

Caribbean Archaeology

At the Florida Museum of Natural History

GRAND TURK EARTHWATCH EXPEDITION REPORT

MARCH 1997

Dr. William F. Keegan
Florida Museum of Natural History
BEFORE COLUMBUS
January 6 to February 28, 1997
Site GT-3, Grand Turk, Turks and Caicos Islands, BWI
31 EarthCorps volunteers
Assistants: Betsy Carlson, Aline Gubrium, Elise LeCompte,
Sofia Marquet, Sylvia Scudder, Irv Quitmeyer, Jean Borchardt,
Reed Toomey and Barbara Toomey



The Coralie Site, GT-3, is located at the north end of Grand Turk on the edge of North Creek.
(Photo © Betsy Carlson)

Highlights

At the completion of excavations in 1996, we realized that GT-3 was an extremely important site. The radiocarbon dates that we obtained placed it as the oldest archaeological site in the Bahamas archipelago and the animal remains were so unique in comparison to other sites it was clear that this must have been an early colony. Given that island colonization is my area of specialization, I was overjoyed to be excavating the site. It is very rare to find the first of anything, and GT-3 is the first site from this time period to be excavated outside of Puerto Rico! What is even more exciting is that the site is virtually undisturbed by modern intrusions.

Previous investigations indicated that the site was probably first been occupied during a period of lower sea level and at a time when the climate was extremely arid. Because Grand Turk is on a



Graduate student Aline Gubrium takes a break from ravaging ancient deposits as Dave Warren

relatively stable geological platform, it is possible to study minor fluctuations in sea level. Such studies are not possible in most areas due to geological processes such as tectonic

uplift and subsidence. During Team 3, Sylvia Scudder, an environmental archaeologist at the Florida Museum of Natural History who specializes in soils analysis, collected samples that will help us address this issue. Also during Team 3, Irv Quitmeyer conducted a survey of molluscan resources in the vicinity of the site as part of his efforts to investigate seasonality. His trip to the conch farm on Provo has resulted in our receiving animals from four different age classes for study. We hope that the study will allow us to interpret prehistoric rainfall and temperature regimes as well as determining during what time of year individual conchs were harvested. Betsy Carlson continues to work on the animal bones from the site, and was able to field process most of the samples. With this year's excavations, Aline Gubrium, a graduate student at the University of Florida, began working on the pottery from the site. Her research is the main part of a Master's paper. Last, but certainly not least, Elise LeCompte, Registrar for the Anthropology Department at the Florida Museum of Natural History and a wet-site specialist, directed excavations in the peat deposits underwater along the margin of North Creek. Although no significant pieces of worked wood were recovered, the peat samples will provide a wealth of data on the prehistoric environment. The analysis of data collected in 1997 will be used to refine our interpretations of the northern West Indies between A.D. 700-900. It is clear that GT-3 is of interest not only for the West Indies, but for what it can tell us about environmental changes at a global scale as well.

Objectives

As we prepared for the 1997 excavations we focused on several unresolved issues: What was the wide band of disturbance at the eastern edge of the site detected by ground-penetrating radar? What relationship does the unidentified tortoise have to the archaeological deposits? What caused the deposition of almost 50 cm of sand on the site following its abandonment? What was

preserved in the peat deposits where Bob Gascoine found the Indian canoe paddle? What did the structures at the site look like? Was the site occupied year round or only seasonally?

The overriding importance of the site is what it can tell us about global changes in sea level and climate and the human responses to those changes. Others have hypothesized that when GT-3 was occupied the climate was more arid and sea level up to a meter lower. We are in a position to test these hypotheses with data collected during the expedition. Grand Turk is unique in its geological stability affords the opportunity to investigate such small-scale changes in sea level, and the preservation of carbonized material at the site will facilitate the recreation of the climate and vegetation when the site was occupied. Most recent studies of climatic changes have been undertaken by ecologists who view environmental change as deterministic. For example, in 1995, ecological data from Haiti was used to propose that the Turks and Caicos Islands could not have been occupied before A.D. 950. The fact that GT-3 dates to between A.D. 700-1100 shows that cultures are able to overcome environmental stresses.

In addition to collecting data that would allow us to address those global issues, the main objectives of this season were to collect evidence concerning cultural responses to the colonization of a new island. We needed to determine whether or not permanent structures were built at the site, how long the site was occupied, whether the deposits reflected a single or multiple occupations, and how materials were specifically related to each other over a large area. We also collected data concerning specific, local environmental conditions and how these may have changed through time. The radiocarbon dates that we obtained in 1996 showed that the site was occupied longer than previous dates had suggested. For that reason we needed a larger sample to detect what changes had taken place during the almost 400 years that this location was used.

Methods

To address those questions it was necessary to open several wide areas. The basic layout of the excavation was crossed trenches North-South and East-West, covering much of the southern, northern, and central portions of the site. These trenches were connected to those excavated by EarthCorps volunteers in 1995 and 1996; they gave us excellent visibility of the site's layout. Trench locations were based on the previous years excavations, the initial test pit survey, and the ground-penetrating radar survey.

Shovels were used to remove the overburden to a depth of 30 to 60 cm below datum (about 20 to 50 cm below ground surface). Pointing trowels and finer tools were used to excavate the cultural deposits in 10 cm levels. Features were excavated in 10 cm levels or as single units. Features included midden deposits, post stains, hearths, and other soil discolorations.

Across the site a substantial number of turtle bones were recovered. These were carefully uncovered, identified, and then wrapped in aluminum foil before they were removed from the ground. The large bones were especially fragile and required the support of foil to keep the pieces together. Broken pieces were reglued in the lab to permit accurate identification and measurements to be made. To expose fragile pieces of pottery and bone we used sculpting tools, dental picks, plastic knives, wooden ice cream spoons, chop sticks, tea spoons, and a wide variety of brushes. All artifacts were carefully measured, mapped, and recorded. Sieves, ranging in size from 5 mm² to .2 mm² were used to collect materials not observed in situ and small animal and plant remains.

Volunteer Tasks and



Volunteer Marsha Ford excavates a hearth under the watchful eye of David Bowen.

Accomplishments

There were three teams with a total of 31 volunteers. We worked a total of 30 days, usually from 7:30 am to 3:30 pm. More than 120 square meters were excavated. Most of the work involved excavating the site, but all of the artifacts recovered had to be cleaned, and all of the shell had to be identified, weighed, and measured.

The volunteers did everything: shoveling, troweling, sieving, foiling, soil, feature excavation, special sampling. Laboratory analysis included washing, sorting, identifying and weighing animal bones and shells. Volunteers contributed several new tools to the project, including Team 1's multi-purpose tool: a sort-of Swiss Army trowel.

Results

The project was perhaps our most successful to date. The excavations revealed a clear picture of the layout of materials from which it will be possible to detect specific patterns. Results are discussed in a review of each team's accomplishments.



Greenstone axe. Photo © Ben Castricone

Team 1 excavated 8, 2 by 2 meter squares in an east-west trench along the Coralie access road. The trench was located here to intercept the end of the North-South trench excavated in 1996, to be close to the water-line trench in which several large potsherds were recovered in 1995, and to open up the area in which the ground penetrating

radar (GPR) survey had identified a band feature. We found nothing in the eastern end of the trench that could be responsible for the GPR reflection. It is possible that groundwater is closer to the surface here and is responsible for the radar deflection. The first unit we started excavating turned out to be a jumble of turtle and tortoise bones in a series of hearths. It took almost the entire two weeks to complete this unit. Of special note is that we recovered the remains of a tortoise in a hearth. The tortoise, whose identity remains a mystery, was also of uncertain age. Previous finds, while close to prehistoric deposits, were always slightly higher in the deposit and few bones had been found in certain association with prehistoric materials. The tortoise in the hearth leaves no doubt that the tortoise was brought to the island by the native peoples who occupied the site around AD 1000. Team 1 excavated a number of hearths and other features. When these are plotted on the base map, we should gain a better understanding of the layout of the site. Patti Yamane and Ben Castricone, working in the easternmost and deepest part of the trench, recovered a greenstone axe and several large pieces of pottery, which must date to the initial settlement of the site.

Team 2 excavated 11, 2 by 2 meter squares, though these were not as deep as those excavated by Team 1. This area was selected because we had found stains from a prehistoric structure during excavations in 1995 and 1996, and we wanted to learn more about the structure. Several additional post stains were identified, and an extremely large midden, with large rocks and conch shells nearby, was excavated. Furthermore, Team 2 excavated in the land of the giants. It was in these middens and surrounding areas that the largest fish, sea turtle, and iguana bones were found. The difference between the typical size and those from this area is remarkable. In unit 10, a beautiful worked oyster shell pendant was recovered, and in an adjacent unit they found a piece of conch shell that was likely an inlay for a wooden statue. The round shape suggests that it would have been an eye. Team 2 also found a greenstone flake, and lots of pottery. Elise LeCompte began the wet-site excavations during team 2. Every day 2 or 3 cheerful volunteers would assist Elise in the "muck." Team 3 maintained the tradition of good (if bawdy) humor in the tub.

Team 3 excavated 11, 2 by 2 meter square units. These units were in Coralie properties lot 22 (the northernmost lot along the creek road). They were located to be adjacent to Unit C, a 3 by 3 meter square that was partially excavated in 1995, and in which two large hearth/midden features were identified. GPR reflections also indicated the presence of buried features. The team 3 excavations began very slow. In fact, the first unit we completed had virtually no artifacts at all. The deposit in this area looks very different from the areas excavated to the south, lacking for the most part a grey discoloration to the soil. The grey soil was observable at the eastern side of the deposit, where two features produced stains with artifacts that were over a meter below datum, the deepest deposits in the site! Running across two of the units in a north-south direction was a 60-cm wide band of hard-packed sand. It is likely that this was an aboriginal trail, and that the sand became hard packed from people continuously walking over it. Of special note was the pile of tortoise bones which Don and Jean excavated. The remains of three tortoises were piled together and for the first time we recovered large sections of the carapace. Hopefully, we now have enough tortoise parts to permit their identification.

All of the pottery again appears to be Ostionan. The one "decorated" sherd is a wedge-shaped lug shaped like the head of a turtle from the side of an effigy pot. When the pot was complete there would have been a head adorno and four flippers arranged around an oval vessel. Several handles were also found which confirm the identification of these vessels as Ostionan. Moreover, because all of the pottery has igneous and metamorphic mineral sands, it must have all been imported from the Greater Antilles. There are currently two studies directed toward pinpointing the source(s) of the pottery. Ann Cordell, ceramic technologist at the Florida Museum of Natural History, is currently examining 62 pottery thin sections from 9 sites on the north coast of Hispaniola and 56 thin sections of imported sherds recovered at 8 sites in the Turks and Caicos (including some from GT-3) and Inagua. The second study is being conducted by Dr. James Burton of the Laboratory of Archaeological Chemistry at the University of Wisconsin. Burton has examined 59 sherds from Cuba, Haiti, Dominican Republic, Puerto Rico, and the

USVI using the acid-extraction method of paste characterization. I just recently sent him samples from Grand Turk, so there are no conclusions to be had. He did, however, notice that the pastes were locally distinct, which holds promise for identifying source areas. The petrographic comparison of potsherds from Grand Turk with those from sites in the Greater Antilles may reveal where the people who settled at GT-3 got their pots.

The animal remains continue to fascinate us. The assemblage is again dominated by sea turtles, iguanas, fishes (especially very large fishes) and birds. This year, in addition to the usual size iguana, we also found a much larger animal. The bones from this "giant" iguana are likely those of a new species which the natives may have imported from Hispaniola. We also found the remains of

an extremely tall bird, perhaps a flamingo, but the biggest surprise was that a large portion of a bird skull was recovered. By identifying the bones prior to their removal we gained a great deal of information about butchering practices, meat selection, and food processing. Several of the turtle bones had what appear to be spear holes. With the exception of conch shells used in firepit construction there had been very few other mollusks at the site. In the area excavated by Team 3 we recovered a substantial number of top shells, including some that had been fashioned into "spoons."



Wet excavation directed by Elise LeCompte in North Creek near the location at which Capt. Bob Gascoine discovered the Taino canoe paddle.

When Capt. Bob Gascoine discovered an Indian canoe paddle in front of GT-3 in a peat deposit on the margin of North Creek, I was asked by the Turks and Caicos National Museum whether it would be possible to conduct a systematic survey in search of additional artifacts. To conduct this survey I enlisted the assistance of

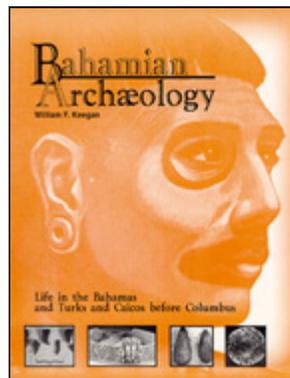
Elise LeCompte, Registrar for the Anthropology Department, Florida Museum of Natural History. Elise worked with Dr. Barbara Purdy as an assistant on Barbara's EARTHWATCH expedition at Hontoon Island, Florida, eight years ago, where they conducted similar wet-site excavations. Several techniques were used in "the muck," as it was affectionately called. The major effort was made with a converted water tank from a yacht. The tank was forced into the peat deposit and the water level in the tank was lowered by means of several pumps. The peat deposit was then excavated and screened through 1/4" mesh screen. A second technique employed 4" diameter PVC cores which were driven into the deposit to collect samples. Adventurous volunteers spent up to six hours per day standing in up to waist deep water, while huge mantis shrimps, crawfish, and other slimy and stinging creatures (many invisible) attacked their bodies. Several pieces of worked wood were recovered, although their ages need to be established. In addition, the core samples will be used to study changes in the plant life around the creek through time.

Discussion

The 1997 field season was a tremendous success. We collected sufficient evidence to address our remaining questions, and have no further plans to excavate on Grand Turk. The past 7 years of research on Grand Turk have changed our understanding of West Indian prehistory, and we continue to learn more each day about changes in our planet more than 1,000 years ago and how the people of that time responded to these changes. There is much that remains to be done with the samples that were collected.

Publications

The archaeology of GT-3 has an important place in Keegan's new book, **Bahamian Archaeology: Life in the Bahamas and Turks and Caicos Before Columbus** (Media Publishing, Nassau, 1997). An article on the colonization of the West Indies, published in February 1995 in the journal **World Archaeology**, included mention of the work on Grand Turk. Precolumbian Peoples of the Turks and Caicos Islands, featuring EARTHWATCH sponsored fieldwork, was the subject of an eight-page, color article written by Bill Keegan with the assistance of Betsy Carlson and Corbett Torrence that was published in the Summer 1996 **Times of the Islands** (magazine of the Turks and Caicos Islands).



Other Accomplishments and Benefits

The research will be used in planning a new museum exhibit in the Turks and Caicos National Museum. The new exhibit will feature dioramas based on fieldwork at GT-2 and GT-3, along with artifacts excavated from these sites.

Efforts to bring local awareness to archaeology continued. A special guided tour of the excavations was provided to High School Students from Providenciales, and a number of tourists and local residents also visited the site.

Acknowledgments

The project has benefited from the assistance of a variety of specialists. The day-to-day operations would not have run so smoothly without my research assistants Betsy Carlson and Aline Gubrium. Sofia Marquet, a graduate student from the University of Paris who paid her own expenses to work on the project, was a valuable assistant during Teams 2 and 3. Barbara and Reed Toomey made valuable contributions as well, especially in getting the wet-site excavation started. Local assistance was provided by Mrs. Grethe Seim, Barry Dressel, and Brian Riggs of the Turks and Caicos National Museum. In fact, much of what we accomplish would not have been possible without Brian's help. Lorie Keegan handled the cooking duties for Team 1, and Jean Borchardt took over cooking chores and lab management starting with Team 2.



Under the rainbow at Coralie Gardens.

The project was undertaken with the cooperation of the Florida Museum of Natural History, the University of Florida, the Turks and Caicos National Museum, and the Turks and Caicos Ministry of

Natural Resources and the Environment. Additional funds were provided by the Wenner-Gren Foundation for Anthropological Research, Inc. (\$14,475) for the analysis of animal remains, plant remains, soils, radiocarbon dates, mapping, and the GPR survey. The property owners, Andrew Newlands and William McCollum, provided use of the house adjacent to the site. Brian



Sofia Marquet

Riggs contributed the use of his vehicle and provided daily transportation to and from the site. Irv Quitmeyer contributed his services to the project at no charge. LYNX Air International (1-888-596-9247), with daily flights to Grand Turk, South Caicos, Cap Haitian (Haiti), and Santiago (DR) contributed an airline ticket.

Special thanks to Coralie Properties for their efforts to preserve the cultural heritage of the Turks and Caicos.