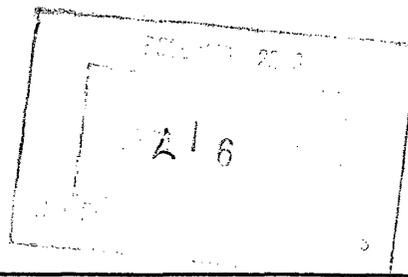


United States Department of the Interior
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES
REGISTRATION FORM



1. NAME OF PROPERTY

historic name Punta Ostiones

other names/site number Ostiones, CR 06

2. LOCATION

street & number [REDACTED]

not for publication

city or town Municipality of Cabo Rojo, Miradero Ward

vicinity

state Puerto Rico code PR county Cabo Rojo code 023 zip code 00623

3. STATE/FEDERAL AGENCY CERTIFICATION

As the designated authority under the National Historic Preservation Act of 1986, as amended, I hereby certify that this nomination request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property meets does not meet the National Register Criteria. I recommend that this property be considered significant nationally statewide locally. (See continuation sheet for additional comments.)

Elizabeth Solá Oliver

Signature of certifying official

15.VII.04

Date

Puerto Rico State Historic Preservation Office

State or Federal agency and bureau

In my opinion, the property meets does not meet the National Register criteria.
(See continuation sheet for additional comments.)

Signature of commenting or other official

Date

State or Federal agency and bureau

4. NATIONAL PARK SERVICE CERTIFICATION

I, hereby certify that this property is:

- entered in the National Register
 - See continuation sheet.

for Erik K. Martin Seibert 8/26/04
Signature of Keeper Date

- determined eligible for the National Register
 - See continuation sheet.

- determined not eligible for the National Register.

- removed from the National Register.

- other (explain): _____

5. CLASSIFICATION

Ownership of Property
(Check as many boxes as apply)

- private
- public-local
- public-State
- public-Federal

Category of Property
(Check only one box)

- building(s)
- district
- site
- structure
- object

Number of Resources within Property

Contributing	Noncontributing
<u>0</u>	<u>0</u> buildings
<u>1</u>	<u>0</u> sites
<u>0</u>	<u>0</u> structures
<u>0</u>	<u>0</u> objects
<u>1</u>	<u>0</u> Total

Number of contributing resources previously listed in the National Register 0

Name of related multiple property listing N/A

6. FUNCTION OR USE

Historic Functions:

Cat: Domestic Sub: village site
 Cat: Trade Sub: trade
 Cat: Funerary Sub: burials
 Cat: Subsistence Sub: processing
 Cat: Processing Sub: processing site

Current Functions:

Cat: Landscape Sub: conservation area

7. DESCRIPTION

Architectural Classification: N/A

Materials:

Foundation N/A

Roof N/A

Walls N/A

Other N/A

Narrative Description: (See continuation sheets.)

8. STATEMENT OF SIGNIFICANCE

Applicable National Register Criteria:

- A Property is associated with events that have made a significant contribution to the broad patterns of our history.
- B Property is associated with the lives of persons significant in our past.
- C Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.
- D Property has yielded, or is likely to yield information important in prehistory or history.

Criteria Considerations

Property is:

- A owned by a religious institution or used for religious purposes
- B removed from its original location.
- C a birthplace or a grave.
- D a cemetery.
- E a reconstructed building, object, or structure.
- F a commemorative property.
- G less than 50 years of age or achieved significance within the past 50 years.

Areas of Significance:

Archaeology / Prehistoric

Improvement of archaeological

Land use and Settlement

methodology

Economics of subsistence and trade

Paleoenvironmental reconstruction

Period of Significance A.D. 450 - A.D. 1200

Significant Dates N/A

Significant Person N/A

Cultural Affiliation Ostiones culture

Architect/Builder N/A

Narrative Statement of Significance (See Continuation Sheets.)

9. MAJOR BIBLIOGRAPHICAL REFERENCES

Previous documentation on file (NPS):

- preliminary determination of individual listing (36 CFR 67) has been requested.
- previously listed in the National Register
- previously determined eligible by the National Register
- designated a National Historic Landmark
- recorded by Historic American Buildings Survey # _____
- recorded by Historic American Engineering Record # _____

Primary Location of Additional Data:

- State Historic Preservation Office
- Other State agency
- Federal agency
- Local government
- University
- Other

Name of repository: American Museum of Natural History, New York; Yale Peabody Museum, New Haven; Harvard Peabody Museum, Cambridge; Museum of the American Indian, New York; Centro de Investigaciones Arqueológicas de la Universidad de Puerto Rico, San Juan.

10. GEOGRAPHICAL DATA

Acreage of Property: [REDACTED]

UTM References:

Zone	Easting	Northing
<u>[REDACTED]</u>		

Verbal Boundary Description (See continuation sheets)

Boundary Justification (See continuation sheet)

11. FORM PREPARED BY

name/title Sharon Meléndez Ortiz, M.A.

organization Puerto Rico State Historic Preservation Office date February 13, 2003

street & number PO Box 9066581 telephone 787-721-3737

city or town San Juan state PR zip code 00906-6581

PROPERTY OWNER

name Department of Natural and Environmental Resources

street & number PO Box 9066600 telephone 787-724-8774

city or town San Juan state Puerto Rico zip code 00906-6600

United States Department of the Interior
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES
CONTINUATION SHEET

Section 7 Page 1

Punta Ostiones
Cabo Rojo, Puerto Rico

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SUMMARY

The site of Punta Ostiones [REDACTED]

[REDACTED] It consists of a large coastal village, occupied by Ostiones people during the transition of Period IIB to III, and throughout all of Period III (A.D. 450-1200). The internal configuration of the site consists of a

[REDACTED] Punta Ostiones deposits have been impacted by natural and cultural processes, nevertheless the site still posses the integrity aspects of location, design, materials and association.

PHYSICAL LOCATION

ENVIRONMENT

[REDACTED]

[REDACTED] Qb deposits are made up of sand and minor gravel consisting of rounded shell debris, volcanic rock, chert, and, locally quartz, while Qm deposits are located in coastal areas containing thick growths of mangroves, underlain by fine sand and silt trapped by mangrove roots. To the north and east of the mangrove swamps are located two areas of alluvium deposits from the Holocene and Pleistocene (Qal), while to the east is the Sabana Grande Formation (Ks), which is a gray, dark-greenish-gray, and purplish-gray andesitic crystal-lithic tuff, tuff-breccia, and conglomerate with minor basaltic lava and breccia from the Maestrichtian and Campanian. The soils in Punta Ostiones have been classified as Cataño sand (Cd) and Tidal

United States Department of the Interior
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES
CONTINUATION SHEET

Section 7 Page 2

Punta Ostiones
Cabo Rojo, Puerto Rico

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swamp (Td). The Cataño series consists of deep, excessively drained, nearly level soils that are calcareous and rapidly permeable. These soils occur along the coast in areas that are close to sea level but above high tide. They formed in calcareous sandy sediments consisting of shell fragments, quartz grains, and sub rounded fragments of volcanic rock. Permeability is rapid, the available water capacity is low and fertility is low. Its use is limited mainly to pasture, coconuts, or wildlife habitat. It is mainly in coconuts and in most places has undergrowth of native pasture plants or low-growing brush (Gierbolini 1975: 31-32; U.S.D.A. 1993: 4). This soil is suited for the cultivation of tubercles (Rodríguez Ramos 2001). Tidal swamp is located in areas that are covered with a thick growth of mangrove trees. These areas are along the seacoast and inlets and are under saltwater most of the time. Slopes range from 0 to 2 percent (U.S.D.A. 1993: 30). The soil material consists of light colored, saline, sandy or clayey materials and some organic materials from decaying mangrove trees. The underlying material, at variable depths, consists of such substances as coral, shells, and marl. This land type has no agricultural value, but it does serve as a habitat for birds, oysters, and crabs. Some of the mangrove trees are used to make charcoal. (Gierbolini 1975: 120).

Two thirds of Ostiones point consists of mangrove swamps. Mangroves often build dense forests along the intertidal mud-flat zone. Growing up to 12 m on average, mangroves are characterized by a complex prop-root system, which enables them to capture sediments, thus contributing to the enlargement of the coastline, as well as the birth of small islands (Vega 1998: 47). The most abundant species at the area are the black and white mangrove (*Avicennia germinans* and *Laguncularia racemosa*), while the red mangrove (*Rhizophora mangle*) predominates in the coastal borders. The beach deposits are historically planted with coconut palms (*Cocos nucifera*), which are concentrated in the area of the archaeological site. Other species located at this area are sea grape (*Coccoloba uvifera*), Emajaguilla (*Erithalis fruticosa*), Icaco (*Chrysobalanus icaco*), Button mangrove (*Tabebuia heterophylla*), Almácigo (*Bursera simaruba*), Cariaquillo (*Lantana involucrata*) and Cat's Claw (*Pithecellobium unguis-cati*). Most of these species are native. These species coexist with vegetation that indicates perturbation, like Zarzilla (*Leucaena glauca*), Wild cotton (*Gossypium hirsutum*), Basora prieta (*Waltheria indica*), Yerba guinea (*Panicum maximim*), Rabo de buey (*Vernonia cinerea*) and Romerillo (*Bidens alba*). Activities that might generate

United States Department of the Interior
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES
CONTINUATION SHEET

Section 7 Page 3

Punta Ostiones
Cabo Rojo, Puerto Rico

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perturbation may include coconut harvesting, entrance of motorized vehicles, intentional fires and crab trapping (DNER 2001: 5-9).

The landscape at Punta Ostiones clearly offered a wide range of economic resources that might have been exploited by prehistoric communities. Each adjacent biome: the hills, the swamps, the coastal fringe and the sea, could be utilized and harvested for food and other resources. Its location must have been ideal for a fishing people, [REDACTED]

[REDACTED]
[REDACTED]
[REDACTED]
and slopes.

TIME PERIOD OF OCCUPATION

Punta Ostiones is a large coastal village. According to the uncorrected radiocarbon samplings obtained by Rouse and Crucent in 1962, Punta Ostiones was occupied at least from ca. A.D. 450 to 1200 (late Period IIB through Period III). The early calendric date corresponds to that of the Cuevas style of the Cedrosan Saladoid subseries (A.D. 450-600), suggesting a possible initial Cuevas occupation of the site. This suggestion can be further emphasized because of the strong resemblance reported by Rouse (1952) and Meléndez Maíz (1998) of the Ostiones sherds located at the bottom of the excavated deposits to Cuevas style sherds. In terms of the ceramic repertoire, most of the sherds found could be classed within the Ostiones style, with minimal representations of the Cuevas, Capá, Santa Elena, Esperanza and Boca Chica styles. The Capá sherds may point to a transition towards Period IV, while the Santa Elena, Esperanza and Boca Chica could be trade items. De Hostos (1919) and Rouse (1952) reported two artifacts from the Spanish historic period, one of them a Spanish earthenware vessel from the 16th century found at a depth of 76 cm. As no other artifacts or historic structures are associated with these items, they are probably isolated finds.

United States Department of the Interior
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES
CONTINUATION SHEET

Section 7 Page 4

Punta Ostiones
Cabo Rojo, Puerto Rico

=====

PHYSICAL CHARACTERISTICS

Data categories of information observed at this large coastal village can be divided into three groups: archaeological materials, archaeological features and patterned relationships. The first group consist of ceramics, lithic, coral and shell, and other types of material, like animal and human bones, present below the surface. The leveled middens and mounded middens form the second group, while the arrangement and composition of the middens formed the third group.

The archaeological deposits at Punta Ostiones comprise a [REDACTED] According to the excavations conducted by Spinden, de Hostos, and Rouse, the depths of the deposits vary from 1.4 M to 2.9 m. However, there is no information of the vertical extent of the site in the central cleared space or in the periphery of the core area as all the excavations were conducted at the mounded middens.

Current knowledge of the internal configuration at Punta Ostiones includes: [REDACTED]

[REDACTED]

mounded middens. The mounded middens form distinct topographic features in the landscape. They are complex features that contain dense accumulations of the full range of artifact classes found at the site; ceramics, lithic, coral, animal and human bones, bone, coral and shell artifacts, and marine gastropods and pelecypods; as well as discrete features like an old sod interrupted by a conical pit, a post hole (pit) and a hearth.

The characteristic intrasite Cedrosan Saladoid settlement pattern is a horseshoe-shaped series of mounded middens facing a central open space or plaza nearly devoid of refuse. Punta Ostiones continues with this arrangement, however with a centrally located mound. According to Spinden's excavation of 1919, this central midden had a different stratigraphic composition and was less complex than the others, suggesting

United States Department of the Interior
National Park Service

**NATIONAL REGISTER OF HISTORIC PLACES
CONTINUATION SHEET**

Section 7 Page 5

**Punta Ostiones
Cabo Rojo, Puerto Rico**

=====

that the activities that occurred there, as well as its function, were different. The central location of the midden and its stratigraphic composition may be an indicator of social stratification, which according to current research began during the time of occupation of Punta Ostiones.

LIKELY APPEARANCE OF THE SITE DURING THE PERIODS OF OCCUPATION

Based on the limited data and the knowledge of similar properties, the configuration of Punta Ostiones and its internal organization may be characterized by a ring model, as discussed by Siegel (1992: 372). This model proposes that the center of the ring was a space partitioned into residential and burial zones. These areas were kept relatively clear of refuse, with debris swept towards the village periphery. This resulted in a midden accumulating at the settlement edge. At Punta Ostiones, the horseshoed-shaped arrangement of the middens open towards the shore, which suggests that this was a fishing village with a maritime orientation.

CURRENT AND PAST IMPACTS

Several cultural and natural processes have impacted Punta Ostiones deposits. Pothunting has been a common practice at this site. Collector E. Irizarry (personal communication) informed that during 1971 and 1972 pothunters razed two middens, a large one [REDACTED]

[REDACTED]. Besides looting, faunal disturbance and floral disturbance are the most evident natural transforms affecting the site. Small and large crab holes are common across this area. There is a high density of coconut palm trees, which are characterized by their extensive root system. Fallen palm trees, which are rather common in the site, may disturb an area of several square meters to a depth up to one meter.

The current condition of the site is similar to that described by Rouse in 1937 and Meléndez Maíz in 1998. Factors currently affecting the site's integrity are eolian erosion and wave action, faunal disturbance, floral disturbance and looting. The practice of pot hunting seems to be less intense than in the past, as almost no new occurrences were detected in a four-year period. In 1998, Meléndez Maíz documented the looters pits and

**United States Department of the Interior
National Park Service**

**NATIONAL REGISTER OF HISTORIC PLACES
CONTINUATION SHEET**

Section 7 Page 6

**Punta Ostiones
Cabo Rojo, Puerto Rico**

=====

large holes caused by fallen palms. At that point, only two new potholes at the SW and NE middens were found. Collections of large undecorated sherds were discovered at the pits borders.

INTEGRITY

Natural and cultural processes have disturbed Punta Ostiones deposits. However, the significant data contained in Punta Ostiones remain sufficiently intact to yield the expected important information, if the appropriate study techniques are employed. The spatial patterning of surface artifacts and features, and the horizontal deposition and completeness of the shell in some of the middens suggest that the site still retains substantial intact deposits, and that the remaining deposits that were altered still contain critical information. Moreover, based on the results of previous excavations and in the knowledge of similar sites, subsurface features, such as domestic habitations and burials, are likely to exist at the site.

Punta Ostiones possess the integrity aspects of location, design, materials and association as the site can yield important information through archaeological investigation; and it has a discernable intra-site feature patterning and a complete and well-preserved artifact and feature assemblage.

PREVIOUS INVESTIGATIONS

The site of Punta Ostiones has been investigated since the beginning of the 20th century. Several researchers from Puerto Rico and abroad have visited the site, making it one of the most widely recognized sites in the Island.

Herbert J. Spinden excavated at the sites of Carmen and Ostiones in 1919, continuing the work of the New York Academy of Sciences. His work was never published and his extensive collection, which contains the largest number of specimens of the Ostiones style, is now at the American Museum of Natural History. His research at Punta Ostiones should be highlighted, as he performed the only stratigraphic excavations reported for the site. According to Meléndez Maíz (1998: 16), his excavations have two important characteristics: he bisected the middens from east to west, obtaining a complete profile of both the

United States Department of the Interior
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES
CONTINUATION SHEET

Section 7 Page 7

Punta Ostiones
Cabo Rojo, Puerto Rico

=====

southwestern and central midden; and the middens were excavated systematically, maintaining a horizontal and vertical control of the unearthed materials. In other words, his profiles allowed him to interpret the deposition of both middens.

Spinden drew a map of the site at a scale 1" = 50'. The map shows four midden summits configuring a horseshoe shape, a central midden, and the two trenches he excavated. [REDACTED]

[REDACTED] He drew two south profiles for this trench. Apparently he expanded the first trench and excavated a second [REDACTED]

[REDACTED] Four strata can be distinguished from the profiles: a humus layer, several layers of shell and ash, loose sand and compact sand. The shell and ash layers are inclined to the east, suggesting that the midden was deposited in this direction, in other words, from the central clear space to the exterior. Spinden reconstructed an ideal stratigraphy for this midden. He identified eleven layers or cultural episodes (Meléndez Maíz 1998: 17):

- Strata I and II: humus;
- Strata III, V, VI and VII: inclined layers of shell with ash and sand;
- Strata IV and IX: loose sand with ceramic sherds. Two burials were recovered in the contact of layers VII and IX;
- Stratum VIII: feature consisting of a hearth; and
- Strata X and XI: compact sand with little shells and sherds.

Trench 2 was located in the central midden. It measured 19.81 m from east to west and had a depth of 2.9 m. Four strata were distinguished:

- Stratum I: Hummus;
- Stratum II: clay (only in the western portion of the midden);
- Stratum III: several layers of white, brown and black ash, with animal bones and artifacts;
- Stratum IV: yellow clay.

United States Department of the Interior
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES
CONTINUATION SHEET

Section 7 Page 8

Punta Ostiones
Cabo Rojo, Puerto Rico

Several features were located in the contact of stratum III and IV: an old sod interrupted by a conical pit and a posthole (pit) and a hearth (identified in Spinden profile as broken rock, ashes, etc.).

According to Adolfo de Hostos (1955: 30), Spinden found that the stratigraphy at Punta Ostiones showed five changes in the manufacturing process of the pottery. He explained that Spinden dated the lower strata to 600 years B.C. by assuming that the top layer was contemporary to the discovery of America.

About the same time as Spinden, in 1919, Adolfo de Hostos excavated at Ostiones and at the nearby site of Joyuda. The pottery of the Ostiones style obtained at these sites served as the basis for his paper **Prehistoric Porto Rican Ceramics** (de Hostos 1919 and 1941: 7-29). De Hostos' excavation, which had the objective of observing the "differences in type and technique in the sherds" (De Hostos 1941: 14), was at least 4.5 feet deep. The first 2.5 feet yielded red painted ware while other layers contained, in their respective order: unpainted but polished ware with relief decoration; coarse ware with incised decoration; undecorated specimens; and, lastly, finger pressure-made ware of the coarsest kind (de Hostos 1919: 383 in Rouse 1952a: 317). Other findings were 10 discoidal stamps and a human burial with offerings (De Hostos 1941: 14, 21). It is of interest to note that De Hostos found a Spanish earthenware vessel of the 16th century at a depth of two and a half feet (De Hostos 1941: 10-11). Unfortunately, the location of his excavation units is unknown. He concluded that the middens of Punta Ostiones showed two occupations:

"Stratification of the Ostiones Point shell-heap, [REDACTED] Rico, points out to the fact of continuous occupation during a lapse of time probably covering several centuries. Artifacts found in the lowest layers correspond in type to the crudest forms pertaining to the infancy of the ceramic art. Progress in it is shown as the depth of the layers decreases, until near the surface, evidences of advanced stages of the art predominate. Such facts prove that, at Ostiones Point, as undoubtedly, at many other places on the lee-side of the Greater Antilles, progress in the ceramic art was achieved by these sporadic settlers during the time of their residence there." (De Hostos 1941: 91)

United States Department of the Interior
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES
CONTINUATION SHEET

Section 7 Page 9

Punta Ostiones
Cabo Rojo, Puerto Rico

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De Hostos (1919: 378) proposed the idea that the largest sites in Puerto Rico were found on the south coast as the protected leeward side of the island and the existence of a wide and shallow coastal shelf aided the exploitation of that region by Amerindians with primitive watercrafts.

During 1915 and 1916, Samuel K. Lothrop visited the west coast area during the course of an archaeological survey of the island of Puerto Rico. He located a large number of sites and excavated five of them, one of which was Punta Ostiones. The report that he prepared on his work was lost and has never been published. His collection is now in the Harvard Peabody Museum (Rouse 1952a: 373). Samuel Lothrop described Punta Ostiones as a U form opening to south, with a small central midden and an extended midden to the southeast following the coastal line. He corroborated de Hostos' sequence in 1927 (1927: 324-331 in Rouse 1952a: 316), by observing that painted sherds were more common in the upper than in the lower levels. Lothrop recovered several human burials and complete vessels without decoration, stamps, lithic artifacts and a high density of sherds. He observed that what he called brown ware was more common in the lower levels while the red ware was common in the upper levels. He suggested that the redware was product of the contact with the Caribs Indians from the Lesser Antilles (Lothrop 1927, Meléndez Maíz 1998: 37).

In 1916, Theodoor de Booy collected specimens at Ostiones and excavated at the nearby site of Joyuda on behalf of the Museum of the American Indian, Heye Foundation in New York. De Booy's death three years later apparently prevented publication of this research (Rouse 1952a: 373).

In 1934, Forelich G. Rainey visited the sites of Boquerón and Ostiones, making a surface collection at each, but no excavations (Rainey 1940: 117-118). He examined Ostiones and decided against excavation because the site had been "too much dug over" (Rainey 1941: 117-118 in Rouse 1952a: 394).

During the period of 1936 to 1938, Irving Rouse made a survey of the sites on the west coast of Puerto Rico, and he dug single stratigraphic pits in eight of the most promising sites, one of them being Punta Ostiones (Rouse 1952a: 374). He excavated by 25-centimeter artificial levels, with a pick and shovel, except when a structure, burial or fire pit were discovered. The plain sherds, those that bore no traces of shape, slip

United States Department of the Interior
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES
CONTINUATION SHEET

Section 7 Page 10

**Punta Ostiones,
Cabo Rojo, Puerto Rico**

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or decoration was discarded. The artifacts were not segregated according to soil strata. He recognized that the procedure of excavation was rather crude (Rouse 1952a: 324). Rouse described the site in the following way:

"[...] is definitely a village rather than a camp site [...]. There are six shells heaps, each of which may represent a separate dwelling. Five of them are arranged in the form of a horseshoe, open towards the shore and enclosing the sixth midden within the prongs of the shoe. These five heaps have partially coalesced into a single deposit, but they still retain their separate summits. The entire center of the horseshoe is also strewn with refuse, and the latter extends for some distance to the southeast along a narrow strip of land between the beach and the swamp." (Rouse 1952a: 394).

Rouse excavated four two-meter square sections in the form of a square in the center of northwestern midden (the smallest one), to a depth of 1.75 meters. He encountered the following strata (1952a: 395):

- Stratum 1 (levels 1 to 4). Contained shell refuse with animal bones and some ash and charcoal in a dark, sandy soil. Potsherds were entirely of the Ostiones style; at the top they were heavily decorated by application, modeling, incision and punctation. The decoration became rare moving downward the stratigraphic sequence, and by level 4 no incision or punctation was found.
- Stratum 2 (levels 5 and 6). The soil was grayer and more sandy, with some charcoal. Animal bones were rare. The potsherds were of the Ostiones style, but they lacked incision and punctation, and in level 6, application and modeling too.
- Stratum 3 (level 7). The soil became dark reddish brown clay without charcoal but containing a few more shells than the overlying sand. The sherds were Ostiones in style but affixation and painting were the sole techniques of decoration. The sherds began to show a strong resemblance to Cuevas sherds. They were still mixed with a few animal bones.
- Stratum 4. The soil changed to a hard, dark gray sand which was sterile and was assumed to mark the bottom of the site.

Rouse recovered 2,673 sherds of the Ostiones style and two of the Cuevas style (levels 3 and 5). Typologically, 518 were from open bowls, 1,554 from constricted bowls, six were miniature bowls, 74 were

United States Department of the Interior
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES
CONTINUATION SHEET

Section 7 Page 11

Punta Ostiones
Cabo Rojo, Puerto Rico

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fragments of jar, and 521 were not identified. There were "59 fragmentary griddles, a broken discoidal stamp of clay, a clay patty, two broken celts of stone, half of a stone cylinder, five stone chips, five pieces of red and one of yellow ocher, a flake from a stalactite, a bone anvil-grinder, four possible bone picks, a bone peg, a miscellaneous piece of worked bone, a broken shell celt, a *Strombus* lip, a shell node, a piece of water-worn shell and 46 pieces of coral. Bird, crab, fish, hutia, human, manatee, and turtle have been identified among the bones. The shells included marine gastropods and pelecypods". (Rouse 1952a: 396).

Rouse also examined the Yale, the Museum of the American Indian and the Harvard collections of Punta Ostiones. They contained 2,095 sherds of the Ostiones style: two of the Cuevas, 13 of the Santa Elena, two of the Boca Chica, 21 of the Capá and one of the Esperanza; the majority being open bowls. The associated artifacts included 52 pieces of griddles, a cylindrical clay stamp, 33 discoidal stamps, a spherical clay bead, a clay three-pointer, a clay cylinder, two clay disks, two lumps of clay, a chipped stone ax, 14 stone celts, a chisel of stone, and an end grinder of stone, a stone hammer, four stone polishers, three stone cylinders, six stone chips, a shell dish, two shell celts, a celt-blank of shell, a chisel-blank, two lip-hammers of shell, two water-worn pieces of shell, a fragment of coral, and a Spanish potsherd. (Rouse 1952a: 397).

Rouse drew a plan of the site at a scale of 0.9 cm = 20 m with contour intervals of 50 cm. The map shows five midden summits, instead of the four depicted by Spinden, forming the horseshoe shape, a central midden, and several unidentified excavations, that might correspond to those performed by De Hostos and Lothrop.

[REDACTED]

[REDACTED]

[REDACTED]

In 1952, Rouse concluded that all material from Punta Ostiones, excavated and from the surface, dated from Period III. The two Cuevas sherds, and the resemblances of the Ostiones sherds at the bottom of the pit to Cuevas pottery, probably signify a survival of Period II influences into Period III, rather than extension of the habitation of the site back into Period II. He suggested that the Capá sherds indicated the beginning of a

**United States Department of the Interior
National Park Service**

**NATIONAL REGISTER OF HISTORIC PLACES
CONTINUATION SHEET**

Section 7 Page 12

**Punta Ostiones
Cabo Rojo, Puerto Rico**

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trend towards that Period IV style and that the Santa Elena, Esperanza and Boca Chica specimens were trade objects. (Rouse 1952a: 397).

In 1962, Rouse and Crucent obtained a grant from the National Science Foundation to take radiocarbon samples from different sites in the Caribbean in order to fill major gaps in ¹⁴C coverage. Three samples were taken from Punta Ostiones (Rouse and Allaire 1978: 468-469):

Sample I-6595, date B.P. 1545 ± 90, calendric date A.D. 405

Sample Y-1242, date B.P. 1200 ± 80, calendric date A.D. 820

Sample Y-1241, date B.P. 900 ± 80, calendric date A.D. 1050

These dates are not corrected. It is interesting to note that the authors assigned the earliest date to the Cuevas complex, although a conclusive Cuevas component has not been previously identified at the site.

Additional excavations were conducted at Punta Ostiones in the early 1970's (Luis Chanlatte, A. Gus Pantel, Efraín Irizarry, personal communication and Antonio Ramos 1992: 19). Regrettably no reports of these are available and the field notes are not accessible. In the 1970's, while visiting Chanlatte's excavation, archaeologist C. Goodwin (personal communication) identified what appeared to be shell species from the Pacific coast of South America, which led him to propose that Punta Ostiones may have been a port of trade in a long distance trade route between the Greater Antilles and South America.

In 1998, Marisol Meléndez Maíz analyzed the pottery and the depositional sequence of the collection excavated by Spinden in 1916. She also made a detailed topographic map of the core area of Punta Ostiones and evaluated the integrity of the site (Meléndez Maíz 1998).

Meléndez Maíz (1998: 28) divided the sherds of Spinden's collection into three groups: Early Ostiones, which resembles Cuevas pottery, Classic Ostiones and Late Ostiones, which trends to Taíno pottery. This sequence is clear in Spinden's trench 1, but not in trench 2, where the depositional sequence seems to be altered.

The topographic map is at a 1:200 cm scale with a contour interval of 10 cm, thus showing a level of detail that is very scarce in the archaeological work in Puerto Rico. The horseshoe form, the summits of five

**United States Department of the Interior
National Park Service**

**NATIONAL REGISTER OF HISTORIC PLACES
CONTINUATION SHEET**

Section 7 Page 13

**Punta Ostiones
Cabo Rojo, Puerto Rico**

=====

middens and the central midden can still be appreciated. The configuration and dimension of the site is similar to that presented by Spinden and Rouse. Nevertheless, there is a considerable variation in the elevation of the middens. For example, according to Spinden, the SW midden was 2 m height, while in Meléndez map it is only 1 m height. He reported that the central midden was almost 3 m height; while at present it measures only 30 cm. Meléndez Maíz (1998: 12-13) suggests that this difference is due to the sandy composition of the central midden, in contrast to the compact shell debris of the others.

Punta Ostiones has been exposed to an ample range of impacts, some more severe than others. For example, the east midden was partially bulldozed to construct a dirt road (Efraín Irizarry, personal communication in Meléndez Maíz 1998: 11). Although the site has been impacted by looters, previous excavations, palm trees and crabs, Meléndez understands that about 50% of the site retains integrity, a fact that is reflected by the horizontal deposition and completeness of the shell in some of the middens (Meléndez Maíz 1998: 14).

Meléndez Maíz (1998: 14) summarizes the internal configuration of the site as a shell mound from food consumption that surrounds the site symmetrically, a central midden that served for ceremonial or hierarchical purposes, and a central residential area. Meléndez understands that the site is significant in addressing research issues related to artifacts typologies, subsistence techniques and demography.

**United States Department of the Interior
National Park Service**

**NATIONAL REGISTER OF HISTORIC PLACES
CONTINUATION SHEET**

Section 8 Page 14

**Punta Ostiones
Cabo Rojo, Puerto Rico**

=====

NARRATIVE STATEMENT OF SIGNIFICANCE

Punta Ostiones site, a large coastal village occupied from A.D. 450 to 1200 by the Ostiones people, is one of the most widely recognized prehistoric sites in Puerto Rico and is central to the history of Greater Antillean archeological investigation. The site meets National Register Criterion D because it has yielded important information, which has contributed to our understanding of human history, as well as its potential to continue to provide more information in the areas of prehistoric archaeology, land use and settlement, economics of subsistence and trade, paleoenvironmental reconstruction and improvement of archaeological methodology.

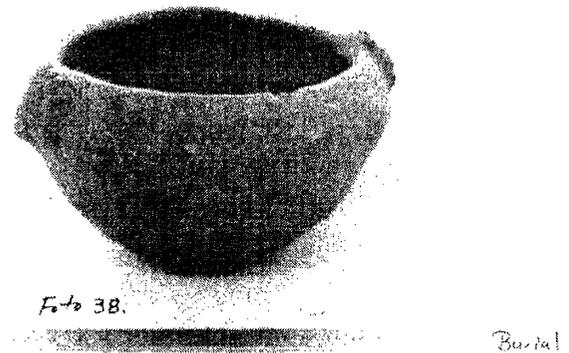
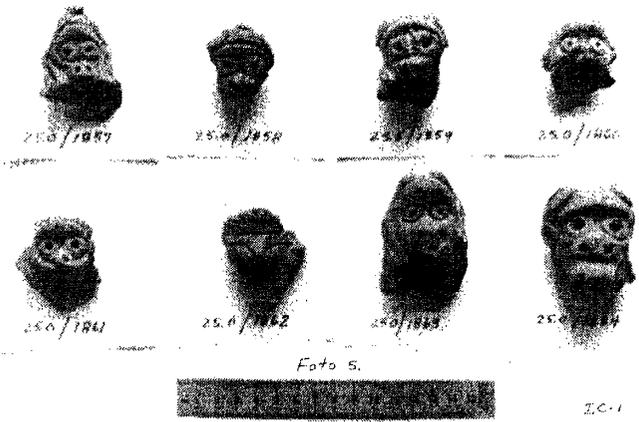
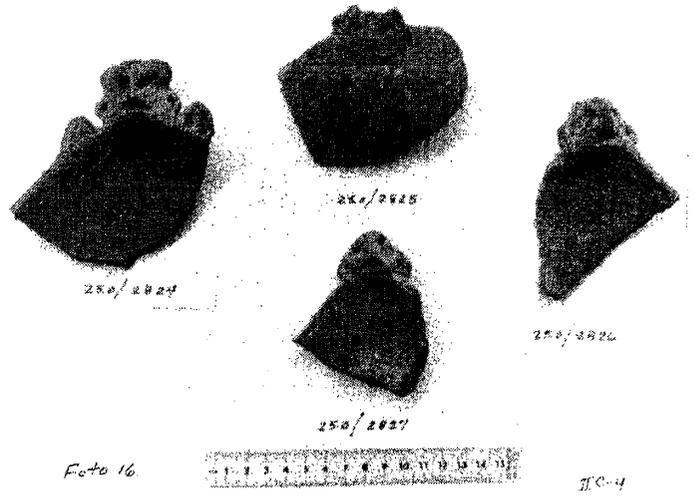
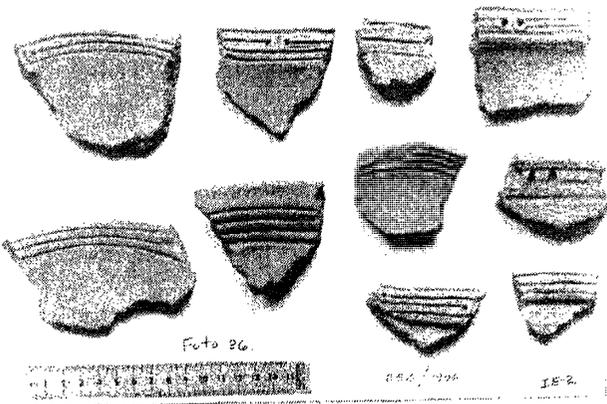
Punta Ostiones is the only archaeological site in the Caribbean that is a type-site for a ceramic style, a series and a subseries. Ostiones pottery style was defined for Period III based on largely single-component excavations at Punta Ostiones and it was named after the site because it is typical of it. The Ostionoid Series was named after the Ostiones Style, both because it was the first style in which the series was recognized and because it is its earliest representative style. The Ostionan Ostionoid Subseries was named after Ostiones Style because it is the style most typical of the subseries, its earliest member and the one where the subseries grouping was first recognized. Punta Ostiones has also been significant in the development of archaeological research in Puerto Rico, as Herbert Spinden conducted the first stratigraphic excavations at the site in 1916. Material recovered from those excavations has been analyzed by Marisol Meléndez Maíz; a sample of such material is illustrated below.

United States Department of the Interior
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES
CONTINUATION SHEET

Section 8 Page 15

Punta Ostiones
Cabo Rojo, Puerto Rico



Photographs of a sample of material unearthed by Herbert Spinden in 1916. Photographs by Marisol Meléndez Maíz provided to the PR-SHPO.

**United States Department of the Interior
National Park Service**

**NATIONAL REGISTER OF HISTORIC PLACES
CONTINUATION SHEET**

Section 8 Page 16

**Punta Ostiones
Cabo Rojo, Puerto Rico**

=====

In addition to the above, Punta Ostiones posses the potential to provide significant data regarding the settlement patterns and organization of Ostionan Ostionoid peoples. This area has not been extensively researched in Puerto Rico. Only recently has research on settlement patterns been specifically addressed (Rodríguez and Rivera 1989, Meléndez Maíz 1993, Curet 1992, Siegel 1992 and Rivera 1997). The sites that have been used to address this issue have been either earlier Cedrosan Saladoid or later Elenan Ostionoid sites.

The analysis of Punta Ostiones mounded middens may provide relevant data to understand these complex features. A common assumption is that the middens consist of secondarily deposited shell from food consumption. Nevertheless, there are some proposals that challenge this shell-as-food-debris concept of the shell middens, proposing alternatives origins and functions. Claassen (1991: 252-285) suggests that the shell mounds may have been intentionally constructed burial mounds with the shell or that the shells might have been used to create a firm and dry base for subsequent occupation. Riser (1987) proposes that shell middens might be middens of fish bait. Siegel (1992) and Meléndez Maíz (1998) believe that mounded middens may also possess ideological and social functions beyond the mere use as a refuse dump.

The site contains data that may aid to corroborate or amplify currently available information on the transition from the Saladoid to the Ostionoid. One of the long standing issues in Puerto Rican archaeology is the nature of Saladoid/Ostionoid transition. While some researchers (Rainey 1940, Lothrop 1927, Harris 1974 and Alegría in Rouse and Alegría 1990) argue that Ostiones represent a separate migration from South America, others (Rouse 1964, 1986, 1992 Hatt 1924, Lovén 1935, Hoffman 1974 and Siegel 1992) argue that it was the result of a gradual in situ process of cultural change resulting in different ceramic styles, diet and settlement patterns. The latter, which is the most widely accepted, proposes that on the frontier of the Mona Passage, the Hacienda Grande people of the early Saladoid series evolved through the Cuevas into a new Ostionan Ostionoid subseries, which gradually expanded into the interior of Puerto Rico and resumed the previous advance into Hispaniola. Punta Ostiones is significant for refining or redefining the characterization of the Ostionoid series, definition that by and large has been limited to ceramic typologies and artifact descriptions. Description of Ostiones ceramic style is based primarily upon Rouse's collections from Punta

**United States Department of the Interior
National Park Service**

**NATIONAL REGISTER OF HISTORIC PLACES
CONTINUATION SHEET**

Section 8 Page 17

**Punta Ostiones
Cabo Rojo, Puerto Rico**

=====

Ostiones. However, his sample was recovered by excavating artificial 25-cm levels, thus restricting the possibility of a stratigraphic analysis of the deposits and the typological dating of the artifacts.

The site is also significant in the area of economics of subsistence and economics of trade. Although information on village organization is not abundant for this series, evidence suggests that Ostionoid site configurations include large coastal villages and probable specialized resource exploitation sites. The location, intra-site settlement pattern and the abundance of maritime resources in Punta Ostiones may provide relevant evidence for understanding Ostionoid site organization, and procurement practices, as well as serving for site catchments analysis. Moreover, the presence of exotic shell species may aid in the understanding of contact patterns and maritime trade dynamics in the Caribbean.

Punta Ostiones is significant in addressing paleoenvironmental reconstruction issues. Middens and mangrove swamps may contain information of climate, flora and fauna (Ruppé 1980: 33). The changing character of invertebrate assemblages, such as mollusks and crustaceans, are indicative of paleoenvironmental change (Carbone 1980: 100). Middens and mangrove swamps also contain information of former coastal geomorphology and sea-level rise. Understanding the site stratigraphy in context of sedimentation and sea-level rise is crucial to understanding the occupational and post-occupational history of Punta Ostiones. According to Upchurch et al. (1992: 67), sea level rise affects littoral sites in three ways. First, the design and utility of the site at the time of occupation may have been affected by sea-level rise. Second, our analysis of the culture that produced the site is affected by concepts of proximity of the sea as a food source, means of travel, and limiting factor with respect to fresh water. Third, preservation of the site and estimations of the original extent and plan of the site may be obscured by inundation.

Punta Ostiones is significant in the area of improvement of archaeological methodology. Excavation at this site may provide information necessary for the adequate management of archaeological sites that have been directly affected by eustatic changes and coastal erosion. Also, it may aid in understanding the formation processes of mounded middens and associated features. The extensive available information of previous excavations may help to understand postdepositional disturbance processes at complex sites.

**United States Department of the Interior
National Park Service**

**NATIONAL REGISTER OF HISTORIC PLACES
CONTINUATION SHEET**

Section 8 Page 18

**Punta Ostiones
Cabo Rojo, Puerto Rico**

=====

Finally, Punta Ostiones has a contemporary significance, as the site's archaeological data is vital to the designation of the area as a natural reserve.

HISTORIC CONTEXT

Caribbean archaeologists frequently use time-space and/or time-form frameworks for their research and theoretical constructs (Spaulding 1960, Rouse 1972: 1-71, Oliver 1995: 12). In the Greater Antilles, the prevailing time-space-form framework was largely developed by Irving Rouse (Rouse 1937, 1992b, Oliver 1995: 12). Rouse's model is based on the notion that the "patterning observed in the archaeological record is a result of the shared ideas and values of a group of people" (Binford 1977: 30). These are reflected in the material culture produced by those groups and can be traced by plotting the attributes (modes and dimensions) of the different artifacts in the different islands. This model assumes that the diversity in material culture in different areas is a result of divergent evolution and cultural branching (Rodríguez Ramos 2001: 23).

THE CERAMIC PEOPLING (2500 B.P. - 500 B.P.): THE CERAMIC AGE

The Saladoid Series

It has been traditionally accepted by Caribbean archaeologists that the next wave of migrants that reached the Antilles originated in the Northern Orinoco river Valley region of Venezuela by around 2500 B.P. (Rodríguez Ramos 2001: 29). The Saladoid peoples, in their migration from the South American coast up the Lesser Antillean island chain, may have arrived at the Virgin Islands, Puerto Rico, and the far eastern portion of Hispaniola as early as 500 B.C. More secure dating places their first appearance around 250 B.C. (Rouse 1992a: 36).

The later part of the Cedrosan Saladoid is represented in Puerto Rico by the Cuevas style, which begins to manifest at about A.D. 400. During this phase, the groups that produced this ceramic style commenced an inland spread although many other sites were still based on the coastal plains (Rodríguez 1992). The sites were arranged in the concentric ring mode that was initially brought to the Antilles by the earliest ceramic

**United States Department of the Interior
National Park Service**

**NATIONAL REGISTER OF HISTORIC PLACES
CONTINUATION SHEET**

Section 8 Page 19

**Punta Ostiones
Cabo Rojo, Puerto Rico**

=====

bearers. Changes in ceramic production included a decrease in polychrome painting, enlargement of ceramic vessels, differential decorative elements between the utilitarian and the ceremonial ceramics, and the implementation of a "highly abstract and formal representational system which melds elements of both aspects of the earlier system of decoration". (Carbone 1980: 26). The manufacture of thin (less than 5 mm), hard and well-made ceramics continues to be found in Cuevas style ceramic assemblages, as does the presence of bowls in the shape of inverted bells. Vessel profiles, however, tend to be rounded, more graceful, and less sharply angled than those of the Hacienda Grande style. A decrease in the proportion of decorated sherds, the elimination of zoned-incised-crosshatching, and the presence of less well-executed white-on-red motifs are among the changes observed in this phase (Rouse and Alegría 1990: 39-49; Rouse 1952a: 336-344). By the late Cuevas period in Puerto Rico, only the red paint was retained, largely limited to the lips and interior bevels of rims or as an overall slip.

According to Oliver (1995: 33) a typical intrasite Cedrosan Saladoid settlement pattern might be a "semicircular or horseshoe-shaped series of mounded middens facing a central open space or plaza nearly devoid of refuse and frequently functioning as a cemetery". The evidence suggests that Saladoid sites do not show signs of undue differentiation in size and content as well as disposition, suggesting ranked villages had not yet developed. Likewise, treatment of the dead showed no signs of ranking; individuals were treated more or less equally in terms of sumptuary goods and other differentiation markers (Siegel 1989; Rouse 1992a: 80; Oliver 1995: 27).

The Ostionoid Series (A.D. 600-1500)

By around 1350 B.P., a new Ostionoid series began to emerge in Puerto Rico. The changes between the Ostionoid and the Cedrosan Saladoid subseries are so dramatic that it promoted a debate on whether they were the result of another migration to the Antilles or simply a local development of the cultures that were already established in the area. This debate was labeled the crab/shell dichotomy because of the dietary shifts from one period to the next, encompassing a change from a land based diet in the early Ceramic Age to a

**United States Department of the Interior
National Park Service**

**NATIONAL REGISTER OF HISTORIC PLACES
CONTINUATION SHEET**

Section 8 Page 20

**Punta Ostiones
Cabo Rojo, Puerto Rico**

=====

maritime exploitation of biotic resources in later occupation phases (Rainey 1940). A number of models have been advanced to understand this shift in dietary patterns (De France 1989: 57): Rainey (1940) proposed a second migration of peoples; Carbone (1980), a paleoenvironmental desiccation theory; Goodwin (1980), a population pressure resulting in the need for intensification and diversification; Keegan (as cited in DeFrance 1989: 57), diet breadth expansion from reduced cost-benefit ratios, and Jones (as cited in DeFrance 1989: 57), increasing population versus reduced food yields. Rainey's and Carbone's models are no longer considered valid, and the other three needs to be refined in order to explain subsistence strategy shifts on a pan-Caribbean basis.

Other dramatic changes along with the advent of this series is the establishment of stone demarcated precincts (Curet and Oliver 1998) and the emphasis of cranial deformation as part of their cultural practices, which began in the latest phases of the Cuevan style, at least in Puerto Rico. In fact, the intensification of the practice of cranial deformation and its presence in only certain individuals has been suggested to represent a formal indicator of social stratification during this period (Crespo 1991).

Ostionoid settlement patterns exhibit both similarities and differences with those of the preceding Early Ceramic period. While it appears that the earlier pattern of mounded middens arranged in a circular pattern around an open central area, with or without a cemetery, continued into the later ceramic age, the number and type of settlements increases. In Puerto Rico, this increase is especially associated with new interior locations (Rouse 1992a: 94; Oliver 1995: 39). Consistent factors in site location include proximity to rivers and defensible positions such as hilltops, ridges and terraces, presumably for protection from natural elements or other populations (Oliver 1995: 39; Cinquino and Hayward 2001: E-25).

Differentiation and site ranking is also evident during the Ostionoid period. Site types include large and small coastal and inland villages, probable individual homesteads, specialized resource exploitation sites (forests and mangroves), specialized small or local ritual areas represented by cave or riverine rock art sites, and specialized local and regional ceremonial sites as indicated by the presence of single and multiple ball

United States Department of the Interior
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES
CONTINUATION SHEET

Section 8 Page 21

Punta Ostiones
Cabo Rojo, Puerto Rico

=====

courts. Nevertheless, information on village organization and house types is not abundant (Hayward et al. 2001: 26).

In the ceramic realm, an increase in the regionalization of styles can be appreciated (Oliver 1995: 36). They discontinued the use of white-on-red painting, decorating most of their ceramics with pink and red pigments while the used of lineal geometric and punctuation incision became the most commonly applied decorative elements. Other changes in ceramic attributes include the use of appliqué and modeled designs, the majority representing zoomorphic elements.

In Puerto Rico, this series is represented by the Elenan Ostionoid subseries in the eastern section, the Ostionan Ostionoid subseries, which was restricted mostly to the western part of the Island, and the Chican Ostionoid.

The Elenan Subseries (A.D. 600-1200)

The initial Elenan Ostionoid style for Puerto Rico is that of Monserrate (A.D. 600-800/900; Period IIIa). Thicker, coarse and lower-fired vessels are produced, with bowls being the predominant form. Softening of the wall profiles continues, accompanied by a significant reduction in the number of secondary shape features, although modeled adorno heads in fanciful shapes and vestigial handles are present. Use of red slip and incising is rare, with red paint and black smudging employed to create simple designs (Rouse and Alegría 1990; Roe et al. 1990, Oliver 1995). The Monserrate style is essentially a continuous development from the Cuevas style characterized by the loss of decorative and formal modes (Oliver 1995: 31).

The Santa Elena style (A.D. 800/900-1200; Period IIIb) also contains thick-walled vessels, with a tendency toward reddish brown-colored sherds. Simple hemispherical bowls constitute most of the shapes and flat bases on all vessels are common. Diagnostic elements include strongly convex, vertical-sided vessels and the presence of cylindrical rim coils. Modeled adorno effigies are common, as are vestigial ridges or strap handles. The use of red paint with black smudging continues from the Monserrate style, but is employed in decreasing frequency (Rouse 1952b, 1982).

United States Department of the Interior
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES
CONTINUATION SHEET

Section 8 Page 22

Punta Ostiones
Cabo Rojo, Puerto Rico

Structured courts are present on Elenan sites. Elenan sites on eastern Puerto Rico exhibit a size and complexity ranking from sites with unstructured plazas to sites with one or two structured plazas and sites with several structured courts and plazas (Oliver 1992).

The Ostionan Subseries (A.D. 600-1200)

Ostionan ceramics have the following traits: well made; lustrous polishing; poorly proportioned sherds and vessels; flat bases (but no annular bases); thin rims with upward-facing flat or round lip; raised loop handles; rectangular lugs; red painting over the entire vessel; all-over polish; complex appliquéd and modeled designs (usually zoomorphic); and, later, geometric line-and-dot incision in horizontal bands (Oliver 1995: 29). Rouse (1952b: 343) recognized much change in the 600-year span:

The following changes, among others, take place: (1) thickened lips beveled inwards are common in the lower levels, as in the previous Cuevas deposits, but in the upper levels their place is taken by bevels distinct from the lip; (2) red (frequently pink) paint, at first limited to single elements of shape such as the beveled lip, becomes increasingly over-all; (3) plastic designs increase in frequency and complexity, with application, incision, and punctuation more and more lavishly used to delineate the elements of designs; and (4) incised designs reappear in.

Although Rouse recognizes only one Ostiones style, it is best to subdivide it into Early (or pure) Ostiones, which corresponds to Period IIIa and Late (or modified) Ostiones, which corresponds to Period IIIb.

The rectangular stone adze of the Saladoid period was replaced during the Ostionan by the petaloid stone celt. Other chipped stone items in Ostionoid material culture such as flake tools, hammerstones, and manos are known, but not fully described. Ritual zemi objects were produced in stone, shell, and clay during the Ostionoid period, rather than from exotic materials. It is widely believed that Puerto Rican petroglyphs became common during this time.

Excavations of middens dating to this period indicate that manioc, shellfish, birds, and fish were the major elements of the people's subsistence. There is a significant shift to the exploitation of marine shells and

**United States Department of the Interior
National Park Service**

**NATIONAL REGISTER OF HISTORIC PLACES
CONTINUATION SHEET**

Section 8 Page 23

**Punta Ostiones
Cabo Rojo, Puerto Rico**

=====

the intensification of a previously utilized maritime resource while the exploitation of crabs all but disappeared. Sites also become more specialized with regard to resource exploitation.

The Early Cedrosan horseshoe-shaped mounded "village" with a single central/plaza cemetery continued into later Ostionan periods. Also by Period IIIb, the central plazas were delineated by a batey, a stone-lined enclosure commonly called a "ball court" or "dance court". Ostionan site types include large coastal shell middens, inland sites with shell, inland ball courts, and cave petroglyph sites. The earlier unmarked central plaza shifted to a central plaza with stone alignments but continued to be a multifunctional public space (Oliver 1992). By Period IIIb, an apparent village/site hierarchy developed, with satellite villages and extractive sites apparently subordinated to larger villages with stone-lined courts. By this time, village sites include those with unmarked single plazas surrounded by middens, continuing the Cedrosan configuration; sites with a single marked central court; and high-ranking sites with multiple marked courts (Oliver 1992). The widespread occurrence of zemis and ball courts suggests that a ritualistic, hierarchical chiefdom system was present in Puerto Rico at this time. This ranked social system, although modified, probably continued into the early historic period.

Beside the type site at Punta Ostiones, other sites used in determining chronological placement include Boqueron, Calvache, Las Cucharas, Las Mesas, Llanos Tunas (Rouse 1952a), Abra, Buenos Aires, Cañas, Carmen, Diego Hernández, and Pitahaya (Rouse 1952b: 544).

Most Ostionan sites in south-central Puerto Rico are either on the Coastal Plain or at the interface between the foothills and the coastal Plain.

The Chican Ostionoid subseries (A.D. 1200-1500)

By about 750 B.P., the Ostionoid series developed in Puerto Rico and the Dominican Republic into what is commonly known as the Taino, or Chican Ostionoid subseries, the groups that represented the climax of development of the pre-Columbian cultures of the West Indies. These were supposedly organized in a complex system of chiefdoms supported by the development of large villages. These villages were controlled

United States Department of the Interior
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES
CONTINUATION SHEET

Section 8 Page 24

**Punta Ostiones
Cabo Rojo, Puerto Rico**

=====

by centralized political systems and supported by intensive agriculture, highly developed fishing technologies (both fish harvesting and free fishing), and a stratified societal system. Hard rock sculpturing reached its highest level as very complex forms of zemis and stone collars were being produced. Unfortunately, these people disappeared as a cultural entity shortly after the invasion of the Spaniards due to the regime of life that they were submitted to after their "greeting".

The Chican Ostionoid pattern developed directly out of the general Ostionoid complex of eastern Hispaniola, and then spread westward across the island with outposts established on the eastern end of Cuba, and eastward into Puerto Rico with similar outposts on St. Croix, in the Virgin Islands, and the northern Leeward Islands (Hayward et al. 2001: 24; Rouse 1992a: 27).

Chican Ostionoid ceramic styles present in Puerto Rico are Boca Chica, Esperanza and Capá. The intrusive Boca Chica ceramic style in Puerto Rico is characterized by complicated vessels forms, prismatic and flat lugs, common polishing, limited red painting (always over the entire vessel), and elaborate incised, modeled, and punctated designs (Oliver 1995: 34). The Esperanza style ceramics, named for the type site on Vieques Island, resemble the earlier Santa Elena material in their vessel form and simple decorative elements. The most prevalent decorative technique of Esperanza vessels was incising, which are characteristically broad-lined and widely spaced and usually in patterns formed by pairs of parallel, arched lines, frequently accompanied by punctuations (Oliver 1995: 35). Capá style pottery is characterized by broad line incisions, geometric and zoomorphic lugs, and common appliqué and modeling. Vessel forms are commonly incurving *cazuela* bowls and the vessels paste is soft and sandy (Oliver 1995: 36). The rims of this period are particularly diagnostic, are predominantly tapered and everted, and have a narrow lip rounded inward (Rouse 1952b: 351).

United States Department of the Interior
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES
CONTINUATION SHEET

Section 9 Page 25

Punta Ostiones
Cabo Rojo, Puerto Rico

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United States Department of the Interior
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES
CONTINUATION SHEET

Section 9 Page 26

Punta Ostiones
Cabo Rojo, Puerto Rico

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United States Department of the Interior
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES
CONTINUATION SHEET

Section 9 Page 27

Punta Ostiones
Cabo Rojo, Puerto Rico

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NATIONAL REGISTER OF HISTORIC PLACES
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Section 9 Page 32

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Section 9 Page 33

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