

Maria Magdalena Antczak, Andrzej Antczak

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Contributions in New World Archaeology 8, 1-37

2015

Artykuł został opracowany do udostępnienia w internecie przez Muzeum Historii Polski w ramach prac podejmowanych na rzecz zapewnienia otwartego, powszechnego i trwałego dostępu do polskiego dorobku naukowego i kulturalnego. Artykuł jest umieszczony w kolekcji cyfrowej bazhum.muzhp.pl, gromadzącej zawartość polskich czasopism humanistycznych i społecznych.

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LATE PRE-COLONIAL AND EARLY COLONIAL ARCHAEOLOGY OF THE LAS AVES ARCHIPELAGOS, VENEZUELA

MARIA MAGDALENA ANT CZAK¹ AND ANDRZEJ ANT CZAK²

¹ *Leiden University, Faculty of Archaeology, P.O. Box 9514, Leiden, 2300 RA, Netherlands;
(e-mail: a.t.antczak@arch.leidenuniv.nl) and Unidad de Estudios Arqueológicos, Universidad Simón Bolívar,
Caracas, Venezuela*

² *Leiden University, Faculty of Archaeology, P.O. Box 9514, Leiden, 2300 RA, Netherlands;
(e-mail: m.m.antczak@arch.leidenuniv.nl) and Unidad de Estudios Arqueológicos, Universidad Simón Bolívar,
Caracas, Venezuela*

Abstract

This is the first thorough report on the pre-colonial archaeology of the two coralline archipelagos of Las Aves, situated ca. 150 kilometers off the north-western coast of the Venezuelan mainland. By analyzing the archaeological remains and features recovered on these islands this paper aims at shedding light on the nature of social, political, and economic phenomena that may have underlain the mobility of Amerindians who bore stylistically distinctive pottery both from the mainland coast to the islands and from one group of islands to another, during late pre-colonial times. The 16th- and 17th-century documentary data is also reviewed to assess how the arrival of the European colonizers impacted traditional Amerindian mobility and interactions in this region. The results of the research indicate that diverse social-political and economic strategies and negotiations were used by the late pre-Hispanic societies of the north-central Venezuelan mainland coast and from the islands of Aruba, Curaçao and Bonaire to gain access to the natural resources of these oceanic islands. They also suggest how the mainland polities controlled the access to the island territories through time. Two decades after the arrival of the Spanish conquerors, violent slave raids led by Spanish pearl fishery entrepreneurs from the eastern coast of Venezuela as well as from Santo Domingo and Puerto Rico permanently halted the traditional indigenous mobility that oscillated between the islands and between the mainland and the islands.

Keywords: pre-Hispanic archaeology, Venezuelan archaeology, Las Aves archipelagos, islands of Venezuela, Valencioid archaeology, Dabajuroid archaeology, Southern Caribbean archaeology

Resumen

Este es el primer informe sobre la arqueología prehispánica de los dos archipiélagos coralinos de Las Aves, situados a unos 150 kilómetros al norte de la costa noroccidental de Venezuela. Mediante el análisis de los restos y la información arqueológica recuperada en dichas islas, el presente trabajo pretende arrojar luz sobre la naturaleza de los fenómenos sociales, políticos y económicos que puedan explicar la movilidad de los grupos amerindios portadores de una cerámica estilísticamente distinta desde la costa continental a las islas y de un grupo de islas al otro, durante finales de la época pre-colonial. En el curso de la investigación se analizaron, también, las fuentes documentales de los siglos XVI y XVII para evaluar cómo la llegada de los colonizadores europeos afectó la movilidad y las interacciones tradicionales en esta región. Los resultados de la investigación

indican que las sociedades prehispánicas de la costa continental venezolana y de las islas Aruba, Curaçao y Bonaire utilizaban diversas estrategias y negociaciones políticas, sociales y económicas para lograr el acceso a los recursos naturales de estas islas oceánicas. También sugieren cómo los indígenas del continente controlaban el acceso a los territorios insulares a través del tiempo. Dos décadas después de la llegada de los conquistadores españoles, las violentas armadas esclavistas lideradas por los emprendedores españoles involucrados en la pesca de perlas en la costa oriental de Venezuela, así como provenientes de Santo Domingo y Puerto Rico, interrumpieron la movilidad tradicional de los indígenas que oscilaba entre las islas y entre el continente y las islas.

Palabras clave: arqueología prehispánica, arqueología de Venezuela, archipiélagos de Las Aves, islas de Venezuela, arqueología Valencioide, arqueología del Caribe Meridional

INTRODUCTION

The research discussed in this paper is part of the long-term Project on Venezuelan Island Archaeology that has been advanced by the authors since 1982. To the present, more than 60 islands located off the Venezuelan coast have been surveyed and dozens of pre-colonial sites located. More than 900 m² have been excavated, distributed over 200 test pits and 14 trenches. At nine sites, systematic 'block' excavations have been carried out (Antczak and Antczak 1989c, 1992, 1993, 1999; 2006, 2008, in press).

This study focuses on the pre-Hispanic and early colonial archaeology of two small coral archipelagos located off the central coast of Venezuela: the Las Aves de Sotavento and the Las Aves de Barlovento. No data regarding the archaeology of these islands was known before the present project began. The authors visited the archipelagos on four occasions and the fieldwork lasted for a total of 52 days. The main goal of the fieldwork was to locate and make an inventory of the archaeological sites and to generate, from the insular perspective, hypotheses concerning the mobility of Amerindians who were the bearers of stylistically diagnostic pottery between the mainland coast and the islands. We also aimed to establish the first chronology of the presence of the distinctive pottery bearers on these groups of islands. The last part of this paper is dedicated to discussion of a possible political and economic rationale lying hidden behind the pottery bearers' movements in space and time. We envisage the role of this study as one stimulating and opening paths for future systematic research into the nature and dynamics of interisland and island-mainland sociocultural interactions, rather than one providing conclusive remarks on the pre-Hispanic and early colonial past of the Las Aves archipelagos.

THE OCEANIC ISLANDS

The Southern Caribbean islands situated off the mainland coast of Venezuela are located within an arid belt stretching along the southern Caribbean and the northern part of South America (Trewartha 1961; Lahey 1973 [Figure 1]). The archipelagos of Las Aves, Los Roques and La Orchila, the islands La Tortuga, La Blanquilla and Los Hermanos, as well as the Netherlands Antilles of Aruba, Bonaire and Curaçao (ABC islands) are largely calcareous formations. They are considered an independent part of the Antillean orogenesis (Stock 1982:193). The most important non-calcareous groups are Los Testigos, Los Monjes, Los Frailes and Margarita, which is only in part a calcareous island. It has been suggested that this whole insular region 'may be a crustal block (Bonaire block), wedged and rotated between the Caribbean and South American plates' (Silver *et al.* 1975). The igneous-metamorphic complex, which outcrops on some Venezuelan islands such as Gran Roque and La Orchila, is probably of Cretaceous and Upper Cretaceous age (Schubert and Moticska 1972; 1973). These islands are separated from the mainland by channels several hundred meters deep and by a distance of dozens of kilometers (Schubert and Valastro 1976). This indicates that they were never connected to the



Figure 1. Las Aves de Sotavento and Barlovento archipelagos within the Southern Caribbean region.

continent by land bridges. In consequence, these islands, as well as the archipelagos of Las Aves discussed here, can be considered ‘oceanic’ islands.

From the biogeographic point of view, the terrestrial biota of the Las Aves islands (emerging from deep waters) is composed of species settled by means of long-distance transoceanic dispersion as well as by man (Pielou 1979: 191). No indigenous mammals, rodents or ophidians have been reported on these islands. They lack permanent sources of fresh water, clay deposits and soils suitable for agricultural purposes. During the modern period, the Las Aves archipelagos had pertained administratively to Territorio Federal Colón since 1871 until 1938 when they were included in the Dependencias Federales de Venezuela (Casanovas 1987). Since 2011 they have been integrated into the Territorio Insular Francisco de Miranda.

Las Aves de Sotavento Archipelago

This archipelago is located 150 km to the north of the central-western coast of Venezuela and 45 km to the east of the island of Bonaire (Figure 1). It stretches about nine kilometers from north to south and a coral reef of 14.5 kilometers in length borders it on the east (Ginés 1960; Ginés and Yépez 1956). Behind the barrier stretches a lagoon with shallow waters and five islands along with various sandy banks and reefs. The largest island, called Ave Grande or Isla Larga, is situated to the east of the archipelago. It is partly covered by mangroves that surround an elongated inner lagoon. Ave Grande has an important brackish water source at a site called Los Cocos, which is the only known natural reservoir of potable water in the archipelago. The smaller islands of Isla Ramón, Isla Palmeras, Curricai and Saki-Saki are located to the north of Ave Grande (Figure 2). The Las Aves de Sotavento and Los Roques Archipelagos (to the east) sustain great populations of queen conch (*Lobatus gigas*), and its natural density, especially in Los Roques, is among the highest in the Caribbean (Laughlin and Weil 1985).

The Aves de Sotavento islands were mentioned in early 16th-century maps and documentary sources (Pimentel 1964[1578]). The long coral barrier reef of this archipelago caused dozens of shipwrecks (Antczak and Antczak 1989a, 1989b). In 1678 about 13 warships from the French fleet under Admiral Count de Estrées sank while navigating towards the Las Aves de Sotavento group of islands during an attempt to attack Curaçao (Briceño-Iragorry 1990; Urdaneta 1997; Clifford 2002).

Except for the Venezuelan naval outpost at Ave Grande Island and a few temporary fishermen's huts, located on Isla Ramón and Isla Palmeras, the other islands are uninhabited.

Las Aves de Barlovento Archipelago

A distance of 16 km separates Las Aves de Barlovento from Las Aves de Sotavento Archipelago, and approximately 40 km separate it from the Los Roques Archipelago to the east (Figure 2). It is composed of 10 islets with a total area of about 1.6 square kilometers (Ginés and Yépez 1956). Two major islands, Isla del Faro and Isla del Tesoro, are situated in the southern part of the group. The mangroves that surround the inner lagoon of Isla del Faro give shelter to considerable colonies of marine birds, and these give the name to these islands. The overall environmental characteristics of these islands are very similar to the low and sandy cays of the Aves de Sotavento and the Los Roques archipelagos. The Aves de Barlovento islands are uninhabited.

DOCUMENTARY ACCOUNTS

Before discussing the pre-Hispanic remains, we will review the documentary sources in search of information about the Amerindian presence on the Las Aves islands from the 16th century onwards. It seems probable that some of the islands located off the central coast of Venezuela, including the Las Aves Archipelagos, were seen during the voyage of Juan de La Cosa and Alonso Ojeda in 1499 (Barandiarán 1989: 250–1). However, they are not depicted on the map made by Juan de La Cosa in 1500 (Oliver 1989, Fig. 40). In fact, the early Spanish maps of this part of America seem to distinguish only slightly between the Los Roques and Las Aves islands, while entirely neglecting the separation between the Las Aves de Sotavento and de Barlovento groups (Antczak and Antczak and 1986). We suppose that even by 1528, when the Spanish Crown made the primitive territorial ordinance of this

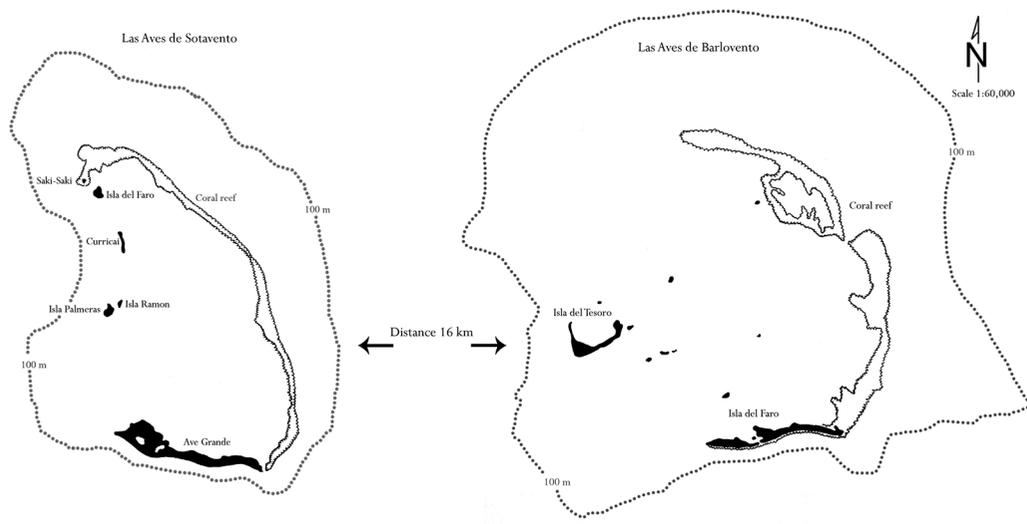


Figure 2. Maps of the Las Aves de Sotavento and Barlovento archipelagos indicating the islands where the archaeological sites described in the text are located.

part of the New World (*Capitulación de los Welser*), the Las Aves islands remained largely unexplored. This ordinance conceded the islands to the Province of Venezuela (Ojer 1983: 144–5), but not towards the mid-16th century were they more closely—although still superficially—surveyed by the Spaniards. By that time, after the collapse of the pearl fishery on Cubagua Island, this precious resource was being frenetically sought out in almost all the Venezuelan islands though without success (Arellano Moreno 1950: 180; Fariás 1983; Otte 1977).

During the mid-16th century, the Province of Caracas comprised the coastal range of north-central Venezuela, stretching between Cabo Codera to the east and the village of Borburata, near Puerto Cabello, to the west (Barbudo 1964[1570–1575]). To the north, it embraced the islands of Las Aves, Los Roques and La Orchila, as well as La Tortuga Island, situated to the northeast. To the south, the Province included the Cordillera de la Costa mountain range and the valleys of Caracas and Tuy (Pimentel 1964[1578]). The border of the Province of Caracas was not defined in any legal-administrative terms, in contrast to the Province of Venezuela, the larger early colonial administrative unit of this region. This border instead emphasized the geographic homogeneity of the Province of Caracas and also the cultural and linguistic unity of its inhabitants (Biord 1995).

Even as late as 1578, in the time of Governor Pimentel, the knowledge of the geography, topography and biota of the islands located off the coast of the Province was very imperfect. Pimentel was the Governor and General Captain of the Province of Venezuela between 1576 and 1583 and wrote the *Relación de Nuestra Señora de Caraballeda y Santiago de León* as a series of responses to the official questionnaire sent by King Felipe II. The aim of this set of questions was to gather and systematize knowledge concerning the resources, potentialities and limitations of the overseas territories of the Spanish Crown (Biord 1995: 107). The following fragment of the *Relación* not only confirms this imperfect knowledge but, above all, calls attention to a little-known passage regarding the Amerindian presence on these islands:

“The islands that are facing this coast are located about 15 or 20 leagues into the sea. These are La Orchila and the Aves Island [i.e. Archipelagos of Las Aves], Los Roques, La Tortuga and two others that are further to the west...[they] are low islands and not large. La Orchila [...] has a small hill, and the Aves Island also has two or three hills, but not as high; La Orchila and Isla de Aves have some water [potable brackish water] and in one or two of them there is a lot of salt, [many] rabbits [?], and an abundance of fish in all of them...they [the islands] are more mountainous than flat, [covered by the mangrove] the bush [is] worthless and small. It is understood that in Los Roques and the Aves Island, and also in the other islands, there are pearls. The caravel of Count de Niva, Virrey of Peru was lost at night [near] Las Aves Island. Many lost their lives because they could not find refuge. Through the natives [*por vía de naturales*], Capt. Faxardo [Fajardo] received the news of the [shipwreck] and, thus, sent there pirogues, bringing back some of the people and [other] lost things” (Pimentel 1578 in Nectario María 1979: 331–351).

Pimentel did not distinguish between the Aves de Sotavento and the Barlovento Archipelagos. However, we suspect that the shipwreck he referred to occurred on Las Aves de Sotavento, since its reefs proved to be much more threatening than those of the Barlovento group. The quote above clearly indicates that at the time when the shipwreck occurred an unidentified Amerindian group was present on these islands or navigated the waters that surrounded them. Since Pimentel referred to Fajardo as

a person who ordered the rescue, the event must have happened between 1555 and the beginning of the 1560s, when Fajardo was actively engaged in the conquest of the Province of Caracas (Oviedo y Baños 1982[1723]). Who were these Amerindians?

In another passage of the *Relación*, Pimentel (1964[1578]: 136) noted that “the aborigines [from the central coast] go there [to Los Roques, Las Aves and La Orchila islands] during the months of fair weather for salt and for the turtles to eat them and to make oil from them.” By the mid-16th century, the central coast and both slopes of the Cordillera de la Costa were inhabited by the *Caraca* Amerindians (Barbudo 1964[1570–1575]; Pimentel 1964[1578]; Agreda 1964[1581] in Bjord 1995: 201; Oviedo y Baños 1982[1723]). The *Caraca* was the first Amerindian group of the Province contacted by the Spaniards, even though it was not the most numerous in that region (Oviedo y Baños 1982[1723]). These data seem to indicate that the Amerindians that participated in the rescue of the shipwreck in Las Aves might have been a segment of the *Caraca*. However, they might have been Fajardo’s *Guayquerí* Amerindians from Margarita Island or from their enclaves on the central coast (McCorkle 1952; Ayala Lafée-Wilbert and Wilbert 2011), or the *Caquetío* who inhabited the islands of Curaçao, Aruba and Bonaire and, on the mainland, present-day Falcón State to the west (Oliver 1989; Havisser 1991; Gassón 2001; Zucchi 2002).

About thirty years after the Las Aves shipwreck, in September of 1589, by order of the Governor of the Province of Venezuela don Diego Osorio, the islands situated off the central coast (broadly speaking) were formally possessed by the Spanish Crown. During this act “in all these islands [Las Aves, Los Roques, La Orchila and La Tortuga] mass was celebrated and crucifixes were erected as well as other acts of possession that were carried out in the name of the King Our Lord” (Actas del Cabildo de Caracas 1982). During these official visits to the islands, the Spaniards were assisted by “auxiliary Indians” (*Indios auxiliares*). The entire mission navigated in “one canoe and three pirogues” It can be suggested that the “auxiliary Indians” served not only as paddlers but also, above all, as guides to these largely unknown and dangerous coral islands. Were some of these guides the ‘old’ *Caraca* navigators who knew the route from their traditional forays to these islands? Undoubtedly, the firsthand information about the insular environs that had been gathered during these official visits was detailed and improved considerably the exactitude of the later Spanish maps of this region. In consequence, the information available to sailors in the New World seas from 1592 onwards was accompanied by separate, though simple, maps and relatively precise descriptions of all the islands of the Province of Venezuela (Vellerino de Villalobos 1984 [1592]).

We can conclude that the Las Aves, Los Roques, La Orchila and La Tortuga islands were considered an integral part of the Province of Venezuela during the 16th century. Furthermore, the data indicate that in the 1550s some culturally unidentified Amerindian groups visited the Las Aves de Sotavento Archipelago. Remarkably, they did not communicate the news about such an important shipwreck to the Spanish settled in Borburata or Coro, to the west, but instead to Fajardo, who operated on the central coast but assisted by the *Guaiquerí* Amerindians from the Margarita Island to the east. Were these island visitors the remnants of the *Caraca* Amerindians who, according to Pimentel, still navigated to the offshore islands, in the early decades of the 16th century? If so the question remains: Could the *Caraca* have navigated to these islands so distant from their mainland homeland in the turbulent times of the Spanish slave raids (Otte 1977; Jiménez 1986) and the posterior uncompromising war with the Spanish conquerors of the Province of Caracas? We will return to this question in the final section of this paper. Finally, we would also indicate that according to diverse consulted sources, no mention of Amerindian presence on the islands off the central Venezuelan coast from the late 16th century onwards was found (Laet 1988[1640]: 1240; Dampier 1699; Alcedo 1988[1786–89]: 72; Codazzi 1960[1855]; Appun 1961[1871]); Spence 1966[1871]; Arellano Moreno 1950: 49; Hadgialy 1956; Jam and Burgaña 1956; Barandiarán and Castillo 1973; Vila 1980; Cardot 1982; Carrillo Batalla 1982; Farias 1983; Ojer n.d.).

THE SURVEY

The authors visited Las Aves de Barlovento for the first time in 1985. The site IT/A on Isla del Tesoro was located and excavated during ten days of fieldwork (Antczak and Antczak 1985). A survey and excavations were carried out in the Archipelago de Las Aves de Sotavento over ten days in March and April of 1988 (Antczak and Antczak 1988). In June and July of 1992, new four-week-long excavations were carried out in both archipelagos (Antczak and Antczak 2006). The sites in both archipelagos were again revisited in 2006, but no archaeological excavations were carried out on this occasion.

The fieldwork methods employed include a systematic pedestrian survey, and surface and shovel sampling of each island as well as random and non-random sampling in test pits. Only at the Ave Grande site (AG/A) were systematic 'block' excavations carried out. Fine sieving (one-square-millimeter mesh) mainly designed to recover zooarchaeological remains was employed in the excavations at the AG/A and IT/B sites (for site codes see Tables 1–3), while four-square-millimeter mesh was used in the excavation of all other sites. In addition, comparative collections of local fauna were created and data about contemporary traditional fishing practices collected.

During the first stage of the fieldwork, the emphasis was placed on pedestrian survey of all the islands of both archipelagos. To systematize the survey, an imaginary grid of parallel transects separated by approximately 10 meters was set out over all relatively flat parts of each island. The field walking usually began along the coast and continued in the form of a spiral, in parallel concentric lines toward the center of the island. Special attention was paid to the observation of the island surface from the tops of storm terraces and higher dunes, since these topographic features offer the only high perspectives available on the majority of these islands. All seasonally flooded areas, as well as those covered by mangroves, were surveyed by random walking. To determine site location during the field-walking, special attention was paid to features identified on aerial photographs and related by informants. However, all conspicuous topographic features, changes in type, composition and density of natural vegetation, surface soil color, surface sediment nature, and the presence (or lack) of cultural remains on the surface were taken into account in the determination of site location.

Test pits of 1 x 1 meters and 0.5 x 0.5 meters were excavated randomly in arbitrary levels of 20 centimeters. This was combined with observation of natural stratigraphy. The pits were not only excavated in the areas where cultural material was found on the surface or several specific natural features were observed. They were also excavated intuitively in areas where no cultural material was found on the surface, and no natural indication of the potential presence of archaeological site was detected. A few sites, such as CU/A (Aves de Sotavento) and IT/A (Aves de Barlovento) were selected in that manner. The test pits excavated within the boundaries of archaeological sites only are listed in Tables 1 and 2, although many more pits were excavated during the survey.

The relatively thick levels (20 cm) in which the horizontal excavation proceeded were utilized at all sites. The majority of island sites have great numbers of *Lobatus gigas* shells incorporated within their cultural deposits. It is noteworthy that a single adult shell could achieve a length between 25 and 30 centimeters, and when disposed vertically in the cultural matrix, could extend beyond one layer of 20 centimeters. In consequence, attempts to distinguish tiny layers within those deposits dominated by *Lobatus gigas* shells were often unrealizable.

Surface sampling was random, and assessment of the quantity and density of collected artifacts was largely intuitive. However, emphasis was placed on the exhaustive representation and documentation of the different types of cultural materials found at each site, their state of preservation, spatial associations, ecofacts when present, and the characteristics of the soil matrix on which they were lying. On the basis of the results of the surface and test-pit sampling, some sites were chosen for extensive excavation in a process of a judgment or purposeful sampling (Redman 1979). We selected sites that

revealed quantitatively abundant and qualitatively diverse cultural remains. The deposits featuring stylistically diagnostic pottery, rich zooarchaeological remains and potential for recovery of activity areas were especially important. The possibility of obtaining good samples for radiocarbon dating was also an important criterion. However, several non-artifact and non-context-related criteria were also applied. For example, the probable strategic position of the site within the island (and of the island within the archipelago), its proximity to a good landing beach, and its ease of access to abundant and diverse marine or terrestrial resources, were also assessed. The site on Ave Grande Island was selected for extensive excavation because the test-pit sampling yielded, from the beginning, relatively diverse and abundant archaeological material. The potential for the recovery of activity areas at this site was also considerable. Additionally, this site was excavated due to its proximity to the most important reservoir of potable brackish water in the entire Las Aves de Sotavento Archipelago.

THE SITES AND MATERIALS

Ave Grande (AG/A)

The AG/A site is located on the northern coast of Ave Grande Island only twelve meters from an active sandy beach. It is the major island within the Las Aves de Sotavento group. Facing the site and parallel to the beach stretches a coral reef of over 100 meters in length. Grasses and shrubs cover the surroundings of the site. One trench of 33 square meters and several test pits were excavated at this site (Table 1, Figure 3). To the west of the trench there extend low scatters of *Lobatus gigas* shells covered by shrub. These scatters form an integral part of the site and the shells were collected and processed by the Amerindian occupants.

In the trench, the cultural deposit, characterized by grey-colored soil, begins between 10 and 15 centimeters below the surface and reaches a maximum depth of 43 centimeters (Table 1). Six hearth features were found in the main trench lying at depths between 38 and 43 centimeters. One well-preserved hearth measuring 50 centimeters in diameter with many fragments of *Lobatus gigas* shell incorporated into its base was recovered between 38 and 40 cm. The sample taken from this hearth was radiocarbon dated to 470±80 BP (Antczak 1993; Table 2).

Lobatus gigas shells are among the most numerous non-ceramic components of the cultural deposit of this site. They appear on the surface and below it. The shells are particularly abundant in the

Table 1. Amerindian sites and excavations in Las Aves de Sotavento Archipelago.

Island	Site code	Site area (m ²)	Site max. depth (cm)	Pit		Trench		Total excavated (m ²)	Stylistic affiliation
				#	m ²	#	m ²		
Ave Grande	AS/AG/A	450	45	12	10.5	1	33	43.5	Dabajuroid (Valencioid)
Ave Grande	AS/AG/B	?	43	2	4	-	-	4	Dabajuroid
Isla Palmeras	AS/IP/A	168	40-55	7	14	-	-	14	Dabajuroid
Isla Palmeras	AS/IP/B	375	45-50	5	5	-	-	5	Dabajuroid
Curricai	AS/CU	450	45-50	9	12	-	-	12	Dabajuroid
Total		1443		35	45.5	1	33	78.5	

western part of the trench but almost absent in its eastern part. The Amerindians discarded the majority of these shells after removing the meat. The shells exhibit circular opening holes in their spires which facilitated the extraction of the animal from its shell (Antczak and Antczak 2005). Numerous juvenile and adult shells with heavily battered apices were found at the site. This suggests that they were used to make the opening holes in other shells. Four small heaps, clustering from four to six outer lips of adult individuals of *Lobatus gigas* shells, were also found in the trench. In total, the trench yielded 397 (MNI) *Lobatus gigas* shells and 48 separated lips. These data indicate that the AG/A site occupants used not only the meat but also the shell of this gastropod. Non-*Lobatus gigas* shells were scarce and included *Cittarium pica*, *Astraea*, *Chama*, and *Codakia* spp. Evidence of shell work at the AG/A site is scarce: six small beads, three roughly made disks, and 29 above-mentioned separated lips were recovered (Figure 4). Among stone artefacts there stands out a quartz hammerstone, two flat sandstones with one beveled edge each, a couple of roughly worked coral stone objects of undetermined function, and one button-like object with one perforation on one side and two on the other side (Figure 4).

A few allochthonous mammal bone artefacts were recovered: one unipoint and another bi-pointed arrowhead, an awl or spatula, and a few other possible manufacture rejects (Figure 5). Indeed, the



Figure 3. Partial views of the trench excavated at AG/A site and fine sieving (one-square-millimeter metal mesh), Las Aves de Sotavento archipelago.

Table 2. Radiocarbon dates from Amerindian sites in Las Aves archipelagos.

Island/ Archipelago	Site code	Sample code	Sample type, context, depth	Years BP	Years AD (uncalibrated)
Curricai Aves Sotavento	CU/A/3	I-17,219	Charcoal; hearth; 35 cm	420 ± 80	1530
Ave Grande Aves Sotavento	AG/A/1	I-17,218	Charcoal; hearth; 38-40 cm	470 ± 80	1480
Ave Grande Aves Sotavento	AG/B/2	I-16,286	Charcoal; hearth; 43 cm	690 ± 80	1260
Isla del Tesoro Aves Barlovento	IT/A/1	I-16,278	Charcoal; hearth; 57 cm	420 ± 80	1530



Figure 4. Miscellaneous objects recovered in Las Aves archipelagos (from *left to right, top to bottom*): a stone axe, IP/A site (length 8.8 cm); flat sandstone with one beveled edge, IP/A site (length 7.2 cm); two roughly worked coral stone objects, AG/A site (lengths 12 and 4 cm); a quartz hammerstone (length 6 cm); shell disk made out of *Lobatus gigas* outer lip (diameter 6 cm); a shell bead, AG/A (diameter 0.3 cm); button-like object with one perforation on one and two on other side (diameter 1 cm, thickness 0.3 cm); and sample of separated *Lobatus gigas* outer lips and disoidal objects.



Figure 5. Allochthonous mammal bone artefacts from Las Aves Archipelagos (from *left to right, top to bottom*): two arrowheads from AG/A site (lengths 7.8 and 4.1 cm); an arrowhead and a spatula/perforator from IT/B site (lengths 5.3 and 11.3 cm); and three possible manufacture rejects from AG/A site (lengths 7, 8.2, and 8.4 cm).

most numerous non-ceramic archaeological materials that have been recovered from the AG/A site are bird remains. No other site on the islands of Venezuela surveyed by the authors has yielded such a high density of bird remains. A total of 11,756 (NISP) specimens, including fragments of all skeletal elements of a bird, were found. Though bird remains were scattered all over the site, they were more frequent in the eastern part of the trench. In this sector, two small heaps were found separated by a distance of 1.7 m. They contained 860 and 625 bird remains respectively. Even though a detailed study of these remains is not available, the most abundant species are *Sula sula* and, much less commonly, *Pelecanus occidentalis* and *Fregata magnificens*. The birds seem to have been largely consumed *in situ*; the heaps represent post-consumption refuse. However, inside the heaps as well as in their surroundings, 18 tubular beads from three to five cm long, made from the mid-sections of bird ulnas, were found. The proximal and distal fragments of these bones were discarded with one extremity clearly severed, suggesting that the bead-making took place at this site (Figure 6).

Fish remains are relatively scarce at the site. The mandibular fragments and/or otoliths of Pomadasyidae, Scaridae, and Lutjanidae, in order of abundance, were identified. The overall scarcity of fish remains and the absence of fishing devices constrain inferring the fishing techniques used by the AG/A occupants. However, it may be suggested that pocket seine nets were used as well as, possibly, bows and arrows or spears (Antczak 1991).

Claw elements dominate the sample of crab remains. The most common species represented are *Cardisoma guanhumi* followed by Paguridae. Gil and Suárez (1996: 4) also identified remains of *Grapsus*, a common species in the area. The preliminary analyses of crab remains indicate the under-representation or absence of such species as *Mitrax spinosissimus* and *Carpillius coralinus*. These crabs are valuable food resources, commonly caught by trap and bottom gill nets by the present-day fishermen of the Los Roques Archipelago to the east (Posada 1989; Posada *et al.* 1988; Salaya *et al.* 1985). These data may suggest that the AG/A site occupants did not use traps and bottom gill nets.

A total of 223 turtle remains were recovered. Almost all parts of the turtle skeleton are represented, although in uneven quantities; over 88% of identified elements are upper shell (carapace) fragments. The absence of head remains indicates that all turtle heads were cut off and discarded off-site, as may be suggested by ethnographic data and evidence from other sites in the Caribbean (i.e. Hamblin 1984: 63). The turtle remains were not heat-darkened, indicating that the turtles were not roasted in shells directly over a fire or hot coals. Several turtle bones had been carnivore-chewed suggesting that dogs might have been present at the site. However, the action of large crabs on these bones should not be discarded. Few humeri and femurs have cut marks resulting from flesh separation. Whether shell (*Codakia* shell), bone or stone cutting tools were employed in butchering was not determined.

The chiton (Amphineurans) plaques, the exoskeletons and spines of sea urchins (family Echinometridae), and the solid fragments of the exoskeletons of barnacles (*Balanus* spp.) were also recovered. Whether the remains of these animals were collected ashore or captured alive and used as marginal food cannot be determined. The remains of lobsters are absent.

The pottery recovered at the AG/A site is coarse, tempered with sand and mica and, probably due to the weathering, has rather rough surfaces. Only 46 (6%) of sherds are decorated with corrugation, painting, incision or appliqué (Figures 7–12). The most common decorated sherds are corrugated rims that range from one to six coils. These occur with or without thumb impressions (for specific definitions of this decorative technique see Oliver 1989, 1997; Arvelo and Oliver 1999). The corrugations occur exclusively in the 'ordinary ware' vessel types such as medium- and large-sized semi-globular and hemispherical cooking and storage *ollas* with the mouth diameter ranging from 26 to 34 centimeters (Figure 7).

Painting is dominated by a combination of rectilinear and semi-circular, broad and narrow, parallel and diagonal bands; it includes the radial 'sun' motif (see Oliver 1989, vol. 2, Fig. C-61). It is executed in black and red on white, or on buff (natural), and is found on the external and internal sides of restricted



Figure 6. Bird ulnas (*Sula sula* and *Pelecanus occidentalis*) with one extremity severed and beads made from the mid-sections of the ulnas suggesting that the bead-making took place at the AG/A site (longest specimen 6.5 cm); Las Aves de Sotavento Archipelago.

and unrestricted bowls, with simple annular or shafted annular ring bases (Figure 8). Fragments of at least four such bowls were recovered. The most conspicuous among them is a medium-sized unrestricted bowl with shafted annular ring base, with internally and externally painted red on white lines, bands and the radial 'sun' motif, and small protuberances disposed symmetrically on its rim (Figure 9). This bowl has exceptionally thick walls (more than one centimeter thick) and its overall shape is heavily deformed. Unlike all other pottery recovered in the Las Aves archipelagos and, by extension, all known Dabajuroid pottery, this bowl was tempered with siliceous sponge spiculae and pirite (FeS_2) and has a porosity of 55.2% (Poirier and Gutiérrez 2003). Nieves (1992: 162) reported the presence of freshwater sponge *cauxí* in pottery linked with the Valencioid/Araquinoid series at the Chupaquire

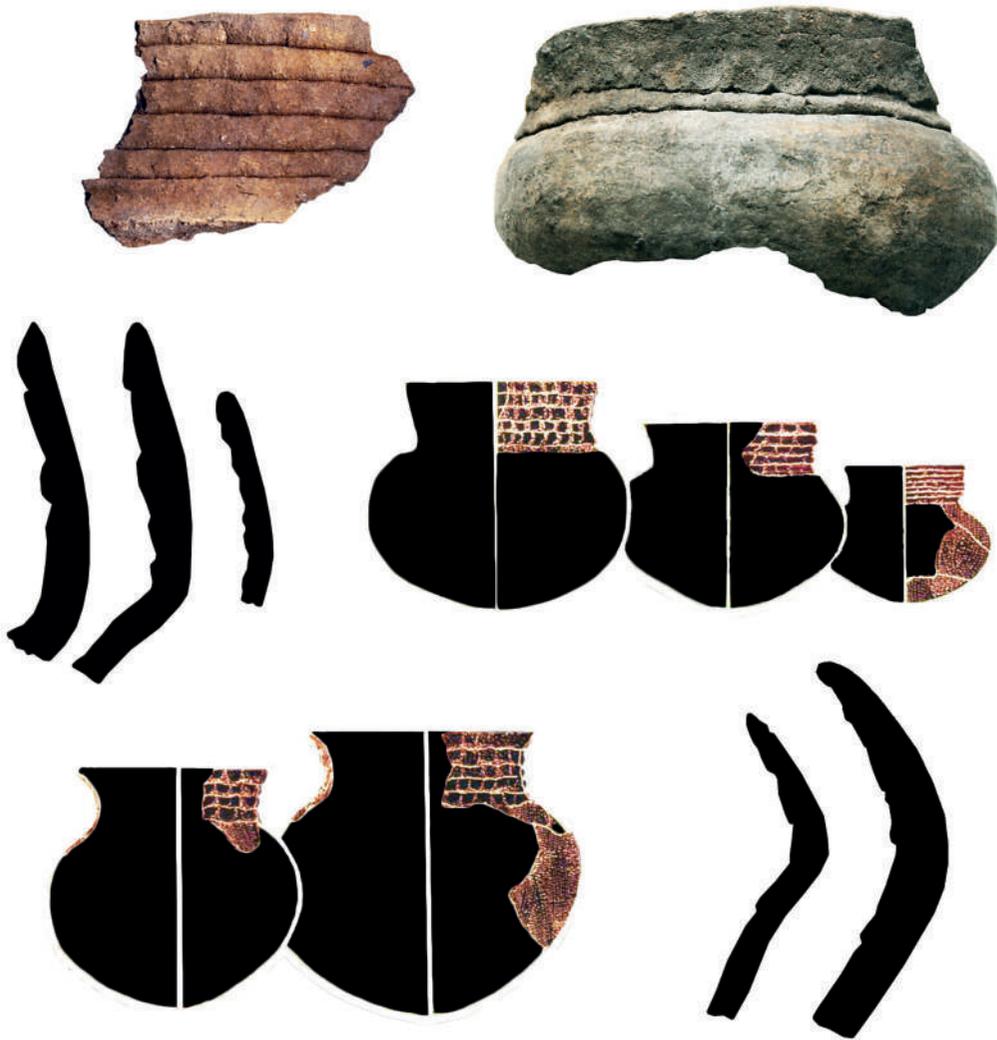


Figure 7. The most common decorated sherds are corrugated rims that range from one to six coils with or without thumb impressions. The corrugations occur in the medium- and large-sized semi-globular and hemispherical cooking and storage *ollas* (mouth diameters 26–34 cm); AG/A site, Las Aves de Sotavento Archipelago.

site, in the Barlovento region, in the north-eastern corner of the Valencioid Sphere of Interaction (see also Cruxent and Rouse 1958). Although this temper was considered as one of the characteristics of the pottery made by the Cariban-speaking ancestors of the Valencioids, the Arauquinoids from the Middle Orinoco area (Zucchi 1985), it was also adopted by some non-Cariban speakers (Boomert 2000: 120). The Valencioids could have indeed introduced this temper to their Dabajuroid neighbors. The striking blend of characteristics, a highly decorated and skillfully elaborated vessel made with an atypical temper, and with thick walls and deformed shape, may indicate the unusual conditions of its manufacture, most probably related to the distensions brought about by early colonial times when



Figure 8. An open bowl on shafted annular ring base, painted externally in lines and bands and with applied protuberances symmetrically distributed on rim top (mouth diameter 29 cm), AG/A site, Las Aves de Sotavento Archipelago.

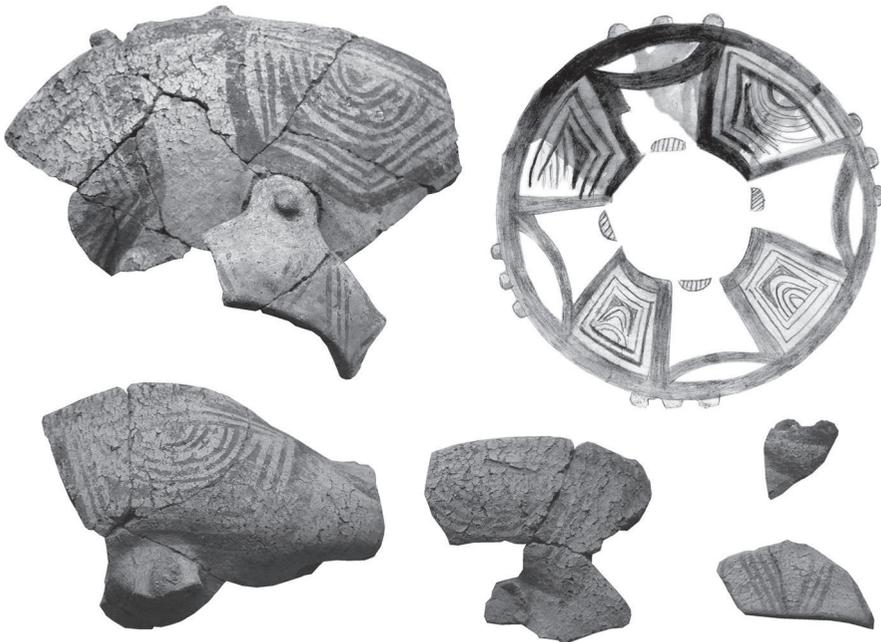


Figure 9. A medium-sized unrestricted bowl (mouth diameter 28 cm) with shafted annular ring base, with externally painted red on white lines, bands, the radial 'sun' motif, and small protuberances disposed symmetrically on its rim. This bowl is very light, has exceptionally thick walls and its overall shape is deformed, AG/A site, Las Aves de Sotavento Archipelago.



Figure 10. Plastic decorations include (from *left to right, top to bottom*): ‘coffee-bean-eye’ form; small protuberances; anthropomorphic face; multitubular appendix; incised knob; and owl-eye-like motifs applied on the external walls of vessels, on rim tops and on shafted annular ring bases. First eight sherds—AG/A site, Ave Grande Island; penultimate sherd—IP/A site, Isla Palmeras; last sherd—CU/A site, Curricai Island, Las Aves de Sotavento Archipelago (the largest sherd in the centre of the first row is 14 cm long).

the traditional Amerindian conditions of pottery manufacture were disrupted. The deformation of the shape and the thickening of the walls happened during the firing process. Bearing in mind that the vessel was unusable in its final deformed shape we may speculate that this state did not erase its, possibly, ceremonial/symbolic value and this might have been the reason why it was brought to the Curricai campsite. According to a modern potter experienced in indigenous pottery making techniques (Emilio Spósito, personal communication 2015), the conspicuous characteristics of this vessel bring to mind an unsuccessful ‘experimentation’ performed by a skillful Amerindian potter who employed an excessive quantity of unknown temper to make the whole vessel considerably lighter.

The plastic decoration of the pottery recovered at this site, combined with painting, is expressed in the form of small protuberances applied on the external walls of vessels, on shafted annular ring bases, and on rim tops (Figures 10 and 11). Three open bowl rims are decorated with motifs of vertically compressed human faces, realized through the techniques of appliqué and incision; all are red-slipped

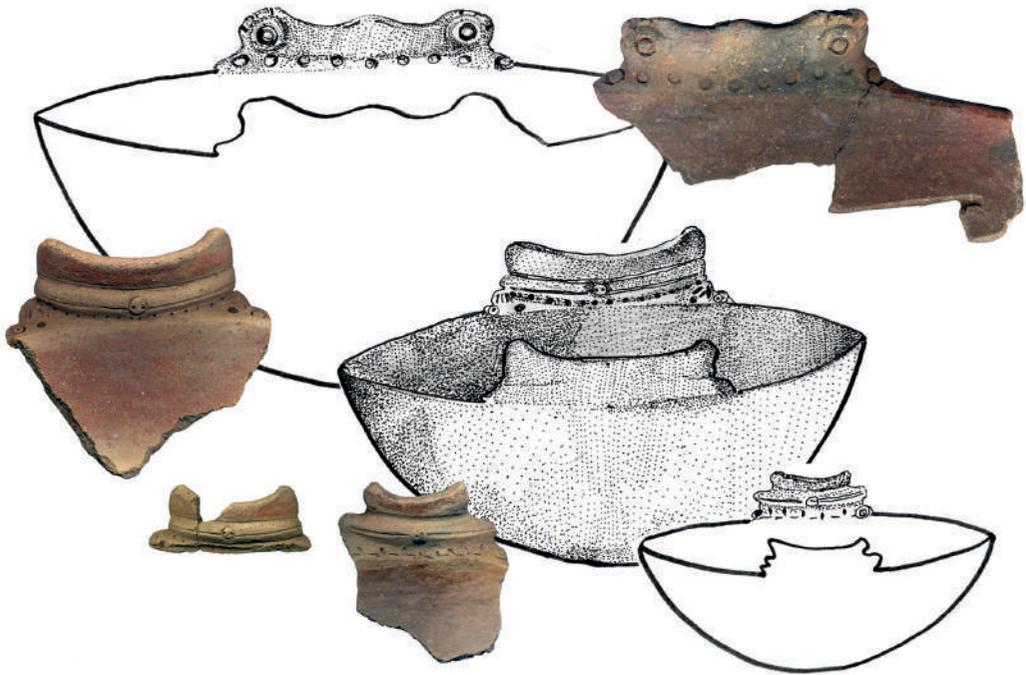


Figure 11. Three open bowls red-slipped in zones with rims decorated with motifs of vertically compressed human faces, realized through the techniques of appliqué and incision, and a bowl rim showing a simple biomorphic appliqué, AG/A site, Ave Grande Island, Las Aves de Sotavento Archipelago (the largest sherd is 13.4 cm long).

in zones. Another rim is similar to the previous ones but features owl-eye-like motifs. It is interesting to note that each of these generally similar decorations has a different row of incisions above the ‘face’; another bowl rim shows a simple biomorphic appliqué (Figure 11).

The lower half of one globular *olla* with everted rim was externally red-slipped. Annular bases, vertical strap handles of different sizes and four fragments of griddle were also recovered at this site. The examples of painted ‘fine ware’ are very scarce in comparison to the ‘ordinary ware’ with corrugated rims. The virtual absence of necked jars (liquid containers) is striking, and suggests that perishable bottle gourd containers might have been used for water storage in this island environment.

Vessel forms, decorative techniques and motifs of the pottery recovered at the AG/A site fall within the range of variation accorded to the Dabajuroid subseries (Oliver 1989, 1997). Unfortunately, the sherds recovered at the AG/A site are of low diagnostic value as indicators of subtler spatial/chronological divisions within this subseries. On the Dabajuroid mainland, at the Túcua site, the type of painted open bowl with shafted base featuring a thin (lenticular in cross-section) ‘ring’ was present in both Túcua and Early Urumaco components (Oliver 1989, vol. 2: 442; Appendix-C, Figs. C-32a to f; Fig. 46 b). The corrugation and annular and low stand ring bases are also common elements of Dabajuroid pottery from Curaçao and Bonaire (Haviser 1987; 1991: 47). Both, the form and the typical band design with a series of white rhombuses painted on a wide red band on the neck of the necked jar are typical of the mainland Dabajuran subseries (Oliver 1989, vol.2, Fig. C-59, c17; C-55, 13; 1997).

However, fragments of rims decorated with motifs of human faces found at this site are typical decorative traits of the Valencia style (Kidder 1944, Pl. 2: 19, 20). The rim with ‘owl-eyes’ decoration

is identical to a rim found in the Cementerio de Tucacas, which marks the westernmost style of the Valencioid series (Cruxent and Rouse 1958, vol. 2, Pl. 24: 23). The AG/A ‘owl-eyes’ find is also identical to a rim found at the La Cabrera site among its Valencia-style assemblage (Kidder 1944, Pl. 2: 28). The ‘coffee-bean-eyes’ are also typical Valencioid traits. All these Valencioid rim sherds are definitely dated post-AD 900. Unfortunately, the scarcity of data associated with the small shell midden that yielded the artifacts of the Cementerio de Tucacas style, limits the inferences that can be made about the nature of the social/political relationships of the bearers of Dabajuroid/Valencioid pottery on the north-western Venezuelan coast and, in consequence, on the Islands of the Las Aves Archipelagos. The admixture of Dabajuroid and Valencioid elements in the Cementerio de Tucacas site may be attributed to—probably non-coercive—‘marginal contacts’ in which the bearers of these potteries maintained their distinctive cultural characteristics on top of their ethnolinguistic differentiation: purportedly the Dabajuroids were Arawakan-speakers and the Valencioids Cariban-speakers (Cruxent and Rouse 1958, vol.1: 148; Rivas 2001; Antczak 1999). However, even though the area of Tucacas can be considered the western periphery of the Valencioid sphere of interaction (Antczak and Antczak 1999), it does not seem to mark the eastern border of coastal Dabajuroid influence. Dabajuroid-related pottery appears discontinuously along the eastern coast at the Guaraguao, Punta Arenas, and Playa Guacuco sites (Cruxent and Rouse 1958). The ceramics from these sites can likely be classified as a subseries distinct to the Dabajuran (as defined by Oliver 1989) and reflect chronological divergences (see Wagner 1973). At the Playa Chuao site, on the central-western coast, Dabajuroid pottery was recovered associated with Valencioid sherds (Morales 1984). The same combination was observed at the Valencioid site of Dos Mosquises in the Los Roques Archipelago (Antczak 1999a). Other coastal sites also yielded admixtures of late pre-Hispanic pottery, and this fact indicates the existence of a dynamic and multifarious interrelationship of the people along the coast with those situated between the coast and the hinterland (Alvarez and Casella 1983; Nieves de Galicia 1992; Martín 1995; Antczak 1999; Rivas 2001; Sýkora 2006; Antczak and Antczak 2006; Herrera Malatesta 2011).

We consider that the material signatures of these Valencioid/Dabajuroid interactions in north-central Venezuela are significant inasmuch as they may indicate extensive mobility and trade, or occasional social ‘fusion’ of the marine-based coastal Dabajuroid and Valencioid societies. Our guess is that during late pre-Hispanic times, groups of the bearers of Valencioid and Dabajuroid pottery made common cause for certain specialized activities, e.g. fishing parties, and their chiefs strengthened the social-political interaction through intermarriage and ritual exchange. The presence of Valencioid sherds in the Dabajuroid assemblage of Ave Grande Island can be considered a result of some of these undetermined social interactions that were also suggested by Pedro Rivas (2001) for similar phenomena observed in other north central Venezuela archaeology case studies (see Antczak 1993). We will return to these hypotheses in the final part of this paper.

Ave Grande (AG/B)

The site AG/B, called Las Dunas, is located in the sand dune area about 400 meters to the south of the beach close to the AG/A site. Only about 75 meters separate the dunes from a large inner lagoon surrounded by mangroves to the south. Among the dunes, contemporary fishermen have excavated several pits in search of brackish but potable water; the most important of these pits provides water throughout the year. A few eroded sherds and chiton plaques were recovered from the surface of the site. Several sherds were found clustered on the surface, close to the dunes, and permitted the reconstruction of a large globular *olla* for cooking or storage or both (Figure 12).

The grey-colored soil layer begins about 12 centimeters below the surface, and the bottom of the cultural deposit was reached at the depth of 45 centimeters. In these pits the water table level was found between 120 and 130 centimeters. At the depth of 43 centimeters, one well-preserved hearth 70



Figure 12. Several sherds clustered on the surface were found close to the dunes at AG/B site permitting the reconstruction of a large globular *olla* (height 23.5, mouth diameter 35 cm), Las Aves de Sotavento Archipelago.

centimeters in diameter and about 13 centimeters thick was recovered. It included three lips of adult *Lobatus gigas* shells, a great many fragments of the same shells, and several sherds and fragments of marine turtle carapaces. The sample taken from this hearth was radiocarbon dated to 1260 ± 80 BP (Table 2). In the walls of two water pits excavated by the fishermen, two other hearths were observed lying at a depth of 10 and 27 centimeters beneath the surface. Both of them contained charred soil, pottery, charcoal, and *Lobatus gigas* shell fragments and bone debris. All the hearths were well-preserved. Their differential vertical distribution, as well as refuse areas associated with them, may indicate a few brief reoccupations of the site, probably to search for potable water.

The only decorated sherds recovered at this site are four corrugated rims with thumb impressions. These decorations, as well as forms of the ‘ordinary ware’, can be related to the Dabajuroid assemblage from the nearby AG/A site. However, the question remains whether the AG/B site was indeed related to brackish water exploitation. If so, why were necked jars, the typical Dabajuroid water containers, recovered neither from this nor from the adjacent AG/A site? José Oliver (personal communication 1999) suggested that the painted-necked jar would have been used exclusively as a container for *masato* (manioc beer), while water could have been transported by canoe in light and versatile bottle gourds. The necked jar might also have been used as a turtle oil container.

Isla Palmeras (IP/A)

This site is located near the center of Isla Palmeras Island, about 170 meters from the eastern shore and 80 meters from the small sandy beach on the western shore. About 110 meters separate the site from the brackish water source located toward the east. A large number of *Lobatus gigas* shells,

crushed into pieces, emerge on the surface in the form of a shallow bank about 28 meters long and one to five meters wide. A few potsherds are scattered among the shell fragments (Figure 13).

The site was located in 1988 and excavated in 1992. The cultural deposit extends from the surface to a maximum depth of about 45 centimeters where the sterile stratum begins. Apart from the omnipresent *Lobatus gigas* shell fragments and few long turtle bones, other faunal remains include 21 chiton plates and 19 *Cittarium pica* shells.

Stone artifacts include five medium and two large-sized hammerstones, two fragments of thin plain sandstone ‘sheets’ beveled on one of their borders, one petaloid axe with polished surface, beveled edge and heavy use-wear traces on both working extremities, and 15 small quartzite flakes (Figure 4). The raw material of all these artifacts is of allochthonous origin.

In the main pit (eight square meters) 58 lips separated from the shells of adult and old *Lobatus gigas* individuals, often deposited in groups of two to six, were recovered. Both the large quantity and the spatial clustering of these lips indicate that they were intentionally separated from the shells *in situ* to be probably shipped out of the Las Aves Archipelago for further manufacture in the continental or insular (Bonaire/Curaçao) permanent Dabajuran villages. At this point we should stress that to separate the lip of the *Lobatus gigas* shell, it is not necessary to crush the entire shell. The separation process is quick and simple and no specialized tools are necessary. An adult *Lobatus gigas* shell can even successfully substitute a hammerstone during this process, if the latter is not available. If the lip separation process does not account for such a high quantity of small shell fragments at the site, three alternative explanations can be proposed: 1) crushing the shells was not a lip separation but a meat extraction technique; 2) the shells were crushed in order to obtain inner columella parts as a raw material; 3) other unknown ideological factors in whole or in part underlie these processes. We favor the latter two hypotheses even though we are fully aware that only new problem-oriented contextual excavations can shed light on this issue. It should be noted that complete shells and large fragments are predominant in the deeper levels (20 to 40 and 40 to 60 centimeters) of the site. In the level of the 0–20 centimeter range, the quantity of small shell fragments becomes dominant, and exclusive on the surface. Natural factors can be invoked to account for this phenomenon. Sea waves, for instance, could intrude into the site occasionally during storms, and can be cautiously suggested as responsible for this ‘reverse sieving’ effect.

Only two traces of poorly defined hearths were recovered at the IP/A site, both in the same pit at a depth of 35 centimeters. This evidence, together with the low abundance and diversity of faunal remains, seems to indicate that the site was not a multifunctional campsite where Amerindians



Figure 13. Partial view of the excavation at IP/A site, Isla Palmeras, Las Aves de Sotavento Archipelago and a close up of a scatter of *Lobatus gigas* shells crushed into pieces typical at this site.

lived, processed food, and worked on shells, but rather a specific purpose site. This realization may be reinforced by other evidence. Pottery is relatively scarce at the site, consisting of plain sherds pertaining to medium and large globular and hemispherical cooking *ollas*; some feature strap handles and corrugated rims. A few red slipped sherds with ‘coffee-bean-eye’ appliqué were found scattered on the surface. However, these are of low diagnostic value and can be considered either Valencia-related intrusions or Dabajuroid imports.

It should be noted that the only decorated sherds found at the ILR/A site were also corrugated rims with thumb impressions, as at the IP/A site. This data can be construed to suggest a possible cultural relationship between these two sites, despite the low diagnostic value of corrugated rims. Only a few plain sherds were associated with the deposit of crushed shells on Dos Mosquises Island (Los Roques Archipelago). This leaves open the question whether the Dos Mosquises deposit can be considered part of the Valencioid component which dominates this site, or demonstrates an independent cultural affiliation. For now, the scarcity of available data precludes any reliable conclusions from the comparative analysis of these three deposits (on ILR/A, IP/A, and Dos Mosquises Island).

In conclusion, the data suggest that site IP/A was a special-purpose campsite of low occupational density, in part dedicated to the rough processing of *Lobatus gigas* shells. The occupants of the site may be related to the bearers of the Dabajuroid pottery from the site AG/A. The precise causes and nature of cultural and natural processes that intervened in the formation of the IP/A site, especially its shell deposit, remain to be elucidated.

Isla Palmeras (IP/B)

This site is situated only 55 meters from the sandy beach of the island. Patches of dark grey soil are clearly visible on the surface of the site and semi-buried *Lobatus gigas* shells are scattered among the grasses in a strip about 75 meters long and five to eight meters wide. The shells are predominantly whole except for the opening holes in their spires which indicate the technique of meat removal.

The cultural deposit begins only a few centimeters below the surface and ends at a depth between 35 and 40 centimeters. Faunal remains other than *Lobatus gigas* shells are scarce at this site and include turtle bones, chiton plates and other mollusks such as *Cittarium pica*, *Codakia orbicularis* and *Strombus costatus*. A few fish spines and vertebrae, as well as two dentaries of *Scarus guacamaya* were also recovered. Although carbonized organic particles are scattered throughout the deposit, no defined hearth was located.

The recovered sherds are from medium to large undecorated cooking *ollas*. The IP/B site can be considered as a typical locus for queen conch meat extraction and, probably, processing. The ceramic assemblages of IP/A and IP/B sites were, probably, rooted in the Dabajuroid tradition but the precise chronological and functional relationship between these sites has to remain, for now, undetermined.

Curricai (CU)

Curricai is one of the smaller islands of the Aves de Sotavento group. It is flat, covered by grasses and presents a series of dunes along the sandy beach on the southern coast. The site CU/A is situated in the western part of the island, about 10 meters from the coast well protected by patches of reefs nearby. The site was discovered thanks to routine test pit excavations. Artifacts were not observed on the surface nor did changes in topography, soil color or vegetation indicate the existence of cultural deposit beneath the surface.

The cultural stratum begins about 15–20 centimeters below the surface and ends at a maximum depth of about 45 centimeters in the center of the midden. One plain sandstone ‘sheet’ beveled on one of its borders and similar to specimens recovered from the IP/B site, was found. A few sherds and

faunal remains were loosely distributed both vertically and horizontally in the sandy matrix. Turtle remains, chiton plates and *Scarus spp.* mandibular fragments were also recovered. One hearth of about 35 centimeters in diameter was located at a depth of 40 centimeters in what seemed to be the central part of the site. The radiocarbon-dated sample from this hearth yielded 420±80 BP.

The pottery found here is coarse, and one large open bowl of rough manufacture especially attracts attention for its asymmetrical form and thick walls (Figure 14). The deformation had to occur before the firing of the vessel what indicates poor craftsmanship that may probably be related to the early colonial conditions of pottery manufacture. The relationship between the dramatic simplification of the vessels' forms and the manufacturing process on one side and the early colonial impacts, on the other side, has already been discussed in Venezuelan archaeology (Cruxent and Rouse 1958; Rivas 2001).

The only decorative motifs on potsherds from the CU/A site are corrugations with thumb impressions. These are limited to the rims of cooking or storage vessels, or both, of medium to large size. The site can be considered a low occupational intensity campsite, probably culturally related to the bearers of Dabajuroid pottery or historically known *Caquetío* Amerindias.

Isla del Tesoro (IT/A)

The site IT/A, discovered and excavated in 1985 and re-excavated in 1992, is located on a grassy area in the narrow central-eastern part of the Isla del Tesoro in the Aves de Barlovento group (Table 3). Toward the south, the site is separated by a distance of only five to seven meters from a shore covered by mangroves; sandy beach is found 70 meters to the north. No cultural remains can be observed on the surface of this site; several nests of booby birds (*Sula* sp.) are scattered on the surface and the uppermost 20 centimeters are densely covered by *guano*.

The cultural deposit reaches a depth of 57 centimeters and is composed of potsherds, quartzite flakes, hammerstones, and faunal remains. Turtle bones and carapace fragments, chiton plates, fish vertebrae and bird bones were also recovered. Among 118 shells are 49 *Cittarium pica* fragments (16 MNI), 42 *Lobatus gigas* fragments (7 MNI), three *Strombus raninus* fragments (2 MNI), and representatives of the *Astraea* (14 MNI), *Conus* (9 MNI), *Fissurella* (5 MNI), and *Voluta* (2 MNI) genera (Antczak and Antczak 1985, 1988). Only one premaxillary and two dentary plates of large specimens of *Scarus guacamaya* were recovered. In the absence of small fish remains, this evidence



Figure 14. Roughly made vessel with deformed shape from CU/A site, Curricai Island, Las Aves de Sotavento Archipelago (height 20 cm, mouth diameter 32 cm, max. wall thickness 2 cm).

Table 3. Amerindian sites and excavations in Las Aves de Barlovento Archipelago.

Island	Site code	Site extension (m ²)	Site max. depth (cm)	Pits		Stylistic affiliation
				#	m ²	
Isla del Tesoro	AB/IT/A	60	57	10	8.5	Dabajuroid
Isla del Tesoro	AB/IT/B	340	45	13	23.5	Dabajuroid
Isla del Faro	AB/IF/A	250	35	10	10.0	Undefined
Isla del Faro	AB/IF/B	?	0	-	-	Dabajuroid
Total		650		33	42	

indicates that fishing was small-scale and opportunistic. Bow and arrows or spears or both were used instead of nets and traps to take large parrot fishes in the shallow reefs.

Nine lips separated from *Lobatus gigas* shells, three of them deposited together and retouched as preforms for celts or pendants, and two fragments of shell disks might suggest that small-scale rough shell work was carried out at this site. All these remains are loosely distributed in grayish sand that contains many carbonized particles.

Some 224 ceramic sherds were recovered, representing medium to large cooking and storage *ollas*. The pottery is sand-tempered and is of rather coarse manufacture; a few of these sherds were over one centimeter thick. Decoration is absent except for 14 corrugated rims (6.25%) with or without thumb impressions. Two pedestal bases were also found.

Two hearths were recovered at the site. The lower one rests at a depth of 57 centimeters. This hearth yielded the radiocarbon date 420±80 BP (Antczak and Antczak 1993; Table 2). The second, shallower hearth lay at a depth of 38 centimeters.

The site can be interpreted as a campsite reoccupied over time by small groups of people, probably bearers of Dabajuroid pottery. It is noteworthy that the emphasis on *Lobatus gigas* lip separation and the presence of corrugated rims, combined with the radiocarbon dates, suggests a cultural-functional link between this site and IP/A in the Las Aves de Sotavento Archipelago.

Isla del Tesoro (IT/B)

The second archaeological site on Isla del Tesoro is located about 500 meters to the southwest of IT/A. Few meters separate the site from the sandy beach to the north as well as from the thicket of mangroves to the south (Figure 15). The cultural layer begins between 15 and 20 centimeters below the surface and becomes sterile at a depth of 45 centimeters. Ceramic sherds, stone artifacts and faunal remains are loosely scattered vertically and horizontally within the sandy matrix.

Pottery is dominated by fragments of plain cooking and storage *ollas*; only 22 (2.51%) out of 876 sherds were decorated. Seven (31.81%) decorated sherds are painted while the rest are corrugated rims with and without thumb impressions. The painting consists of straight parallel wide and fine lines in black and red on buff (natural). One rim of an open bowl is internally painted with a wide band that goes around the vessel with thinner bands disposed perpendicularly. On the external side, a small appliqué appears below the rim and two ‘appendices’ are applied directly to the rim’s top. Another open bowl rim is painted with narrow black bands in the motif of an ‘inverted T’ (compare to Oliver 1989, vol. 2: Fig. C-59: 13, 16); in addition, a small ‘ear-like’ appliqué runs down vertically from the rim’s top. A few sherds permitted the reconstruction of an open bowl with a shafted annular ring base which originally featured, probably, bands of red paint on both the inside and outside (Figure 15). Two



Figure 15. Partial view of the excavations at IT/B site, Isla del Tesoro, Las Aves de Barlovento Archipelago and fragments of an open bowl with a shafted annular ring base which originally featured, probably, bands of red paint on both the inside and outside (approximate mouth diameter 25 cm), IT/A, site.

vertical strap handles and three fragments of pedestal bases were also recovered. No griddle fragments were found.

Stone artifacts are of low diversity and poor quality, including several quartzite flakes and seven roughly made medium-sized hammerstones. Two bone artifacts were recovered: one unipoint, probably an arrow head and the other a possible spatula fashioned from a large mammal bone—possibly a deer—beveled in one of its extremities (Figure 5). Faunal remains are very scarce; turtle bones dominate the sample, followed by 32 fish remains including vertebrae, spines and two mandibular fragments of Scaridae. Shellfish are represented by 42 *Cittarium pica* shells. Only a few fragments of the *Lobatus gigas*, *Arca zebra* and *Chama*, *Codakia* and *Spondylus* species are present.

Five hearth features with diameters varying between 35 and 65 centimeters were recovered at depths between 32 and 40 centimeters; four were concentrated in an area of about two square meters. The relatively narrow range of the vertical hearth distribution, as well as spatial horizontal clustering suggest that this site was not as frequently reoccupied over long time periods as were other insular sites. Given its size, it also seems to have been occupied by a small group of persons, perhaps just one canoe crew.

All painted sherds from the IT/B are related to the Dabajuroid subseries. This relationship is indicated, for example, by the painted rim with appliqué, which is very similar to the mainland Dabajuroid specimens, especially the Urumaco style complex (see Oliver 1989, vol. 2, Fig. C-63k, C-67M, C-17). The forms, especially the bowls with shafted annular ring bases, also have their ‘twin’ counterparts within the Dabajuran subseries from the mainland (Oliver 1989; 1997), as well as within the Dabajuroid ceramic assemblages from Bonaire and Curaçao (Haviser 1991).

Isla del Faro (IF/B)

This site is situated adjacent to the tiny sandy beach on the northern coast of the island. This beach is one of two or three natural openings in the line of mangroves that today cover the major part of the northeastern coast of the island. These openings permit access to the interior of the island. Only a few small and heavily eroded sherds were observed on the surface of this site.

The dimension of the cultural layer is poorly defined; it starts about 10–15 centimeters below the surface and ends at a depth of 30–35 centimeters. Artefacts, mainly ceramic sherds, are scattered loosely both horizontally and vertically. Sixty-seven plain sherds correspond to medium and large cooking or storage *ollas*, and only three sherds are decorated with corrugated rims. Hearths were not recovered; however, grey-colored patches of sand, containing small carbonized particles, may suggest their original existence at the site. This ephemeral site can be tentatively related to the Dabajuroid sites from Isla del Tesoro.

DISCUSSION: TRACKING DABAJUROID ‘CONNECTIONS’

The results of the above resumed investigations indicate that the Las Aves archipelagos were not frequented by indigenous people until late ceramic times (see Versteeg *et al.* 1990 for the earliest Amerindian remains on Aruba). Cruxent and Rouse’s Dabajuro style (1958) was redefined by Oliver (1989) into three different ceramic complexes or styles: Túcua (AD 800 to 1100/1200), Urumaco (AD 1100/1200 to 1400/1450), and Los Médanos (AD 1350 to 1600/1650), in the core area of modern Falcón State. Of these, the Urumaco complex partially encompasses the original ‘Dabajuro style’ defined by Cruxent and Rouse (1958; see also Rouse and Cruxent 1963). Between AD 850 and 1350 the Dabajurans rapidly expanded across present-day coastal Falcón State and by Early Urumaco times (AD 1200–1350) the islands of Aruba, Curaçao and Bonaire were already colonized (Oliver 1989, 1997a; see Haviser 1987, 1991; Versteeg 1993)]. On Aruba, the styles designated as Santa Cruz at Tanki Flip (du Ry 1960; see also Heidecker and Siegel 1969; Boerstra 1969; Versteeg and Rostain 1997) and the succeeding Savaneta style are in close stylistic relationship (if not equivalence) to the mainland’s Urumaco and Los Médanos styles (Oliver 1989, 1997). The archaeological as well as the ethnohistoric data indicate close relationships between the Dabajurans from Aruba and their ancestral homeland in the coastal Falcón (Oliver 1989; 1997).

On Curaçao and Bonaire, Dabajuroid ceramics are somewhat more divergent, stylistically, from mainland and Aruban pottery (Oliver 1997). Haviser (1987; 1991) suggested that between AD 400 and 500, these islands received pottery bearers of a pre-Dabajuroid tradition, represented by the Wanapa/De Savaan styles of pottery, which he portrayed as unique to Bonaire and Curaçao. The painting traits, identified by Haviser as “unique” to the De Savaan style, are “painted dots (of red and brown), and alternate color parallel-line patterns (most often two red lines bordered by two black or brown lines) both painted on a buff background” (Haviser 1991: 50; Fig. 24 a, b; 25). Largely on this basis, Haviser (1991: 54, 61, 65) argued for a pre-Dabajuroid early ceramic tradition on Bonaire and Curaçao deriving from the Ocumaroid series. He speculates that about AD 400–500 Ocumaroids spread from the Venezuelan coast into the area of the Tocuyo-Aroa-Yaracuy river outlets and, from there, to the islands (Haviser 1991: 65; see also Arvelo and Wagner 1993).

Oliver (1997) challenged Haviser’s explanations about the origin of Curaçao-Bonaire pottery, as well as the derivation of the De Savaan (Curaçao) and Wanapa (Bonaire) styles from the Ocumaroid series. He argued that the De Savaan-Wanapa styles show only a slight divergence from the known Dabajuroid ceramics from the mainland and Aruba; and that both, unmistakably, pertain to the Dabajuroid ceramic tradition. Oliver (1997) hypothesized that the De Savaan-Wanapa styles are probably a result of an initial settlement of Curaçao and Bonaire from some unidentified sector of present-day eastern Falcón State. However, the crucial element in Oliver’s discussion regards the date of the Wanapa style’s appearance on Bonaire, as proposed by Haviser (1991), rather than this style’s spreading direction. Oliver (1997: 397, footnote 203) suspects that the radiocarbon date of 1480±25 BP obtained by Haviser (1991: Fig. 27) at the Wanapa site could be, rather, of pre-Dabajuroid origin.

However, the date 505 ± 35 BP obtained from the sample within the same block area excavation is related to a Dabajuroid deposit. He argued that both samples could not be related to Dabajuran deposits since “the ceramics at Wanapa do not show the kind of stylistic and developmental changes that would be expected in 975 years of purported Dabajuran occupation at this site” (Oliver 1997: 397).

The above debate is pertinent to the discussion of the archaeology of the Las Aves Archipelagos and other offshore Venezuelan islands. This is because Haviser (1991: 53) stated that the only ceramic similarities noted between the Las Aves and the Los Roques archipelagos are with those purported “earliest ceramic styles” of Bonaire, especially the Wanapa style (Antczak 1993). Haviser suggested that the pottery from the Domusky Norte Island, classified as Ocumaroid (Colmenares 1990; Antczak and Antczak 1991a, b), had an “early component” linked to Wanapa-style pottery from Bonaire (Haviser 1991: 65). He further argued that this ‘early component’ could be indicative of an earlier Ocumaroid movement which about AD 500 reached the islands of Los Roques, Las Aves, Bonaire and Curaçao from the Caribbean coast at the Tocuyo, Aroa, and Yaracuy river outlets area (Haviser 1991: 200). These interpretations do not fit the archaeological data from the Venezuelan offshore islands. The Las Aves de Barlovento ceramic assemblage, according to our data published before 1991 yielded no traits of pottery other than the corrugated sherds (Antczak and Antczak 1985; 1988). In consequence, these sherds could not be stylistically related to the painted pottery of the Wanapa and De Savaan styles, as suggested by Haviser (1991). New excavations at the IT/A site, as well as the discovery of a new (IT/B) site on the same Isla del Tesoro, yielded some painted pottery the stylistic analysis of which thoroughly confirmed the Dabajuroid affiliation of both assemblages. It has also been asserted (Antczak and Antczak 1991a, b) that the Aves de Barlovento (IT/A) pottery was associated with the radiocarbon date of 420 ± 80 BP. This date suggests that—whichever the route Amerindians navigated to arrive at the Aves de Barlovento islands (from Curaçao and Bonaire or from the mainland; we suggested both possibilities in Antczak and Antczak 1985, 1988)—they were present at the IT/A site during the late pre-Hispanic or early colonial times or both. The same routes were suggested for the occupants of Las Aves de Sotavento (Antczak and Antczak 1988; 1989a; 1989b; 1989c; Antczak 1993). Two radiocarbon dates from the Aves de Sotavento Archipelago, namely 690 ± 80 BP (AG/B site) and 420 ± 80 (CU/A site), may indicate a post ca. AD 1180 origin for all the Dabajuroid sites in both Las Aves Archipelagos (Table 2).

A possible chronological indicator, derived from the insular pottery analyses, should also be mentioned. Oliver (1989) observed that not long before the Spanish conquest, mainland Dabajuroid ceramics underwent declines in quality, design, and variety. The hollow rims, which are typical of earlier Dabajuran Urumaco complexes from the mainland (Oliver 1989), are absent in the Las Aves assemblages. If this phenomenon is not a result of the purposeful selection of the poorest (in qualitative terms) mainland pottery for island use, then it may serve as further evidence supporting the late pre-Hispanic origin of the insular Dabajuroid assemblages.

According to Oliver (1989), the Dabajuroid vessels related to cooking and storage (‘ordinary ware’) were more resistant to change than the so-called ‘fine ware’ (serving vessels and ritual vessels). Analyzing the variability within and between ‘ordinary ware’ from the Las Aves Archipelagos assemblages, few if any changes in their forms and ceramic quality can be observed during the ca. 350 years of the Dabajuran ‘revisitation’ of the Las Aves islands. Discarding the utility of ‘ordinary ware’ as a sensitive marker of subtle chronological and cultural differences within and between the insular Dabajuroid assemblages, and given the scarcity and low diagnostic value of painted sherds (‘fine ware’) recovered on the islands, any attempt to determine whether the ceramic assemblages from both Las Aves Archipelagos constitute a distinct sub-series within the Dabajuroid series (see Oliver 1989; 1997a) remains open to debate.

The presence of Dabajuroid pottery at a few sites in the Los Roques Archipelago was previously reported by Antczak and Antczak (1991; see also Antczak 1999a, b). Dabajuroid painted sherds,

associated to possibly Dabajuroid corrugated (coiled) rims, with or without thumb impressions, were recovered within the Valencioid (that is, the Valencioid series from north-central Venezuela; see Cruxent and Rouse 1958) components in the Dos Mosquises (DM), Cayo Sal (CS/D) and Cayo de Agua (CA/A) islands. They were also found within the Ocumaroid assemblage, in the Domusky Norte site, as well as at site Isla Larga (IL/A site), which is stylistically unaffiliated (Antczak 1999a, b). The presence of Dabajuroid sherds in Valencioid and Ocumaroid deposits is indicative of interaction between the bearers of these ceramics, interaction the origins of which can be traced to the mainland. Within the assemblage of the unaffiliated site IL/A, where the only decorated sherds found were corrugated rims, the possibility of Dabajuran direct presence may also be cautiously considered.

It must be stressed at this point that, even though the corrugated rims are numerous throughout the majority of the Dabajuroid sites (both on the islands and on the mainland), they are also widespread in non-Dabajuroid sites, in and beyond western Venezuela (Nieves 1980). Moreover, Herrera Malatesta (2011: 88) proposed the inclusion of corrugation into the repertoire of decorative elements of Valencioid pottery. Assuming the non-diagnostic nature of corrugation within the Dabajuroid subseries, the translation of its spatial distribution into specific types of intersocietal interaction is unreliable. As a consequence of the above considerations, the following question may be posed: Why are the assemblages from the sites AG/B, CU/A, IP/A, IP/B, IF/B, and IT/A—all located in the Las Aves Archipelagos—considered here as related to the Dabajuroid Sub-tradition despite the fact that the corrugated rims are the main decorated sherds recovered at these sites? The answer is: this tentative affiliation is postulated first on the basis of overall similarities in pottery forms and composition, second on the structure and content of cultural deposits, and finally on the chronology and geographical boundaries of all these sites.

The archaeological data indicate that the temporary visitors to the islands of the Las Aves de Sotavento and Barlovento Archipelagos were the bearers of the Dabajuroid pottery from northwestern Venezuela as well as Bonaire and Curaçao. Their presence is documented from AD 1180 to approximately the early 16th century. If some of these Amerindian groups were visiting the Las Aves islands during the Conquest period, as suggested by radiocarbon dates, contact with the Europeans must have been non-existent or, at best, ephemeral, since European artifacts are absent at all these insular Amerindian sites.

It should be noted that the archaeological data do not support some of the previous suggestions derived from analysis of historical references (see section *Documentary accounts* above). Accordingly, the only Amerindians who visited the Las Aves Archipelagos during the 16th century might have been the *Caraca* Amerindians from the central coast of Venezuela. The archaeological evidence indicates that the Amerindians who participated in the rescue of the Spanish shipwreck in the 1550s were most probably descendants of pre-Hispanic Dabajuroids related to the historically known *Caquetío*. This interpretation accords with Andrzej Antczak's (1999a) argumentation, according to which long-distance Amerindian navigation from the central coast (i.e. the coast of *Los Caraca*) dramatically decreased from the beginnings of the 16th century as a consequence of Spanish slave raids, and ceased altogether when the conquest of this region began (ca. 1555). The *Caraca* Amerindians fiercely resisted the conquerors until the last decades of the 16th century, but the *Caquetíos* to the west (the descendants of Dabajuroid pottery bearers) though also suffering mistreatment from Spanish and German conquerors during the first decades of the century (Arellano Moreno 1961: 119–122), did not put up such fierce resistance. After 1534 it had been forbidden to the Spanish to take them captive and their interactions with the conquerors became largely 'amicable' (Arellano Moreno 1961: 87). We assume that because of this special status the *Caquetíos* could more freely navigate the waters off north-central and western Venezuela than other neighboring indigenous people. In the following section, we will further discuss what might have been the interactions of the Las Aves Dabajuroids with their neighbors from other islands and from the mainland coast.

CONCLUDING REMARKS: POTSHERDS AND POLITICS

This section aims to integrate the archaeology of the Las Aves Archipelagos into the broader culture-historical panorama of north-central Venezuela. Given the virtual absence of contextual information from the archaeological sites on the mainland coast and scarce non-ceramic data, this discussion is largely based on the ‘pottery animation’ procedure (Antczak 1999a). The lack of contextual and non-ceramic data precludes construction of realistic models of social-political interactions between concrete, dynamic societies and polities of the past. In all north-central Venezuela, except for the Los Roques Archipelago, and particularly on Dos Mosquises Island where the categories of the social actors were approached (Antczak and Antczak 2006), the pre-Hispanic social (ethnic, linguistic) identities ‘hide’ behind the archaeological ‘series’ and ‘styles’ set down by Cruxent and Rouse in 1958 (see also Rouse and Cruxent 1963). While studying the majority of excavation reports from this region, it seems that the prehistoric people are indeed hidden somewhere behind the monolithic and ‘objective’ archaeological cultures. In consequence, an ‘archaeological culture’ seems to become implicitly equated with a ‘society’ while the ceramic remains become regarded as signifying a specific people. In the major part of the area discussed in this paper, the spatial spread of ceramic forms and decorative motifs is considered, still (if implicitly), the record of a group of people or a particular set of ideas on the move (see Shanks and Tilley 1992). However, cultures or ceramics do not migrate; people do (Anthony 1997: 27). Subtle forms of intersocietal interaction and mobility have successfully been disclosed in the neighboring insular Caribbean macroregion (see Boomert 2000; Hofman *et al.* 2008, 2014). In Venezuela, the normative concepts of ‘style’ and ‘series’ used by Cruxent and Rouse were not meant to represent social units, nor to distinguish between ethnic groups and polities. The concept of ‘archaeological culture’ cannot, therefore, be equated with ‘society’, since it was explicitly dedicated to the analysis of material culture norms, chiefly in ceramic and lithic artefacts. In consequence, any reliable theorizing on the social or ethnic identities of Amerindian societies, as well as on the nature and dynamics of societal interactions in the north-central Venezuelan region before the time of European conquest is, for now, a highly demanding goal. However, interdisciplinary contextual archaeological research in the region—in which diverse material signatures pertinent to the historical specificity of a postulated pre-Hispanic society are analyzed—can help critical retheorizing of the culture-historical concepts and prevent reproduction of the present-day historical (proto- or pre-historical) ‘social-fictions’ on record.

The terms and concepts used here such as ‘Valencioids’, ‘Ocumaroids’ and ‘Dabajuroids’, assume cultural homogeneity only in terms of material traits (i.e. pottery, urn burials, earthworks). Such terms and concepts refer to the makers of the ‘Valencia’, ‘Ocumare’ or other styles of pottery as defined in Cruxent’s and Rouse’s set of terms (Cruxent and Rouse 1958; Rouse and Cruxent 1963). We are aware that the people ‘hidden’ behind these rigid concepts were a mosaic of societies, each with its own diachronically fluctuating economy, social organization, ideology, language or dialect, and ethnic composition, among other aspects. Such societies were dynamic social units, composed of living individuals capable of negotiating their social realities and distinguishable one from another in terms of their particular historical trajectories, for example the degree of confrontation with or accommodation to the *conquistadores*.

As a result of the above considerations, the pre-Hispanic occupants of the Las Aves Archipelagos can be fitted into the cultural panorama of the region mainly in terms of the pottery styles they left behind. Let us now broadly paint interactions between the Ocumaroid, Valencioid and Dabajuroid pottery bearers as conceived from the perspective of the archaeology of the Las Aves Archipelagos. These interactions, however, can be more widely conjectured on the basis of the data collected on the islands and the mainland.

To begin, we introduce the Ocumaroid archaeological culture whose creators play an important role in further discussion. The only island sites whose pottery was related to the Ocumaroid series (as defined by Cruxent and Rouse 1958) are Domusky Norte and Boca de Sebastopol, on the western and southeastern border of the Los Roques Archipelago respectively. Initially, comparative analyses of the traits of the DMN pottery recovered in 1986 suggested a relationship with the Ocumaroid series from the Venezuelan north-western coast (Colmenares 1990; Antczak and Antczak 1991a, b). However, the results of new extensive excavations carried out in 1996 revealed the presence of some Valencioid pottery from the bottom to the top of the site's stratigraphic sequence. This evidence indicates interaction between the bearers of these two pottery traditions during the entire span of occupation at the site. Similar conclusions may be drawn from the analyses of the archaeological assemblage from the Boca de Sebastopol site excavated in 2007.

Regarding the chronology of the DMN assemblage, the first radiocarbon sample processed in 1987 was dated to 620±80 BP (Antczak and Antczak 1989c; Antczak and Antczak 1991a, b), indicating a late pre-Hispanic origin. The DMN assemblage was placed in Haviser's chronological chart for Bonaire and adjacent areas (Haviser 1991: 62, Fig. 28) as a component affiliated to the Krasky style (Los Roques Archipelago), despite the fact that the Krasky style is the only insular archaeological assemblage related to the Valencioid series that was known long before the Venezuelan Islands Archaeology project began in 1982 (Jam 1956; Cruxent and Rouse 1958; Antczak and Antczak 2006). Haviser also suggested that the DMN assemblage, classified as Ocumaroid (Colmenares 1990; Antczak and Antczak 1991a, b), had in its "earliest components" the pottery of the Wanapa style from Bonaire, "albeit only slightly" (Haviser 1991: 65). As a consequence, he argued that this 'early component' could be indicative of an early spread of Ocumaroid people, reaching Los Roques from the coast at about the same time as Bonaire, rather than spreading via Bonaire (Haviser 1991). Haviser (1991: 200) suggested the center point of this purported spread into Los Roques, Las Aves, Bonaire, and Curaçao islands is the Caribbean Venezuelan coast and the suggested time of this event is about AD 500 (Haviser 1991: 200). Three more recent radiocarbon dates, ranging between AD 1020 and 1070 (Antczak 1999a, b), as well as the presence of Valencioid sherds throughout all the occupational sequence at the DMN site discovered during the 1996 fieldwork, challenge Haviser's chronology and once more confirm the late pre-Hispanic origin of this assemblage.

Antczak (1999a) suggested that Ocumaroid pottery bearers from the north-central Venezuelan coast were the traditional suppliers of marine foodstuffs and raw materials to the Valencioid pottery makers from the Lake Valencia Basin from approximately AD 800 to 1200. After AD 1000 the Ocumaroids established a campsite on Domusky Norte Island and at the Boca de Sebastopol site, in the Los Roques Archipelago, and apparently supplied large quantities of marine products, including uncommon (on the mainland coast) shells of *Lobatus gigas*, to the coastal populations, and further southward toward the Lake Valencia Basin (hereafter LVB). Antczak further hypothesized that the sudden increase in the interest of the Valencioid people in the marine environment, observed between AD 1100 and 1200, might have arisen in the context of political economy, specifically the necessity of arresting the Dabajuroid threat that could cut off the Ocumaroid supply of newly available island resources to the LVB. This threat is what could have drawn the Valencioids out of their longstanding (ca. AD 800–1100/1200) territorial 'isolation' on the shores of Lake Valencia where they could have achieved a considerable complexity of social organization. The strengthening of their interest in the coast might have been at the very core of the political-economic interests of the Valencioid inland polity. It seems probable that the Valencioids saw themselves under the necessity of having to counterbalance the asymmetrical confrontation between the Ocumaroids (a series of decentralized fishermen villages) and the Dabajuroids (a purportedly centralized chiefdom) in order to maintain the supply of the island goods to the LVB. Additionally, they might have felt obliged to defend the Los Roques islands as an important constituent of their sacred landscape (Antczak 1999b).

Some archaeological data from the islands shed light on the Valencioid-Dabajuroid competition for the island territories. The ritual character of rich deposits recovered on tiny Dos Mosquises Island (DM site) in the Los Roques Archipelago, assessed from a wider inter-island geopolitical perspective, suggests that this multifunctional campsite was located at the interface between the northern peripheries of the spheres of interaction of Valencioid and Dabajuroid pottery bearers (Antczak 1999a). By AD 1200, the Dabajuroids had already colonized the islands of Aruba, Curaçao and Bonaire (Oliver 1989; 1997). About AD 1260±80, they were present on the Las Aves de Sotavento Archipelago (AG sites). However, Las Aves de Barlovento Archipelago, which lies between Las Aves and Los Roques, was not occupied until late pre-colonial or even early colonial times (Isla del Tesoro and Curricai sites are both dated to early colonial times). This late eastward expansion of the Dabajuroid people could roughly coincide with the latest phases of occupation at the DM site. The data indicate that the DM campsite, being the westernmost extension of the Valencioid insular domain, could have functioned as a frontier outpost. If so, then the material deposited in the 'offertory caches' at the DM site might have served, among other things, as a warning message: 'access rights-reserved space' (Acheson 1981: 281; Antczak 2000; Antczak and Antczak in press). By loading the DM settlement with artefacts, whose producers and users could easily be visually identified by any non-Valencioid visitor, the Valencioids may have wanted to exert their exclusive rights and signal a potential use of force to defend the resources of the area if borders were violated and resources exploited.

The archaeological data suggest that some Valencioid groups entered into direct contact, and perhaps began to cooperate with their Dabajuroid counterparts. Some coastal sites contain an admixture of Valencioid, Dabajuroid and Ocumaroid pottery (Antczak 1999a; Rivas 2001). The pottery assemblage with Valencioid and Dabajuroid potsherds was recovered at the Cementerio Tucacas site, northwest of the LVB (Cruxent and Rouse 1958). These data may suggest that once the inland Valencioids 'strengthened' their outposts on the northern slopes of the Cordillera and began to participate in common ventures with the Ocumaroid people, the Dabajuroid threat diminished. Valencioid relationships with coastal populations involved mainly the Ocumaroid but Dabajuroid groups as well. The data seem to indicate that some enclaves of descendants of the El Palito and La Cabrera 'Central Barrancoids' (Kidder 1944, 1948; Cruxent and Rouse 1958) survived in the areas of Ocumare de La Costa, Patanemo, Puerto Cabello and Palmasola, until the last centuries before the European conquest (Antczak 1999a; Sýkora 2006; Herrera Malatesta 2011). These remnants of 'Central Barrancoids' also participated in the Valencioid Sphere of Interaction (see Antczak and Antczak 1999, Rivas 2001).

We further suggest that the admixture of Valencioid and Dabajuroid pottery in certain island sites might indicate variable arrangements of joint Arawakan-Cariban-speakers' ventures. The clearly non-majoritarian presence of Valencioid pottery at the Ave Grande site dominated by the Dabajuroid people with polychrome tradition and the latter pottery being marginally present on the Los Roques islands (especially at the Dos Mosquises site) dominated by the Valencioid people may be the material signatures of non-coercive arrangements. These minoritarian quantities of pottery may be seen as objects of trade rather than as the incorporation of exotic pottery attributes into the local pottery production (see Rivas 2001: 224, 225). Perhaps, the Ave Grande site assemblage may be an example of an enterprise led by the Dabajuroid people in which some Valencioid individuals might have taken part. The composition of the Cayo Sal (Los Roques Archipelago) pottery assemblage suggests that this campsite was used by the coastal-Valencioids (inland Valencioids who 'moved' to the coast and probably cohabited with the Ocumaroids after AD 1000) and, possibly, some Dabajuroid people, who might have participated in this enterprise as crew members, expert navigators and economic partners (Antczak 1999a).

Interestingly, only at the AG/A site, the Dabajuroid/Valencioid interactions seem to be well reflected in the material signatures. In other sites in Aves de Sotavento and in Aves de Barlovento, dated to early

colonial times, the Valencioid materials are absent suggesting the cessation of the anterior interaction. This may indicate that during the early decades of the 16th century, the Dabajuroid/*Caquetío* were the only indigenous people who still frequented these islands, most probably accessing them from the ABC islands to the west. At that time the access of the mainland Valencioids to the offshore islands had already been severed by the Spanish who navigated between the islands and the mainland coast. Further systematic archaeological research on the mainland coast dominated by the Arawakan and Cariban-speakers may shed additional light on the variety of ways in which they disputed the access to and the control of the insular domains, until the arrival of the Europeans brought an end to these long lasting interactions.

ACKNOWLEDGEMENTS

We would like to acknowledge Warwick Bray, Corinne Hofman, José R. Oliver, Michelle Wollstonecroft, Konrad Antczak, and Dan Bailey for valuable comments on the diverse drafts of this paper. The difficult access to and complex logistics of the work in the Las Aves archipelagos were largely facilitated by the multifarious support we received from Mr. Jack Oriol, Fundación Científica Los Roques, Fundación Terramar, The Venezuelan Navy, and the Servicio de Guardacostas de Venezuela. Andrzej Antczak acknowledges that his contribution to this paper was possible due to the funding from European Research Council under the European Union's Seventh Framework Programme (FP7/2007-2013) ERC Grant agreement No. 319209, under the direction of Prof. dr. C. L. Hofman.

REFERENCES

- ACHESON, J. M.
1981 Anthropology of Fishing. *Annual Review of Anthropology* 10: 275-316.
- ACTAS DEL CABILDO DE CARACAS
1982 Instrucción dada por el Cabildo al Procurador de Venezuela Simón de Bolívar, enviado a la Corte en gestión de los asuntos de la Provincia. *Actas del Cabildo de Caracas*, vol. 1. Caracas.
- AGREDA, P. de
1964[1581] Relación de la Provincia de Venezuela, hecha por el Obispo de Coro, año 1581. In *Relaciones Geográficas de Venezuela*, compiled by A. Arellano Moreno, pp. 221-231. Biblioteca de la Academia Nacional de la Historia, Serie Fuentes para la Historia Colonial de Venezuela 70. Caracas.
- ALCEDO, A. de
1988[1786-89] *Diccionario Geográfico-histórico de las Indias Occidentales o América*. Colección Viajes y Descripciones 11. Fundación de Promoción Cultural de Venezuela, Caracas.
- ALVAREZ, I., and J. CASELLA
1983 *Modo de Vida y Ambiente*. Unpublished undergraduate tesis. Escuela de Sociología y Antropología, Universidad Central de Venezuela, Caracas.
- ANTCZAK, A.
1991 La pesca marina prehispánica en el Archipiélago de Los Roques, Venezuela: El caso del yacimiento de la Isla Dos Mosquises. *Proceedings of the 14th Congress of the International Association for Caribbean Archaeology*, pp. 504-519.
1993 *Arqueología del Archipiélago de Las Aves de Sotavento, Venezuela*. Paper presented at the 15th International Congress for Caribbean Archaeology, Puerto Rico.
1999a *Late Prehistoric Economy and Society of the Islands off the Coast of Venezuela: A Contextual*

Interpretation of the Non-Ceramic Evidence. Unpublished Ph.D. Dissertation, Institute of Archaeology, University College London, London.

1999b *Potsherds, Settlement Patterns, Subsistence Economy and the Re-construction of the Social Past*. Paper presented at the Seminar 'Social Organisation and the Inter-Insular Relationships on the Northern Lesser Antilles', 18th to 22nd July 1999, Guadeloupe.

ANTCZAK, A. and M. M. ANTCZAK

1991a Análisis del sistema de los asentamientos prehistóricos en el Archipiélago de Los Roques. *Montalbán* 23: 335-386.

1999 La Esfera de Interacción Valencioide. In *El Arte Prehispánico de Venezuela*, edited by M. Arroyo, L. Blanco and E. Wagner, pp. 136-154. Fundación Galería de Arte Nacional, Caracas.

in press Caribbean Pottery Figurines. In *Handbook of World Prehistoric Figurines*, edited by T. Insoll. Oxford University Press, Oxford.

2005 Pre-Hispanic Fishery of the Queen Conch, *Strombus gigas*, on the Islands off the Coast of Venezuela. In *Caribbean Marine Biodiversity: the Known and the Unknown*, edited by P. Miloslavich and E. Klein, pp. 213-243. DEStech Publications, Inc. Lancaster, Pennsylvania.

ANTCZAK, M. M. and A. ANTCZAK

1985 Vestigios del Pasado (Archipiélago de Las Aves de Barlovento). *Corpovoz* (Marzo/Abril): 40-41.

1986 La historia postcolombina de Los Roques: Siglos 16-19. *Tópicos* 566: 14-19.

1988 El Tesoro de las Islas de Aves. *Tópicos* 586: 14-17.

1989a El pasado del Archipiélago de Las Aves de Sotavento, parte 1. *Tópicos* 599: 16-17.

1989b El pasado del Archipiélago de Las Aves de Sotavento, parte 2. *Tópicos* 600: 20-22.

1989c Distribution des établissements préhistoriques dans certaines îles du Vénézuéla. *Actes du Colloque du Marín "Civilisations Précolombiennes de la Caraïbe"*, pp. 42-53. Presses Universitaires Créoles/L'Harmattan, Paris.

1991b Arqueología Prehistórica del Archipiélago de Los Roques, Venezuela. *Proceedings of the 13th International Congress for Caribbean Archaeology*, pp. 494-504.

1992 Las investigaciones arqueológicas en el Parque Nacional Archipiélago de Los Roques. In *Parque Nacional Archipiélago de Los Roques*, edited by T. Amend, A. Antczak, Ma. M. Antczak, J., R. Delgado, H., J. Guada, B. Rodríguez, and P. Vernet, pp. 43-51. Editorial Torino, Caracas.

1993 Avances en Arqueología de las Islas Venezolanas. In *Contribuciones a la arqueología regional de Venezuela*, edited by R. Gassón and F. Fernández, pp. 53-92. Fondo Editorial Acta Científica Venezolana, Caracas.

2006 *Los Ídolos de las Islas Prometidas: Arqueología Pre-Hispánica del Archipiélago de Los Roques*. Editorial Equinoccio, Caracas.

2008 Between Food and Symbol: The Role of Marine Molluscs in the Late Pre-Hispanic North-Central Venezuela. In *Early Human Impact on Megamolluscs*, edited by A. Antczak and R. Cipriani, pp. 231-245. British Archaeological Series, Oxford.

ANTCZAK, M. M.

2000 'Idols' in Exile: Making Sense of Prehistoric Human Pottery Figurines from Dos Mosquises Island, Los Roques Archipelago, Venezuela. Unpublished Ph.D. Dissertation, Institute of Archaeology, University College London, London.

ANTHONY, D.

1997 Prehistoric Migration as Social Process. In *Migrations and Invasions in Archaeological Explanation*, edited by J. Chapman and H. Hamerow, pp. 21-32. BAR International Series 664. Archaeopress, Oxford.

APPUN, K. F.

1961 [1871] *En los Trópicos*. Universidad Central de Venezuela, Ediciones de la Biblioteca, Caracas.

ARELLANO MORENO, A.

1950 *Fuentes para la Historia Económica de Venezuela (siglo XVI)*. Tercera Conferencia Interamericana de Agricultura. Caracas.

ARELLANO MORENO, A.

1961 *Documentos para la Historia Económica de Venezuela*. Universidad Central de Venezuela, Caracas.

ARVELO, L. and E. WAGNER

1993 La Prehistoria y Etnohistoria de la Depresión del Yaracuy. In *Contribuciones a la Arqueología Regional de Venezuela*, edited by F. Fernández and R. Gassón, pp. 17-52. Fondo Acta Científica Venezolana, Caracas.

ARVELO, L. and J. OLIVER

1999 El noroccidente de Venezuela. In *El Arte Prehispánico de Venezuela*, edited by M. Arroyo, L. Blanco and E. Wagner, pp. 120-135. Fundación Galería de Arte Nacional, Caracas.

AYALA LAFEE-WILBERT, C. and W. WILBERT

2011 *Memoria Histórica de los Resguardos Guayquerés: Propiedad y Territorialidad Tradicional*. Ediciones IVIC, Caracas.

BARANDIARAN, D. de

1989 El Laudo Español de 1865 sobre la Isla de Aves. *Paramillo* 8: 133-349.

BARANDIARAN, D. de, and H. CASTILLO

1973 *Trabajo Toponímico en el Archipiélago de Los Roques*. Memorandum para el Ministerio de Relaciones Exteriores, Dirección de Fronteras, Caracas.

BARBUDO, A.

1964[1570-1575] Memoria de Antonio Barbudo sobre los Territorios Costaneros e Islas desde Aruacas hasta la Ramada en Santa Marta. In *Relaciones Geográficas de Venezuela*, edited by A. Moreno, pp. 88-94. Academia Nacional de la Historia, Serie Fuentes para la Historia Colonial de Venezuela, vol. 70, Caracas.

DAMPIER, W.

1699 *A New Voyage Round the World*, Volume I, 4th ed., James Knapton, London.

BIORD CASTILLO, H.

1995 *Una Ponderación Etnohistórica de la Obra de Oviedo y Baños: Los Aborígenes de la Región Centro-norte de Venezuela (1550-1600)*. Unpublished Master's thesis, Universidad Católica Andrés Bello, Caracas.

BOERSTRA, E. H. J.

1969 Some of the soil marks in the Tanki Flip excavation, Aruba, N. A.: the ditches. *Proceedings 9th International Congress for the Study of pre-Columbian Cultures of the Lesser Antilles*, pp. 173-83.

BOOMERT, A.

2000 *Trinidad, Tobago and the Lower Orinoco Interaction Sphere: An Archaeological/Ethnohistorical Study*. Cairi, Alkmaar.

BRICENO-IRAGORRY, M.

1990 *Obras Completas*, vol. 5. Ediciones del Congreso de la República, Caracas.

CARDOT, C. F.

1982 *Curacao Hispánico*. Ediciones de la República, Caracas.

CARRILLO BATALLA, T. E. (EDITOR)

1982 *Historia de las Finanzas Públicas en Venezuela*, vols. 22 and 27. Edición del Banco Central de Venezuela, Caracas.

CASANOVAS, P. V.

1987 *Las dependencias federales del Caribe venezolano*. Universidad Central de Venezuela, Caracas.

CLIFFORD, B.

2002 *The Lost Fleet: The Discovery of a Sunken Armada from the Golden Age of Piracy*. HarperCollins, New York.

CODAZZI, A.

1960[1855] Catecismo de la Geografía de Venezuela (*Obras escogidas*, vol. 2). Biblioteca Venezolana de Cultura, Caracas.

COLMENARES, G.

1990 *La Determinación de una Tradición Estilística; Estudios de la Cerámica Prehispánica de la isla*

- Domusky Norte en el Archipiélago de Los Roques, Venezuela*. Unpublished undergraduate thesis, Universidad Central de Venezuela, Caracas.
- CRUXENT, J. M. and I. ROUSE
1958 *Arqueología Cronológica de Venezuela*. Ediciones Unidad Prehispánica de la Asociación "Juan Llovera". Ernesto Armitano Editor, Caracas.
- DU RY, C. J.
1960 Notes on the Pottery of Aruba, Curaçao and Bonaire. *Nieuwe West-Indische Gids* 40: 81-102.
- FARIAS, A.
1983 *Hacienda y Comercio de Venezuela en el Siglo XVI*, vol. 2. Colección histórico-económica Venezolana. Banco Central de Venezuela, Caracas.
- GASSON, R.
2001 Tipos y grados: Organizaciones políticas prehispánicas del Occidente de Venezuela. In *La Arqueología Venezolana en el Nuevo Milenio*, edited by L. Meneses and G. Gordones, pp. 179-209. Universidad de Los Andes, Mérida.
- GIL, I. E. J. and H. SUAREZ
1996 *Informe preliminar sobre los crustáceos decápodos de las localidades de Ave Grande y Dos Mosquises, Venezuela*. Manuscript on file, Department of Archaeology. Los Roques Scientific Foundation, Caracas.
- GINES, Hno.
1960 Aspectos de la naturaleza de las Islas Las Aves, Venezuela. *Memoria Sociedad de Ciencias Naturales La Salle* 20(55): 5-28.
- GINES, Hno. and G. YEPEZ, T.
1956 Avifauna de las islas. In *El Archipiélago de Los Roques y La Orchila*, edited by Sociedad de Ciencias Naturales La Salle, pp. 68-78. Editorial Sucre, Caracas.
- HADGIALY, M. D.
1956 *En el Arco Roto de las Antillas*. Caracas.
- HAMBLIN, N. L.
1984 *Animal Use by the Cozumel Maya*. The University of Arizona Press Tucson.
- HAVISER, J. B.
1987 *Amerindian Cultural Geography on Curacao*. Natuurwetenschappelijke Studiekring voor Suriname ende Nederlandse Antillen, No.120, Amsterdam.
- HAVISER, J. B.
1991 *The First Bonairens*. Reports of the Archaeological-Anthropological Institute of the Netherlands Antilles, No.10, Curaçao.
- HEIDECKER, L. and M. I. SIEGEL
1969 Preliminary report on the excavations of Henríquez-I Site, Tanki Flip, Aruba, Netherland Antilles. *Florida Anthropologist* 22(1-4): 12-26.
- HERRERA MALATESTA, E.
2011 La reevaluación de la Serie Valencioide. *Antropológica* 55(115-116): 71-100.
- HOFMAN, C. L., A. MOL, M., HOOGLAND, and R. VALCARCEL ROJAS
2014 Stage of encounters: migration, mobility and interaction in the pre-colonial and early colonial Caribbean. *World Archaeology* 46(4): 590-609.
- HOFMAN, C. L., A. J. BRIGHT, K. L. P. HOOGLAND, AND W. F. KEEGAN
2008 Attractive Ideas, Desirable Goods: Examining the Late Ceramic Age Relationships between Greater and Lesser Antillean Societies. *Journal of Island and Coastal Archaeology* 3: 17-34.
- JAM, P.
1956 Reconocimiento arqueológico de las islas Krasky y Domusky Sur, Archipiélago de Los Roques. In *El Archipiélago Los Roques y La Orchila*, edited by Sociedad de Ciencias Naturales La Salle, pp. 169-171. Editorial Sucre, Caracas.

JAM, P. and J. M. de BURGAÑA

1956 Algunos datos y referencias históricas sobre las islas. In *El Archipiélago Los Roques y La Orchila*, edited by Sociedad de Ciencias Naturales La Salle, pp. 209-215. Editorial Sucre, Caracas.

JIMENEZ, G. M. A.

1986 *La Esclavitud Indígena en Venezuela (Siglo 16)*. Biblioteca de la Academia Nacional de la Historia 185, Caracas.

KIDDER, A.

1944 Archaeology of Northwestern Venezuela. *Papers of the Peabody Museum of American Archaeology and Ethnology* 26(1). Harvard University, Cambridge.

LAET, J. DE

1988[1640] *Mundo Nuevo o Descripción de las Indias Occidentales*, 2 vols. Instituto de Altos Estudios de América Latina. Universidad Simón Bolívar, Caracas.

LAHEY, J. F.

1973 On the Origin of the Dry Climate in Northern South America and the Southern Caribbean. In *Coastal Deserts; Their Natural and Human Environments*, pp.75-90. The University of Arizona Press, Tucson.

LAUGHLIN, R. and E. WEIL

1985 *Ecología, cultivo y repoblación del botuto Lobatus gigas L. en el Parque Nacional Archipiélago de Los Roques*. Final report Proyecto S#1182 CONICIT, Part 1 and 2. Caracas: Fundación Científica Los Roques.

MARTIN, C. A.

1995 *El Método del Análisis Lítico Para Establecer Modelos Tecnoeconómicos en Poblaciones Prehispánicas*. Unpublished manuscript, Universidad Central de Venezuela, Caracas.

McCORKLE, T.

1952 *The History of the Guaiquerí; An Approach to the Anthropology of Northeastern Venezuela*. The Kroeber Anthropological Society Papers 6. Berkeley, California.

MORALES, P. E.

1984 *Playa Chuao; Un Sitio Arqueológico Costero del Estado Aragua*. Unpublished undergraduate thesis, Escuela de Sociología y Antropología, Universidad Central de Venezuela, Caracas.

NECTARIO MARIA, Hno.

1979 *Historia de la Conquista y Fundación de Caracas*. Gráficas La Bodoniana, Caracas.

NIEVES DE GALICIA, F.

1992 *Cúpira; Su Pasado y su Presente*. Universidad Central de Venezuela, Caracas.

NIEVES DE GALICIA, F.

1980 *La Fase Bañador del Bajo Orinoco*. Universidad Central de Venezuela, Caracas.

OJER, P. J. T.

1983 El Golfo de Venezuela; Una síntesis histórica. *Montalbán* 13: 1-462.

OJER, P. J. T.

n.d. *Las Salinas del Oriente Venezolano*. Colección Samán, Facultad de Economía. Universidad Católica Andrés Bello, Caracas.

OLIVER, J. R.

1989 *The Archaeological, Linguistic and Ethnohistorical Evidence for the Expansion of Arawakan into Northwestern Venezuela and Northeastern Colombia*. Unpublished Ph.D. Dissertation, University of Illinois at Urbana-Champaign.

OLIVER, J. R.

1997 Dabajuroid Archaeology, Settlements and House Structures: An Overview from Mainland Western Venezuela. In *The Archaeology of Aruba: The Tanki Flip Site*, edited by A. H. Versteeg and S. Rostain, pp. 363-429. Publications of the Archaeological Museum Aruba 8, Aruba.

OTTE, E.

1977 *Las Perlas del Caribe: Nueva Cádiz de Cubagua*. Fundación John Boulton, Caracas.

- OVIEDO Y BAÑOS, J. de
1982[1723] *Historia de la Conquista y Población de la Provincia de Venezuela*, 2 vols. Ediciones Fundación CADAFE, Caracas.
- PIELOU, E. C.
1979 *Biogeography*. A Willey Interscience Publication, New York.
- PIMENTEL, J. de
1964[1578] Relación de Nuestra Señora de Caraballeda y Santiago de León. In *Relaciones Geográficas de Venezuela*, compiled by A. Arellano Moreno, pp. 11-140. Biblioteca de la Academia Nacional de la Historia, Serie Fuentes para la Historia Colonial de Venezuela 70, Caracas.
- POIRIER, T. and Y. GUTIERREZ
2003 *Determinación de la composición y porosidad de una muestra de vasija proveniente del Archipiélago de Las Aves*. Report on file Unidad de Estudios Arqueológicos, Universidad Simón Bolívar, Caracas.
- POSADA, J. M.
1989 *Análisis del sistema pesquero de la langosta (*Panulirus argus*) y evaluación de los recursos complementarios en el Parque Nacional Archipiélago de Los Roques*. Final report, Project OEA. Fundación Científica Los Roques, Caracas.
- POSADA, J., B. ALVAREZ, and J. GONZALEZ
1988 Análisis del sistema pesquero del Parque Nacional Archipiélago de Los Roques. *Memorias del Congreso Iberoamericano y del Caribe*. Fundación La Salle de Ciencias Naturales, Porlamar, Margarita.
- REDMAN, Ch. L.
1979 Productive Sampling Strategies for Archaeological Sites. In *Sampling in Archaeology*, edited by J. W. Mueller, pp. 147-155. The University of Arizona Press, Tucson.
- RIVAS, G. P. J.
2001 Arqueología de los procesos de etnogénesis y ocupación territorial precoloniales en la Región Norcentral de Venezuela. In *La Arqueología Venezolana en el Nuevo Milenio*, edited by L. Meneses and G. Gordones, pp. 211-233. Universidad de Los Andes, Mérida.
- ROUSE, I. and J. M. CRUXENT
1963 *Venezuelan Archaeology*. Yale University Press, New Haven and London.
- SALAYA, J. J., L. OSORIO, and T. GUEDEZ
1985 *Diagnóstico de la pesca artesanal de la región entre Paraguaná y Boca de Uchire para el periodo 1981-1984*. Intecmar, Universidad Simón Bolívar, Caracas.
- SCHUBERT, C. and P. MOTICSKA, N.
1972 Reconocimiento geológico de las Islas Venezolanas en el Mar Caribe entre Los Roques y Los Testigos; Parte I, Introducción e islas centrales. *Acta Científica Venezolana* 23: 210-223.
- SCHUBERT, C. and P. MOTICSKA, N.
1973 Reconocimiento geológico de las Islas Venezolanas en el Mar Caribe entre Los Roques y Los Testigos (Dependencias Federales), Parte II, Islas Orientales y Conclusiones. *Acta Científica Venezolana* 24: 19-31.
- SCHUBERT, C. and S. VALASTRO, Jr.
1976 Quaternary geology of La Orchila Island, central Venezuelan offshore, Caribbean Sea. *Geological Society of America Bulletin* 87: 1131-1142.
- SHANKS, M. and Ch. TILLEY
1992 *Re-Constructing Archaeology. Theory and Practice*. Routledge, New York and London.
- SILVER, E. A., J. E. CASE, and H. J. MacGILLAVRY
1975 Geophysical study of the Venezuelan borderland. *Geological Society of America Bulletin* 86: 213-226.
- SPENCE, J. M.
1966[1871] *La Tierra de Bolívar o Guerra, Paz y Aventura en la República de Venezuela*, 2 vols. Colección Cuatricentenario de Caracas. Banco Central de Venezuela, Caracas.

STOCK, J. H.

1982 Stygobiont Crustacea Malacostracta from geologically older and younger Antillean Islands: A biogeographic analysis. *Bijdragen tot de Dierkunde* 52(2): 191-199.

SYKORA, A.

2006 *Manejo de Recursos Faunísticos Por los Pobladores del Sitio Prehispánico en Palmasola, Estado Carabobo, Venezuela*. Unpublished Master's thesis. Facultad de Agronomía, Universidad Central de Venezuela, Maracay.

TREWARTHA, G. T.

1961 *The Earth's Problem Climates*. University of Wisconsin Press, Madison.

URDANETA, R.

1997 *Marco y Retrato: Francia y el Caribe en el Siglo XVII*. Instituto de Altos Estudios de América Latina. Universidad Simón Bolívar, Caracas.

VELLERINO DE VILLALOBOS, B.

1984 [1592] *Luz de Navegantes; Donde se Hallarán las Derrotas y Señas de las Partes Marítimas de las Indias, Islas y Tierra Firme del Mar Océano*. Edición facsimil, Museo Naval de Madrid, Universidad de Salamanca.

VERSTEEG, A. H., TACOMA, J., and VAN DE VELDE, P.

1990 *Archaeological Investigations on Aruba; The Malmok Cemetery*. Publication 2, Aruba Archaeological Museum, Oranjestad.

VERSTEEG, A. H.

1993 *Settlement Patterns within the Dabajuroid Santa Cruz Site, Aruba*. Paper presented at the 15th International Congress for Caribbean Archaeology, San Juan, Puerto Rico.

VERSTEEG A. H. and S. ROSTAIN (EDITORS)

1997 *The Archaeology of Tanki Flip*. Publications of the Archaeological Museum Aruba 8, Aruba & Amsterdam.

VILA, M. A.

1980 *Síntesis Geohistórico de la Economía Colonial de Venezuela*. Banco Central de Venezuela, Colección Histórico-económica Venezolana, vol. 28, Caracas.

WAGNER, E.

1973 Nueva Evidencia Arqueológica de Venezuela Oriental: El yacimiento de Campoma. *Proceedings of the XL International Congress of Americanists I*, pp. 239-245. Genoa.

ZUCCHI, A.

2002 A New Model of the Northern Arawakan Expansion. In *Comparative Arawakan Histories: Rethinking Language Family and Culture Area in Amazonia*, edited by J. D. Hill and F. Santos-Granero, pp. 201-222. University of Illinois, Urbana and Chicago.

ZUCCHI, A.

1985 Evidencias arqueológicas sobre grupos de posible lengua Caribe. *Antropológica*, (63-64): 23-44.