

MAMMAL BONE REMAINS FROM THE LATE PREHISTORIC AMERINDIAN SITES ON LOS ROQUES ARCHIPELAGO, VENEZUELA; AN INTERPRETATION.

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Résumé

Cette communication présente un exposé sur l'identification zoologique et l'association contextuelle des écofaits d'os mammifères et artefacts retrouvés à Dos Mosques et Cayo Sal îles à Los Roques, Vénézuéla. Parmi les autres, ces matériaux comprennent des mandibules de chats sauvages, des maxillaires, des crânes et des dents; un crâne de singe hurlant, un mandibule d'opposum et des os de cerf. Les caractéristiques de forme et fonctionnelles de ces matériaux seront alors évaluées en comparaison avec ceux des régions culturelles des îles et de la côte centrale du Vénézuéla.

Abstract

This paper presents the zoological identification and contextual association of allochthonous mammal bone remains recovered from late prehistoric Valencioid sites located on the islands of Los Roques Archipelago, Venezuela. The formal and functional characteristics of these materials will then be evaluated and discussed in comparison to those from culturally related insular areas and the Valencia Lake Basin on the mainland Venezuela. Finally, on the basis of a judicious application of ethnological analogy to the archaeological data the function and meaning these bone remains had in the insular setting will be suggested.

Resumen

Este trabajo analiza los materiales óseos de mamíferos provenientes de las excavaciones arqueológicas realizadas en las islas del Archipiélago de Los Roques, Venezuela. Se describen los artefactos y su taxonomía y se hacen inferencias sobre las funciones y significados que pudieron haber tenido en el ambiente insular. Como bases para estas interpretaciones sirven el contexto espacial de los especímenes, las comparaciones de estos huesos con otros hallados en áreas culturalmente relacionadas y las analogías etnográficas.

INTRODUCCION

The Archipelago of Los Roques is a complex of reefs and keys located 130 km to the north of the central coast of Venezuela (Map 1). The islands are low and sandy, with no natural drinking water sources. The soils are extremely poor in nutrients and unsuitable for the agriculture (Méndez 1978). The diversity of the land fauna is very low; there are not mammals, rodents nor ophidians autochthonous to these islands (Sociedad de Ciencias 1956).

However, several mammal bone artifacts have been found during the archaeological excavations. These excavations were part of the Venezuelan Island's Archaeology Project, conducted by Magdalena Antczak and the author since 1982. At Los Roques 619 m² have been excavated distributed in 8 trenches and 115 test pits. The excavation in levels of 10 and 20 cm and the dry sieving through 1 mm ϕ gauge screen have been utilized. All twenty five sites on 18 islands were identified as the seasonal campsites of Valencioid human groups that were navigating to Los Roques from the central coast of Venezuela. Additionally, one Ocumaroid site, also originated on the venezuelan coast was located. Radiocarbon dates indicate a period of occupation ranging approximately between 1200 A.D. and the time of the European Contact (Antczak and Antczak 1991).

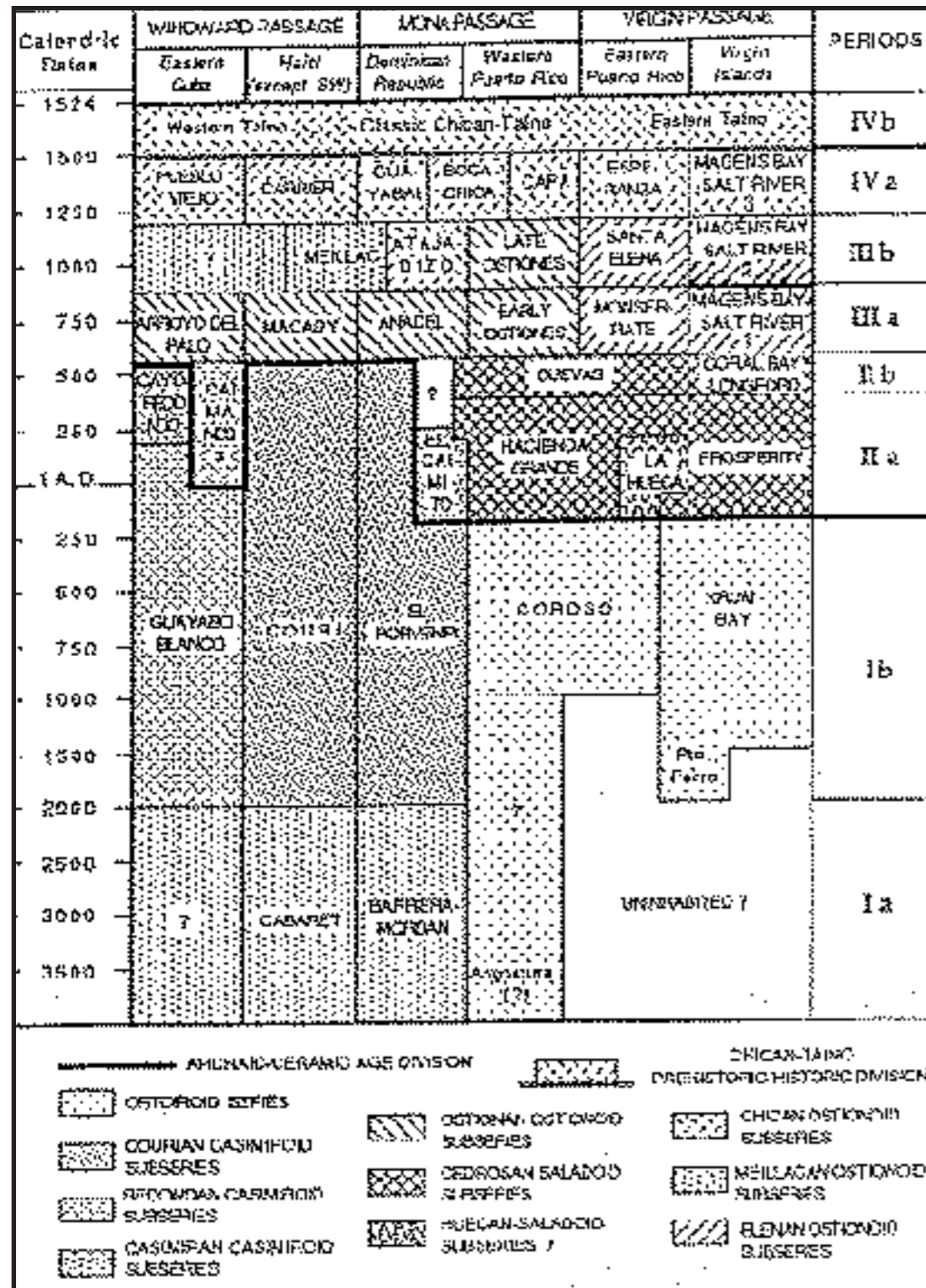


Figure 7. Cultural chronology of the Greater Antilles: styles and subseries (Hayward et al 1995:Figure 3.1).

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The inventory embraces 78 bones of 10 different taxons of mammals and has been subdivided into three categories of artifacts using the broad definition of artifact of Dunnell (1971:117). The **worked bones and teeth** category includes finished forms which were manufactured with the use of utensils and traces of manufacture can be often observed. Their use function can be generally inferred from their overall morphology and physical quimical properties. This category also includes the manufacture debitage. The **modified bone** category comprises specimens that were broken and/or fractured by a man; they do not show the use wear attrition. The last one is a category of **unmodified bones**. The function and meaning of specimens pertaining to the last two categories are not possible to infer without the rigorous contextual analysis and interconnection of the archaeological evidence with pertinent ethnohistorical analogies.

Thirty nine (50%) specimens were identified to species, five (6.4%) to genus, one (1.3%) to family and 33(42%) to order level; 51(65%) skeletal elements were identified; the zooarchaeological quantification standards utilized were NISP and MNI. Notes on taphonomy of the bones and age, sex and historic zoogeography of represented mammals were added.

WORKED BONES AND TEETH

The total of 32 worked bones and teeth have been grouped into four analytical categories according to their morphology and possible function (Table 1). The spatial distribution of these specimens is highly uneven: 26(81%) have been found in Dos Mosquises island, the rest at Cayo Sal; both in Valencioid cultural contexts (Table 5).

The pointed bones form the most numerous category (N=16;50%). There are three bipoints and five unipoints in the sample. One of the unipoints is perforated another is unilaterally barbed. Seven artifacts are midsections and broken tips of pointed bones representing artifacts that have been damaged during the manufacture or use. The shaft cross sections of five among these artifacts are rounded and grooved, the others are rounded and ungrooved. Another artifact of this category, the awl/perforator was elaborated from a fragment of split vertebrae or a long mammal bone. This artifact presents the use wear attrition on its sharp edge and has been prepared to fulfill two functions: the pointed tip for perforation and the sharp and beveled extremity for cutting and/or scrapping.

The most distinctive group of worked bones is composed by five flutes. Three from Dos Mosquises were elaborated with the left radius of adult white tailed deer (*Odocoileus virginianus*) individuals. Two others, found at Cayo Sal, were made out of the same skeletal element, but belonging to a brocket (*Mazama* sp.), a smaller species of deer. Two flutes from Dos Mosquises have four perforations for the modification of the sound, the others have only three perforations each; all of them have one perforation on the opposite side, near the mouth end. The smallest of the Cayo Sal specimens shows red painting traces.

In the Los Roques collection there are also three subcategories of bone pendants. The first includes three incisors of crab eating fox (*Cerdocyon thous*), two canine tooth of collared peccary (*Dicotyles tajacu*) and one molar tooth of tapir (*Tapirus terrestris*). All were perforated for suspension on a string. The second category includes one tubular bead. The next item in the category of perforated bones is a fragment of plain, rectangular plaquete with five biconical perforations. Another artifact is one pendant made out of a plain piece of a tooth shaped bone. Finally, one vertebrae of brocket has the extremities cut off and is perforated for the suspension. In this category there is also one vertebrae of brocket, worked in the same manner as the previous one but without perforation. The state of preservation of these artifacts is very good, except for the flutes from Cayo Sal, which were found in a site that had been seasonally flooded by hypersaline waters.

Fourteen splinters separated from the shafts of long mammal bones are included in the category of manufacture debris (Table 4). These specimens represent preforms and/or debitage resulting from bone point manufacture. Twelve (85%) of them have been found in the trench B, at Dos Mosquises Island.

WORKED BONES: CONTEXTS, COMPARISONS AND DISCUSSION

The worked mammal bones are scarce in number and their functional diversity is very low. They have been found only in two of the 25 archaeological sites of Los Roques Archipelago.

Regarding their archaeological context, both in Dos Mosquises and Cayo Sal, the artifacts have been found exclusively within the areas of concentration of decorated ceramic vessels, clay human figurines, and especially pendants made out of three land snails *Labyrinthus plicatus*, *Plekocheilus* sp. and *Strophocheilus* sp. (all shells brought by the Amerindians from the continental mountain range of Cordillera de la Costa, Venezuela). In both cases, the spatial association and distribution of mammal bone remains indicate that the activities linked to their use and/or storage were spatially concentrated, and point out the special value attached to them by the Amerindians. The mammal bone artifacts have not been common findings in the Valencioid sites, neither in the islands nor in the continent. From the insular Valencioid sphere of interaction only one unipoint has been reported from La Orchila island group (52 km to the east from Los Roques [Antczak 1993]). It is also difficult to establish which portion of all the repertoire of mammal bone artifacts, produced and utilized by the Valencioid people, forms the assemblage found on Los Roques. Partly due to the action of taphonomic agents, bone artifacts have been very scarce in the continental sites. The uni and bipoints, similar to the Los Roques specimens, have been reported from the eastern shore of the Valencia Lake in the mainland (Kidder II 1944; Osgood 1943; Bennett 1937). The pendants made out of mammal teeth were also common in Valencia Lake archaeological deposits. Kidder II (1944: 77, Pl.XII) found samples of jaguar canine and peccary teeth and fox astragalus drilled for suspension.

A sample of 7 flutes (Requena 1932; Osgood 1943, Lam.15H; Rouse and Cruent 1963:87 8, Lam.38A) and 2 probable flutes (Kidder II 1944, Lam.12) from the excavations on the Valencia Lake shores is morphologically quite different from those from Los Roques. All these specimens were three holed flutes and five of them were carved with complex designs. However, five of these flutes (four of them decorated) come from Requena's asystematic excavations, therefore, it is difficult to determine if they formed part of a Valencioid or the earlier Barrancoid cultural baggage of Lake Valencia area.

Outside Valencia Lake Basin, only three fragments cut off from the long bones of white tailed deer and three other fragments of the distal epiphysis of brocket's tibias have been reported from Puerto Maya and Playa Chuao, two coastal sites linked to the Valencioid cultural tradition (Alvarez and Casella 1983; Morales 1984).

Regarding the comparative ethnology, it should be emphasized that the use of the deer bone flutes has been widespread among native Americans (von Hornbostel 1982: 334; see Gomara 1979:124 [1552]), and 9 indigenous groups from Venezuela still elaborate and use them (Aretz 1991:37; Wilbert 1956).

All nine modified bones have been found in Dos Mosquises island site in three different trenches (Table 2).

This category comprises mandibles and maxillas fragments of at least 9 (MNI) individuals of small wild cats: margay cat (*Felis wiedii*) and ocelot (*Felis pardalis*). All the mandibles and maxillas were broken into two parts with one canine in each half. In seven mandibles the ascending ramus was broken or cut off diagonally just behind the last teeth. Five (22%) mandibular bones display traces of cutting, chipping or incising. One left mandible fragment (Catalog Number 1132) shows fine traces of cutting and other right mandible has slightly broader, shallow, probably incised grooves. In both cases, the marks are situated on the buccal side at the point between the horizontal and ascending ramus and run diagonally from the superior posterior (distal) to the inferior anterior (mesial) side of the mandibles. The morphology, location and orientation of the marks indicate that cuts would have been made to facilitate the breaking off of the ascending ramus. One specimen shows heavy traces of chipping and cutting on the upper side what would have been done for better adjustment of the string which would have tied up the handle of the possible implement. Another fragment has traces of diagonal incisions which would have been produced by the pressure of a string that tied the fresh bone to the wooden handle. Only one maxilla shows fine traces of cutting on the zygomatic process, which is morphologically similar to that of specimen 1132. These marks would have been left by the stone cutter when the skin was cut off (skinning marks).

According to Semenov (1964:152), these modifications of mammal mandibles were common ways to prepare prehistoric implements. However, the presence of use wear attrition on Los Roques specimens has not been observed. One can only hypothesize that if the mandibles were utilized as implements they might rather have been used to perforate or pierce some kind of soft material and not for cutting or sawing hard materials (shell or bone).

UNMODIFIED BONES

This category includes the skull of a red howler monkey (*Alouatta seniculus*), two cranial calotas and one complete mandibular ramus of margay cat (*Felis wiedii*), one mandibular ramus of common opossum (*Didelphis marsupialis*) and other of weasel (Mustelidae [Table 3]). All these specimens pertained to the heads of the animals.

Among the unmodified bones of the wild cats there is one terminal phalange of the middle finger of ocelot or margay cat.

This category is completed by two left radius, one left tarsal of brocket (*Mazama* sp.) and a nail of peccary (*Dicotyles tajacu*).

MODIFIED AND UNMODIFIED BONES : CONTEXTS, COMPARISONS AND DISCUSSION

Sixteen (76%) modified and all unmodified bones from Dos Mosquises island have been contextually associated with complete and semi complete ceramic vessels (often decorated), human figurines, clay pipe, lithic microaxes, shell and stone pendants and shell beads. These contexts, spatially well delimited in trenches A and B, have been interpreted as central areas of the multifunctional Valencioid campsite (Antczak and Antczak 1991).

The remaining five (24%) modified bones were found scattered in the refuse areas of the trench C, however, within small clusters that also contained a few human clay figurines and decorated potsherds.

Looking outside the Los Roques Archipelago for specimens for comparative analysis it should be stressed that in Valencioid sites on mainland Venezuela only a small number of mammal bones has

been properly recovered and identified. Still the most complete record comes from Berry's (1939) report on faunal remains identified from Kidder's II and Osgood's excavations in Valencia Lake north eastern and eastern shores. Unfortunately, neither taxonomic abundance nor skeletal element specifications were presented. The bones of deer, fox, bear, peccary, jaguar, tapir and dog were mentioned among others (Berry 1939). Bennett (1937:88, Fig.6) mentioned the finding of an animal skull in the La Mata mound however no comments nor identification of the specimen was offered.

THE INFERENCES, ANALOGIES AND CONCLUSIONS

It can cautiously be assumed that the final composition of the mammal bone sample has not been obscured by either differential transport nor differential destruction (Lyman 1985). Also, the sample has not been altered by dogs, since gnawing marks on mammal and non mammal bone specimens (marine turtle, bird) have not been observed. All artifacts, including mammal bones had rather been carefully selected by the Amerindians by the time they were leaving their permanent settlements on the continental coast and/or Valencia Lake shores.

The abundance in the Valencioid homeland area of the majority of mammals represented in the archaeological record has been well documented since XVI century (Dupouy 1946) until present (Eisenberg 1989; Mondolfi 1986; Tello 1979). Humboldt, in 1800, was surprised by the numerous groups of red howler monkeys living around the lake (Grases 1987:184). The abundance of wild cats ('tigrillos') called by the Caribs 'maracaya' or 'malacaya' (Alvarado 1953:247) can represent an etymological origin of the name of the city of Maracay (founded in 1697) situated on the eastern shore of the Valencia Lake (Requena 1932:233). Kidder II (1944:21) observed that still in 1933 34 deer were very abundant around the lake.

Two groups of mammal bone remains were recovered from Los Roques Archipelago islands: (1) the majority of worked bones which function can be inferred and (2) another bones which function and meaning is not so clear.

Bone unipoints and bipoints can be associated with fishing activities and could have been used as projectile or spear points and/or fish gorges. Two perforated points may represent the forms of composite fishing implements (harpoon heads?). These points together with an awl/perforator pertain to the category of work utensils. Additionally, splinters from long mammal bones may indicate that a reduced in scale manufacture of points and or/gorges took place on the Dos Mosquises Island using the raw material brought from the continental coast. The number of work utensils made out of mammal bone as well as their functional variability are very low in relation to the quantity and diversity of other artifacts (ceramics, stone and shell artifacts), the size of a campsite and a multifunctional nature of activities carried out in it (Antczak and Antczak 1991).

The second group of mammal remains is comprised of some worked bones (flutes and pendants) and all modified and unmodified bones. These objects were grouped together since I consider that a meaningful link existed between them. The presence of multiple bone fragments of the heads of the animals in the sample is especially intriguing. The following chain of functional and symbolic inferences can be postulated on the basis of a judicious application of ethnological analogy to the archaeological data.

Initially, when the first modified and unmodified mammal bones were found in Dos Mosquises island, I suggested that they represented the remains of smoked meat provisions and/or that some living animal pets had been brought by the Amerindians from the continent.

The custom of having different mammals as pets were reported by early chroniclers of Venezuela (see de Civrieux 1980:162; Morey and Morey 1980:262), and is still observed among some contem-

porary Amerindian groups of Venezuela (e.g., Heinen [1988] for Warao; Ruddle [1978] for the Yukpa; Cocco [1971] for the Yanomami). However, with recurrent findings of the elements of the mammal's heads and lack of any other skeletal parts, I searched for alternative interpretations. After a much closer inspection of the bone specimens, it became evident that the majority (80%) lacked any traces of butchering marks; not one of them showed any evidence of use wear attrition or thermal alteration. This leads to the conclusion that the great majority of mandibular elements and the cranial remains were probably not work utensils or food debris. The presence of wild cats cranial elements altogether with phalanges would rather indicate that skins of wild cats were brought by the Amerindians to the islands. Moreover, spatially all these remains were concentrated only on Dos Mosquises Island, where a central and multifunctional Valencioid campsite was located. Furthermore, these specimens were contextually associated with undisputable ceremonial/ritual objects such as burners and resin, flutes, clay tobacco pipe, anthropo and zoomorphic microvessels. On the basis of the contextual evidence, the correlation between these mammal remains and the ceremonial activities carried out on the island seem evident.

Although scarce and heavily dependent on burial contexts, the available archaeological data from the Lake Valencia area confirms the special meaning attached by Valencioids to some animals and their bones. In La Cabrera site several unmodified animal bones were found in burials; one burial contained two deer antlers laying next to the head of the dead (Kidder II 1944:77). Berry mentioned that at La Cabrera, considerable quantities of animal bones were found directly associated with secondary burials (Berry 1939: 566;557). In this realm of Valencioid ideology monkey remains deserve a special mention. Marcano, in 1889, noted a monkey skull from the Valencioid mounds on the eastern shore of the Valencia Lake (Marcano 1971). In 1904 Alfred Jahn excavated in the same area and found an skeleton of monkey with a necklace (Von den Steinen 1904). Osgood (1943:23) suggested that the fragmentary skeleton with a necklace of more than thousand of beads of shell which was buried in the center of the Tocarón mound pertained to a monkey. Afterwards, more than 20 monkey burials have been excavated on the western shore of the lake, accompanied by the offerings similar to the human ones (Peñalver n.d.:14). The modelled representations of monkeys, wild cats (with annular impressions indicating spotted skins), turtles, frogs and other animals often decorated Valencia Style ceramic vessels (see for example Arroyo et. al. 1971). Another archaeological evidence also called the attention: the remains of monkeys and wild cats (except for the jaguar, *Felis onca*) were not mentioned in Berry's (1939) report based on Kidder's II and Osgood's excavations. It seems probable that taboo or other special restrictions would have been imposed by Valencioid society settled on the lake shores over the hunting and consumption of these animals. Using ethnographic analogy these evidences seem to indicate that monkeys, altogether with certain other animals might be a kind of symbolically active totemic animals in the Valencioid society.

Similar restrictions imposed by contemporary Guahibo Indians on jaguars and foxes, among others, are the result of the old tradition according to which these animals are their totemic ancestors (Wilbert 1966:76). There were also documented very complex animal taboo rules within the contemporary ethnic groups depending on the age, sex, social status and place of residence (e.g., for Yanomami see Finkers [1986]; for Bari see Castillo [1989]). For unknown reasons the taboo which ruled in Valencia Lake was not extended to the fraction of the Valencioid society which visited Los Roques islands.

To give 'flesh to the bones' I looked up into a varied palette of examples offered by comparative ethnology. This provides various meanings attached to the animal bones in the Amerindian societies which inhabited and still inhabit the Venezuelan territory. The main analogies have been extracted exclusively from the ethnologies of different coastal and marine oriented Carib speaking groups, since the Valencioid people were Carib speakers.

laces and also use (for the same purpose) the teeth of any beast (fiera) and other animal that they kill» (Ruíz Blanco 1965:22 [1690]). In 1883 Im Thurn (1967:111 [1883]) noted that in Guiana «it is hardly possible to find an Indian house in which there are no teeth or portions of the skin of one of these species» (small 'tiger cats'). Many contemporary indigenous groups of Venezuela, belonging to different linguistic stocks and with different modes of subsistence, attach a special value to the bones of the game, particularly the head. The Guahibo (Wilbert 1966) and Guajiro (Saler 1988) hunters preserve selected bones of their game. The Taulipáng used to suspend the skull and bones of hunted animals from the roof over a fireplace (Koch Grünberg, vol.III, 1982:81). A similar custom is widespread among the Yanomami (Finkers 1986:79; Barandiarán and Brändli 1983:200; Cocco 1972:188). Also the Hoti hunter, after the consumption of the edible parts of the head of the game (peccary), hangs up the skull on the tree in the settlement for the augement of his prestige and to secure the future hunting (Coppens 1983:268). These examples suggest that the selected mammal bones gained the meaning of trophy. At the same time, these objects were loaded with numinous power which could influence positively future huntings.

The wild cats, especially the jaguar and puma, were the mythological allies of the Korupira or Kaapora, the powerful and frightening 'master of the animals' of the Amazon Lowland tribes (Zerries 1954:9; Koch Grünberg 1981, vol II:29). When the Yukpa hunter (Carib speaking group from north western Venezuela) confronted these felines, he believed that was attacking the 'master of the animals' (Ruddle and Wilbert 1983). So, for some Amerindian groups the trophies of these animals were especially loaded with meaning and power. In general, the strong relationship between shaman and jaguar has been widely documented in South America (Reichel Dolmatoff 1975; 1990:135-149), especially among Carib speaking groups from Guiana, the «Carib Jaguars», which possessed the supposed ability to transform themselves into jaguars (Wilbert 1987: 194).

The most pertinent ethnographic analogies to Los Roques archaeological specimens are found in two Spanish chronicles from XVI century. The first described the dresses of the chiefs of the Carib inhabitants of the Península of Paria, Venezuela) worn for the battle. The chief Utuyaney wore the skin of a jaguar (*Felis onca*) with its tail hanging on his chest; another chief Amanatey wore a complete skin of honey bear (*Tamandua tetradactyla*) with its snout projected over his head; other warriors wore different animal skins that the Spanish could not identify (Castellanos 1987:39[1589]).

The second one, written by Governor don Juan Pimentel, described the Province of Caracas in 1578 (Nectario María 1979). The Province embraces the north central part of Venezuela, including the central coast which during the late prehistoric times was occupied by the Valencioid people. The Governor noted that during the comunal feasts with dances and music, the Indians of the region «bring their garlands of coloured feathers or heads of animals such as pumas, bears, jaguars, small wild cats or their tails put on [fitted to] their heads» (Nectario María 1979:342). Pimentel continued saying that the Indians danced «with masks...bringing some animals atop wooden sticks [decorated] with thread and colours» («...enmascarados ...trayendo unos animales sobre unas varas hechos de palo e hilo y colores...»[op.cit.:339]). The Governor explained that during these feasts the shaman ('el piache') was in contact with the spirits and the Indians performed petitionary rites with offerings.

The skins of animals were used not only by participants in the feasts (sacred/ritual context) but also by chiefs and prominent members of the group in secular contexts such as the skins of jaguars worn by chief Paramaconi and his companion Toconai during a surprise attack by the Spaniards in the mountains of Caracas (Oviedo y Baños 1982, vol.I:264 [1723]).

Despite the relatively late date of the Pimentel's chronicle, in terms of the general chronology of the Spanish Conquest, this still is a very early observation for the centre north region of Venezuela. The first penetration ('entrada') of the conquerors to this region was led by Francisco Fajardo in 1555.

Caracas) groups. By that time the acculturation process had barely begun, while the evangelization was in an embryonic stage. Given these conditions, I consider that Pimentel described the authentic Amerindian folklore, not yet tainted by the effects of the Spanish Conquest. I suggest that this evidence can be «pushed back» into prehistoric times.

In conclusion, the archaeological evidence reinforced by the ethnohistoric data strongly suggest that the majority of mammal head remains should be grouped into the category of symbolic and polysemic objects utilized for ceremonial purposes. Especially the skulls, mandibular fragment (those which are complete and with no use wear attrition) and phalange of wild cats seem to indicate that their skins would have been utilized at the Dos Mosquises campsite. It is known that the process of separation of a skull from the jaws using metal or stone implements usually leaves cut marks on the mandibles (Noe Nygaard and Richter 1990; van Wijngaarden Bakker 1990; Semenov 1963). I consider that the mandible specimen (CN 609) from Dos Mosquises lacking cut marks, would have been separated from the skull naturally during the postdepositional period that could support the hypothesis about the presence of skins of wild cats on the island. However, the experimental and/or ethnoarchaeological data can reject this hypothesis since it is not known if the utilization of bone or wood implements for the separation of skull from the jaws left any observable traces on the specimens (the Yanomami Indians can use even the wooden projectile point for the extraction of the mandible of their game [see Cocco 1972:260]). On the other hand, the mandibular specimens which were broken up probably represent the game trophies that were utilized as votive offerings in the Dos Mosquises campsite.

It may be hypothesized that reproducing on this island certain aspects of Valencioid ancestral ritual feasts conducted by the shaman ('piache'), the Amerindians performed there the rites of conciliation with the protective spirits of the animals as well as votive offerings. Even further, I consider that especially the extraction of *Strombus gigas* would have been accompanied by intensive ritual activities. The male of this gastropod, unlike other mollusks, displays a very prominent and 'humanlike' sexual organ that would not have gone unnoticed by the Amerindians. In this respect the *Strombus gigas* was the most 'humanlike' among all mollusks. Thus, while the non 'anthropomorph' mollusks were simply collected, the thousands of *Strombus gigas* mollusks were 'butchered'. This shift in meaning attached to the exploitation of this mollusk probably needed a high intensity of rituals directed toward the protector spirits of this animal. Such rituals developed by a society, whose hunting activities were oriented traditionally to the continental land game, would have been transformed in order to embrace the coveted living creatures of the marine environment. The success of the mission carried out very far from the homeland, where the human beings were especially frail and exposed to the benevolence of the supernatural powers governing the marine environment, depended on the ritual efficiency of these objects. If the above interpretations are valid then it may be prudently hypothesized that the Valencioid peoples were opportunistic 'newcomers' to Los Roques Archipelago, attracted by the *Strombus gigas* 'boom', rather than specialized fishermen with an already developed marine oriented society. I would further argue that the rituals which accompanied the appropriation of marine resources were strongly rooted in their ancestral ritual complex developed for the terrestrial hunting in the surroundings of the Lake Valencia Basin.

But to further develop and strengthen the latter hypothesis goes far beyond the present contribution.

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MAP 1. Los Roques Archipelago and the Lake Valencia Basin

TABLES

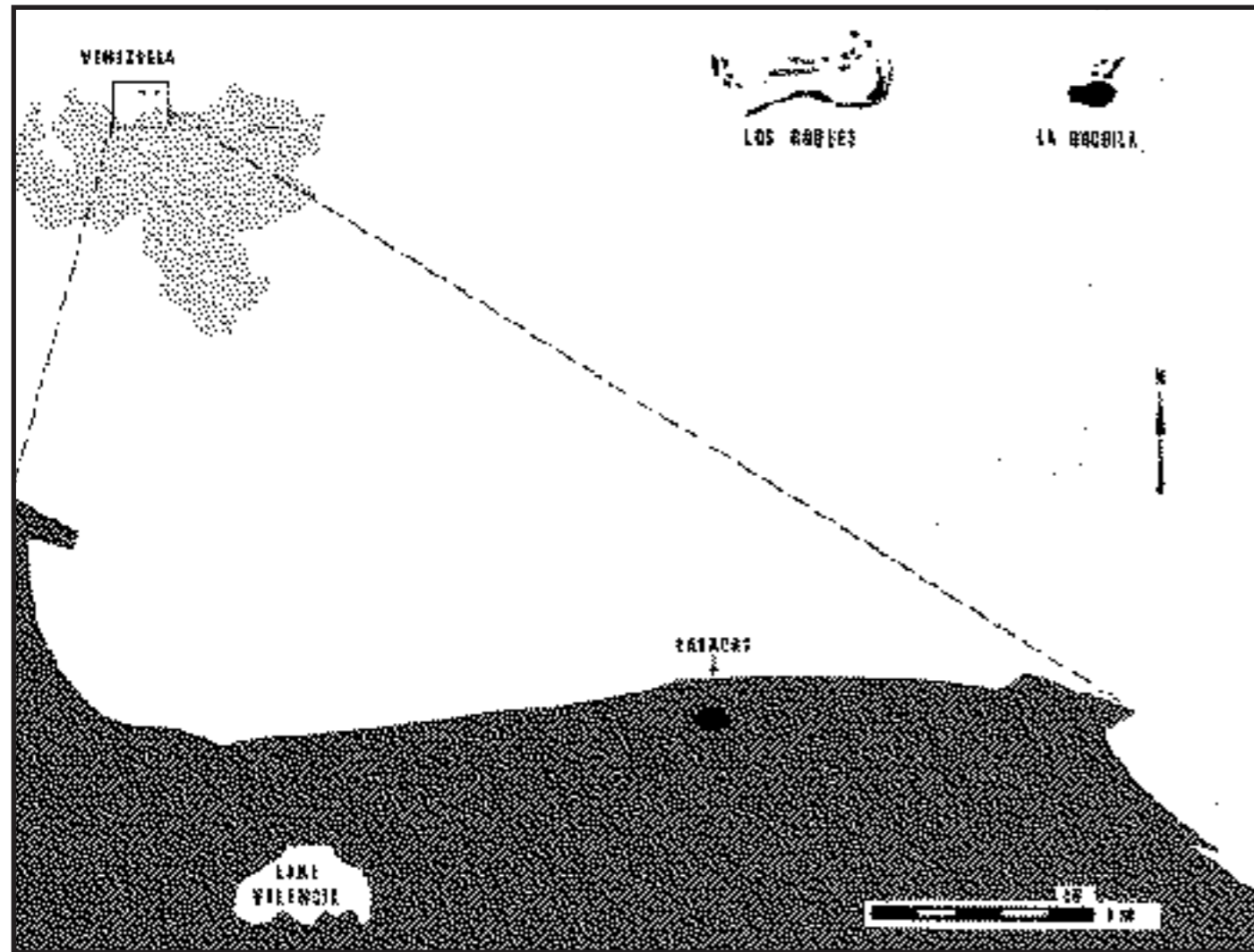


TABLE 1. Frequencies, location, selected measurements (mm) and types of mammal bone artifacts (worked bones) from Los Roques Archipelago.

TABLE 2. Frequencies, location, taxon and skeletal element identification of mammal bone artifacts (modified bones) from Los Roques Archipelago.

TABLE 3. Frequencies, location, taxon and skeletal element identification of mammal bone artifacts (unmodified bones) from Los Roques Archipelago.

TABLE 4. Frequencies, selected measurements (mm) and location of manufacturing waste (debitage), and point preforms of mammal bone.

TABLE 5. Distribution of mammal bone remains between sites and trenches in Los Roques Archipelago.

Table 1. FREQUENCIES, LOCATION, SELECTED MEASUREMENTS (MM) AND TYPES OF MAMMAL BONE ARTIFACTS (WORKED BONES) FROM LOS ROQUES ARCHIPELAGO.

ARTIFACT TYPE	N SKELETAL ELEMENT	TAXON	LENGTH (max.)	WIDTH (max.)	SITE	CATALOG NUMBER
POINTED BONES :						
Projectile points and/or gorges						
-Bipoint	3 UID	Mammalia	sp. 60.14	8.10	DM/A/A	16771
	UID	Mammalia	sp. 77.50	9.50	DM/A/A	16772
	UID	Mammalia	sp. 53.11	7.19	DM/A/B	635
-Unipoint	4 UID	Mammalia	sp. 50.50	8.50	CS/D/A	2113
	UID	Mammalia	sp. 37.10	6.75	DM/A/B	16760
	UID	Mammalia	sp. 70.60	9.45	DM/A/A	1125
perforated	UID	Mammalia	sp. 68.54	14.18	DM/A/C	724
-Barbed unipoint	1 UID	Mammalia	sp. 31.50	4.85	DM/A/B	16761
-Unipoints or bipoints (fragments)	7 UID	Mammalia	sp. 2.75	4.50	DM/A/B	3024
	UID	Mammalia	sp. 3.70	8.40	DM/A/B	2893
	UID	Mammalia	sp. 45.15	10.50	DM/A/B	16759
	UID	Mammalia	sp. 22.05	5.55	DM/A/B	16769
	UID	Mammalia	sp. 60.50	8.00	CS/D/A	1779
	UID	Mammalia	sp. 5.50	7.40	CS/D/A	3163
perforated Awl/perforator	1 UID	Mammalia	sp. 39.90	6.35	DM/A/C	16766
		Mammalia	sp. 51.00	16.00	CS/D/A	3236
FLUTES :						
	3 radius (left)	<i>Odocoileus virginianus</i>	149.20	20.11	DM/A/B	588
			140.15	19.08	DM/A/B	592
			142.22	19.30	DM/A/B	5
	2 radius (left)	<i>Mazama</i> sp.	110.50	15.23	CS/D/A	1725
			93.50	15.74	CS/D/A	1726
PENDANTS :						
Perforated teeth	3 incisor tooth	<i>Cerdocyon thous</i>	21.50	6.50	DM/A/B	9064
			30.25	9.35	DM/A/C	1170
			14.00	4.80	DM/A/B	16762
	2 canine tooth	<i>Dicotyles tajacu</i>	49.32	13.12	DM/A/A	16780
			59.10	11.70	DM/A/B	9060
	1 molar tooth	<i>Tapirus terrestris</i>	30.00	23.80	DM/A/B	16770
Tubular bead	1 UID	Mammalia sp	48.10	13.10	DM/A/B	7061
Perforated bones	1 verte brae	<i>Odocoileus virginianus</i>	74.75	54.25	DM/A/A	595
	1 UID	Mammalia	sp.33.20	8.18	DM/A/B	1713
	1 UID	Mammalia	sp.35.05	5.75	DM/A/B	16773
Worked vertebrae	1 verte brae	<i>Odocoileus virginianus</i>	78.90	58.62	DM/A/A	1131

TABLE 2. FREQUENCIES, LOCATION, TAXON AND SKELETAL ELEMENT IDENTIFICATION OF MAMMAL BONE ARTIFACTS (MODIFIED BONES) FROM LOS ROQUES ARCHIPELAGO.

TAXON	NISP N %	MNI N %	SKELETAL ELEMENT	SITE	CATALOG NUMBER
<i>Felis wiedii</i>	18 85.7	7 77.8	left maxilla	DM/A/B	610,640
					597
				DM/A/C	16776
					16777
			left maxilla (juvenile)	DM/A/B	603
					1134
			right maxilla	DM/A/B	631
					1129
				DM/A/C	16778
			right maxilla (juvenile)	DM/A/B	621
			left mandible	DM/A/B	583
					1154
					599
				DM/A/C	1132
			left mandible (juvenile)	DM/A/B	613
			right mandible	DM/A/B	9059
				DM/A/C	16779
<i>Felis pardalis</i>	3 14.3	2 22.2	left maxilla (subadult)	DM/A/B	612
			left mandible (juvenile)	DM/A/B	16781
				DM/A/A	582
TOTAL	21 100	9 100			

TABLE 3. FREQUENCIES, LOCATION, TAXON AND SKELETAL ELEMENT IDENTIFICATION OF MAMMAL BONE ARTIFACTS (UNMODIFIED BONES) FROM LOS ROQUES ARCHIPELAGO.

TAXON	NISP N %	MNI N %	SKELETAL ELEMENT	SITE	CATALOG NUMBER
<i>Felis wiedii</i>	4 36.4	2 25.0	calota craneal (juvenile)	DM/A/B	633,650
			phalange	DM/A/B	9058
			right mandible	DM/A/B	609
<i>Alouatta seniculus</i>	1 9.1	1 12.5	skull (subadult, female?)	DM/A/B	1156
<i>Mazama</i> sp	3 27.2	2 25.0	left tarsal (adult)	DM/A/B	589
			left radius (adult)	DM/A/B	4501
			left radius	DM/A/B	590
<i>Didelphis marsupialis</i>	1 9.1	1 12.5	right ramus of the mandible	DM/A/A	1135
Mustelidae	1 9.1	1 12.5	right mandible	DM/A/B	16782
<i>Dicotyles tajacu</i>	1 9.1	1 12.5	nail	DM/A/A	16795
TOTAL	11 100	8 100			

TABLE 4. FREQUENCIES, SELECTED MEASUREMENTS (mm) AND LOCATION OF MANUFACTURE DEBRIS (DEBITAGE), AND POINT PREFORMS OF MAMMAL BONE.

OBJECT	N SKELETAL ELEMENT	TAXON	LENGTH (max.)	WIDTH (max.)	SITE
Split diaphysis s (large fragment)	2 Long bone	Mammalia sp.	68.75	13.90	DM/A/B
		Mammalia sp.	55.00	18.98	DM/A/C
Splinter (bipointed)	2 UID	Mammalia sp.	41.00	4.85	DM/A/B
		Mammalia sp.	35.65	3.35	DM/A/B
Splinter (unipointed)	1 UID	Mammalia sp.	40.10	8.25	DM/A/B
Splinter (rectanguloid)	5 UID	Mammalia sp.	21.15	2.80	DM/A/B
		Mammalia sp.	25.05	4.80	DM/A/B
		Mammalia sp.	26.20	8.85	DM/A/B
		Mammalia sp.	23.38	7.80	DM/A/B
		Mammalia sp.	29.20	11.78	DM/A/C
Point preforms: - unipoint	2 Long bone	Mammalia sp.	58.20	9.15	DM/A/B
		Mammalia sp.	58.65	9.78	DM/A/B
- bipoint	1 Long bone	Mammalia sp.	63.86	10.00	DM/A/B
- uni or bipoint	1 Long bone	Mammalia sp.	50.18	8.50	DM/A/B

TABLE 5. DISTRIBUTION OF MAMMAL BONE ARTIFACTS BETWEEN SITES AND TRENCHES IN LOS ROQUES ARCHIPELAGO.

SITE/TRENCH REMAIN CATEGORY	DM/A/A		DM/A/B		DM/A/C		CS/D/A		TOTAL	
	N	%	N	%	N	%	N	%	N	%
WORKED BONES	6	19	17	53	3	9	6	19	32	41
MODIFIED BONES	1	5	15	71	5	24	-	-	21	27
UNMODIFIED BONES	2	18	9	82	-	-	-	-	11	14
DEBITAGE	-	-	12	86	2	14	-	-	14	18
TOTAL	9	11	53	68	10	13	6	8	78	100
DM/A/A,B,C trenches A,B,C, site A in Dos Mosquises Island										
CS/D/A trench A, site D in Cayo Sal Island										