

FIELDWORK REPORTS

Pre-Hispanic Settlements Along the North Coast of Cuba: A Pilot Survey Report from Los Buchillones, January- February 2004

Jago Cooper

Institute of Archaeology, UCL

Roberto Valcarcel Rojas

Cuban Ministry of Science, Technology and Environment (CITMA),
Holguin, Cuba

Introduction

In November 2003, a collaborative agreement 'to cooperate to the maximum level possible in advancing the scientific study of the Los Buchillones archaeological site' was signed between the Institute of Archaeology (IoA), University College London and the Cuban Ministry of Science, Technology and Environment (CITMA). The first steps in fulfilling the terms of the agreement were made in January and February 2004, when a joint IoA-CITMA team began fieldwork operations in Cuba. This is a brief report of a coastal survey conducted by the team around the pre-Hispanic site of Los Buchillones located on the north coast of the Ciego de Avila province.

The primary objective of the survey was to identify the extent of the Los Buchillones settlement site and investigate whether there were more pre-Hispanic occupation sites further along the coast. The secondary objective was to test different survey strategies and examine their suitability for the local wetland environment.

Coastal Ecology

Los Buchillones is located between the villages of Punta Alegre and Maximo Gomez in the province of Ciego de Avila on the north coast of central Cuba (22° 23' 11.9"N 78° 48' 10.6"E). The site appears to have been a large indigenous settlement, with more than 50 stilted houses stretching along the coast, occupied from c.AD 1220-1620 (Pendergast *et al.* 1999). The site is both adjacent to and partially within a large lagoon approximately 1.6km long and 300m wide, covering 26ha with an average depth of 50cm below mean sea level. This lagoon is contained by a seaward chenier of between 2-20m in width, stretching the length of the lagoon. There is clear evidence of significant coastal erosion in the area during the past 55 years (Peros 2000). Aerial photographs from the 1950s indicate that the coast has receded by as much as 50m, possibly due to the construction of a causeway 16km east of Los Buchillones that connects Cayo Coco to the mainland. This rapid erosion has led to the exposure of archaeological remains at Los Buchillones, and continued erosion threatens a rapid destruction of the site (Calvera Roses *et al.* 2001).

The coastal flora consists mainly of thick mangrove scrub, dominated by black mangrove (*Avicennia germinans* (L.) L.), with smaller amounts of red mangrove (*Rhizopho-*

ra mangle L.), white mangrove (*Laguncularia racemosa* (L.) Gaertn. f.), buttonwood mangrove (*Conocarpus erectus* L.) and turtle grass (*Thalassia testudinum* König). This coastline is renowned for its thick *fango*, or mud, that stretches down the coast, reaching depths of 5m in places (Peros 2000). Whilst this mud has provided exceptional preservation of organic archaeological material, it makes attempts at archaeological survey a logistical challenge (Graham in press; Pendergast *et al.* 2002). Along the coastline there is usually a small 'beach' or tidal zone of between 1-10m that, mangrove permitting, is possible to traverse.

History of Archaeological Research

The first archaeological excavations at Los Buchillones were directed by Jorge Calvera and Juan Jardines in 1983 and 1989, and these excavations uncovered evidence of extensive indigenous occupation in the area (Jardines Macias and Calvera Roses 1999; Mesa González *et al.* 1994). In 1994, a multi-disciplinary scientific delegation from Canada visited the area, and David Pendergast from the Royal Ontario Museum (ROM) in Toronto agreed to assist in future archaeological research (Pendergast *et al.* 2003).

The ROM and CITMA then carried out three separate excavations in 1997, 1998 and 1999 focusing on the wetland areas adjacent to the lagoon. These excavations uncovered the remains of domestic structures with thatched roofs overlaying wooden ceilings. A number of extraordinary wooden artefacts were also found in association, and radiocarbon dates obtained from some of these artefacts suggested an occupation between the 13th and 16th centuries (Pendergast *et al.* 1999). Excavation of deeper deposits was restricted by water seepage under the constructed dykes.

Interviews

Extensive interviews were conducted with local fishermen, farmers and archaeology enthusiasts by the IoA-CITMA team in January 2004. These interviews focused on the communities around the villages of Punta Alegre and Maximo Gomez. The interviews provided a lot of information about the nature and extent of archaeological material at both local and regional levels. There was a clear consensus that the main densities of archaeological deposits were along the Los Buchillones lagoon chenier, and there were additional anecdotal references to house posts in the water closer to Maximo Gomez.

One of the most striking results of the interviews was the number of references to archaeological sites and collections of archaeological material in the Jardines del Rey island archipelago, a number of currently uninhabited islands. The discovery of indigenous ceramics, wooden artefacts and in some cases *terra roja*, or darker anthropogenic soils, could suggest a previous longer-term human occupation (Lugo and Brown 1988).

Methodology

Different survey strategies were evaluated, but the mangrove swamp environment restricted the survey techniques that could be employed. As a result, the survey focused on areas where archaeological remains were most visible, overcoming inaccessibility as far as possible. Along the shoreline, in the inter-tidal zone, coastal erosion revealed

archaeological deposits on the surface, and this area also provided a relatively homogeneous survey tract along the length of the coast. It was decided to use the current excavation at Los Buchillones as a provisional centre point of the 'known' archaeological zone; the survey could then be conducted both east and west from this centre point. The survey area was bounded geographically by the Rio Perros delta, about 4km to the west, and the Chicola Canal, about 5km to the east.

Initial trial field-walks along the coast revealed large quantities of visible archaeological material on the surface of the inter-tidal zone, and this meant that a sampling strategy was required. All visible archaeological material was collected from within 1m squares at 100m intervals along a 10km stretch of coastline. The placement of each square was always in the same part of the littoral zone adjacent to the high-tide mark. The vegetation cover, soil type and visibility within each sample area were recorded in detail to allow statistical comparisons between squares of varying visibility. In addition, details of the weather, sea level and wind direction were also recorded as potential causes of statistical variation. Global positioning system (GPS) coordinates were used to record the location of each individual survey square so that the survey data could be plotted on a digitised map of the area in *ArcGIS*. Descriptions were made of the quantities and distribution of archaeological material in the 99m tracts between sample squares. Where possible, section drawings were made of the sea walls in order to record information about the coastal stratigraphy.

Each sample square was given a reference number (*e.g.* LB04S-W1, LB=Los Buchillones, 04=2004, S=Survey, W=West, 1=Sample Square 1). All artefacts were then double bagged with two finds labels, one with the artefacts and one between the two bags, and each bag was labelled with permanent marker. All the artefact bags were stored in the Chambas Museum stores, the closest municipal museum to the site in the Ciego de Avila province, where they underwent initial processing. Ceramics made up over 90% of the artefacts collected, and it was decided to focus on this material. Initial processing of the ceramics recorded evidence of firing temperatures, temper and fabric, and it was concluded that all of the indigenous ceramics identified were similar to the indigenous ceramics recovered from Los Buchillones during past excavations. Every sample bag with indigenous artefacts was separated, and an application was made to export these artefacts to the IoA for further analysis.

Results

Once in London, a database was set up to record the detailed analysis of the indigenous ceramics from each sample. The categories of the database included: survey number, location co-ordinates, visibility percentages, vegetation cover, soil type, ceramic number, ceramic weights, decoration, fabric, temper, part of vessel and artefact association.

Of the 10km of coastline surveyed, 2.7km were inaccessible, primarily due to housing construction in the villages of Punta Alegre and Maximo Gomez. However, 73 survey squares were examined, and 31 were found to contain indigenous artefacts. These archaeological data were then plotted on a digitised map of the area to enable interpretation.

At a superficial level, the spatial distribution of the indigenous ceramics provided an indication of the extent of indigenous occupation at Los Buchillones. Different statistical techniques were employed to factor in survey square visibility variation, ceramic weight *versus* sherd disparity, varying erosion rates and modern settlement location. The results of these analyses are illustrated in Figure 1.

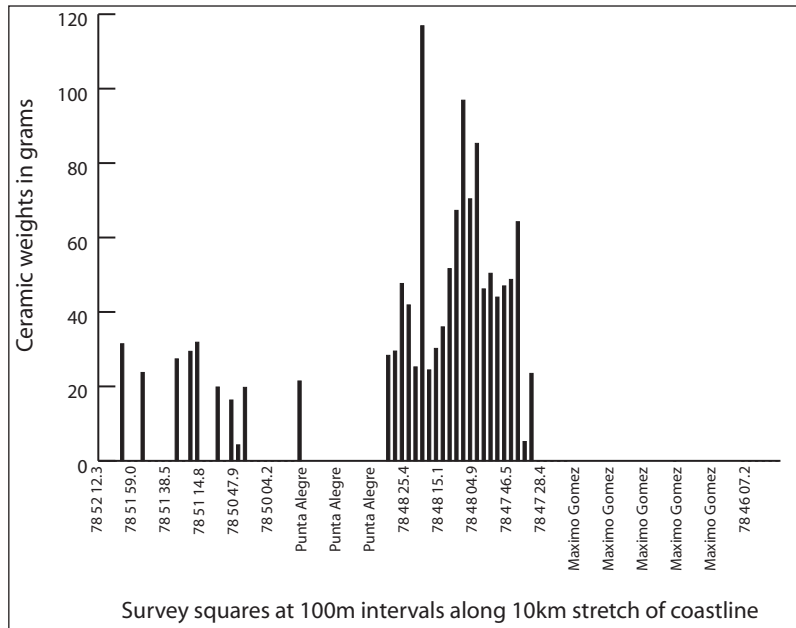


Figure 1. Graph showing ceramic distribution along the coast.

Survey Conclusions

There is clearly a well-defined concentration of archaeological material extending between $78^{\circ} 48' 34.2''\text{E}$ and $78^{\circ} 47' 35.6''\text{E}$. To the west, the site of Los Buchillones is truncated by the urban development of Punta Alegre, and the extent of the site in this direction appears to be within the boundaries of the modern village, somewhere between $78^{\circ} 49' 49.3''\text{E}$ and $78^{\circ} 48' 34.2''\text{E}$. Therefore, the known limits of the site stretch for at least 2.2km on an east-west axis along the coast.

Based on the ceramic distribution, there also appears to be evidence for further pre-Hispanic activity to the west of Los Buchillones, between $78^{\circ} 52' 05.8''\text{E}$ and $78^{\circ} 49' 49.3''\text{E}$, but there is no archaeological evidence for any indigenous occupation to the east of Los Buchillones. It does not appear that archaeological material was being moved great distances by shore drift because the artefact distribution from Los Buchillones does not reflect natural processes, such as local tidal patterns. Therefore, all of the surveyed archaeological material appears to be in a primary context eroding out of the sea wall. Although indigenous ceramics were used as a diagnostic material in this survey, excavations at Los Buchillones have shown that where durable artefacts are found

on the surface, there is often a wealth of organic artefacts preserved in the mud below (Coles 1988; Pendergast *et al.* 2003).

Although there is no doubt that environmental conditions greatly affect the visibility of the archaeological evidence, this survey has shown that it is possible to conduct a useful archaeological survey in a mangrove swamp environment. This preliminary coastal survey has also allowed for the development of techniques and methodologies to be applied in further surveys by the IoA-CITMA team on the mangrove-covered islands in the Jardines del Rey archipelago in late 2004. This research presents an opportunity to investigate the inter-island and coastal networks of pre-Hispanic indigenous communities in this region by exploiting the great archaeological potential of the Cuban wetland environment.

Acknowledgments

We would like to thank David Pendergast and Jorge Calvera for the opportunity to participate in the international collaborative project of Los Buchillones and for their continual support over the years. We are also indebted to Nelson Torna for keeping us on the right path.

References

- Calvera Roses, J., Jardines Macias, J., Pendergast, D., Pendergast, D., Calvera, J., Jardines, J., Graham, E., Graham, E., Bekerman, A., Brito Martinez, O. and Martinez Fernandez, M. 2001. *Informe Final: Investigaciones arqueológicas conjuntas cubano – canadiense en el area de Los Buchillones*. Unpublished, Ciego de Avila.
- Coles, J. M. 1988. A Wetland Perspective, in Purdy, B. A. (ed.) *Wet Site Archaeology*. Caldwell: The Telford Press, 1-14.
- Graham, E. in press. A Neotropical Framework for Terra Preta, in Balee, W. and Ericksson, C. (eds.) *Historical Ecology*.
- Jardines Macias, J. and Calvera Roses, J. 1999. Estructuras de viviendas aborígenes en Los Buchillones. *El Caribe Arqueológico* 3, 44-52.
- Lugo, A. and Brown, S. 1988. The Wetlands of Caribbean Islands. *Acta Científica* 2(2-3), 48-61.
- Mesa Gonzalez, I., Jardines Macias, J. and Calvera Roses, J. 1994. Estudio preliminar de la cerámica del sitio arqueológico 'Los Buchillones', provincia de Ciego de Avila, in Febles, J., Dominguez, L., Ortega, F., La Rosa, G., Martinez, A. and Rives, A. (eds.) *Estudios Arqueológicos*. La Habana: Editorial Academia, 66-79.
- Pendergast, D., Calvera, J., Jardines, J., Graham, E. and Brito, O. 2003. Construcciones de madera en el mar: Los Buchillones, Cuba. *El Caribe Arqueológico* 7, 24-32.
- Pendergast, D., Graham, E., Calvera, J. and Jardines, J. 1999. Houses in the Sea: Excavation and Preservation at Los Buchillones, Cuba, in Purdy, B. (ed.) *Enduring Records: The Environmental and Cultural Heritage of Wetlands*. Gainesville: University Presses of Florida, 71-82.
- Pendergast, D., Graham, E., Calvera, J. and Jardines, J. 2002. The Houses in Which They Dwelt: The Excavation and Dating of Taino Wooden Structures at Los Buchillones, Cuba. *Journal of Wetland Archaeology* 2, 61-75.
- Peros, M. 2000. *Coastal Environments and Taino Populations at Los Buchillones, Cuba*. Unpublished Master's Thesis. York University, Toronto, Ontario.