NE,NW,SE	SCA	R	Adult	1	NO
Q2	NE,NW,SE	SCA	SND	Adult	4	NO
Q2	NE,NW,SE	MT1	L	Adult	1	NO
Q2	NE,NW,SE	MT5	L	Adult	1	NO

Q2	NE,NW,SE	MC/MT	SND	Adult	10	NO
Q2	NE,NW,SE	PHAL-H	SND	Adult	3	NO
Q2	NE,NW,SE	PHAl-F	SND	Adult	6	NO
Q2	NE,NW,SE	RIB1	SND	Adult	1	NO
Q2	NE,NW,SE	RIB	SND	Adult	46	NO
Q2	NE,NW,SE	B-FRAGS	N/A	Adult	0	NO
Area	Area 2	Bone	Side	Age	Count	Pathology
Q1	N/A	RAD	L	Adult	1	NO
Q1	N/A	HUM	L	Adult	1	NO
Q1	N/A	ULN	L	Adult	1	NO
Q1	N/A	FEM	SND	Adult	1	NO
Q1	N/A	FIB	R	Adult	1	NO
Q1	N/A	CLA	SND	Adult	2	NO
Q1	N/A	ILI	L	Adult	1	NO
Q1	N/A	HUM	SND	Adult	1	NO
Q1	N/A	CRAN-FRAGS	SND	Adult	14	NO

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