

2.

BAY OF CULEBRA SURVEY

by

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RESUMEN

La prospección en la Bahía de Culebra fue realizada después de investigaciones en sitios específicos en la zona. La investigación tuvo el propósito de ubicar sitios en peligro debido al desarrollo turístico planeado para la zona; así como establecer algunas prioridades para la excavación, rescate, y preservación de los sitios dentro del proyecto turístico. La prospección incluyó un 88% de la zona del proyecto turístico, y localizó 60 sitios prehistóricos. La mayoría de los sitios fueron encontrados en las bocas de los vallecitos alrededor de la bahía, con sitios pequeños fuera de ella, o en lugares sin agua dulce permanente. Generalmente, los sitios grandes fueron ocupados durante toda la secuencia temporal.

INTRODUCTION

Following work in Nosara in 1972-1973, Lange shifted his research emphasis to the Bay of Culebra. Some of the best known examples of Nicoya polychrome pottery (Lothrop 1926) have long been identified with the bay. The region was first described archaeologically by Flint after a visit in 1882. During the 20th century, Aguilar did some work at Playa Panamá, Haberland visited the site of Nacascolo shortly before the 1948 revolution in Costa Rica (personal communication), Stone (1966) reported on a status burial from Nacascolo, and Baudez (1959) excavated at the site of Papagayo on the northeastern side of the bay.

GEOGRAPHICAL SETTING

The Bay of Culebra is located in a region characterized by plains, low mountains, and hills of mainly volcanic origin (West 1964b:380). Large volcanoes, including Orosi, Rincón de la Vieja, Miravalles, and Tenorio are located 30-40km to the east of the bay. The coast is hilly, with short crescentic sandy beaches and small estuary systems formed in small valleys between rocky headlands (West 1964a:80-81).

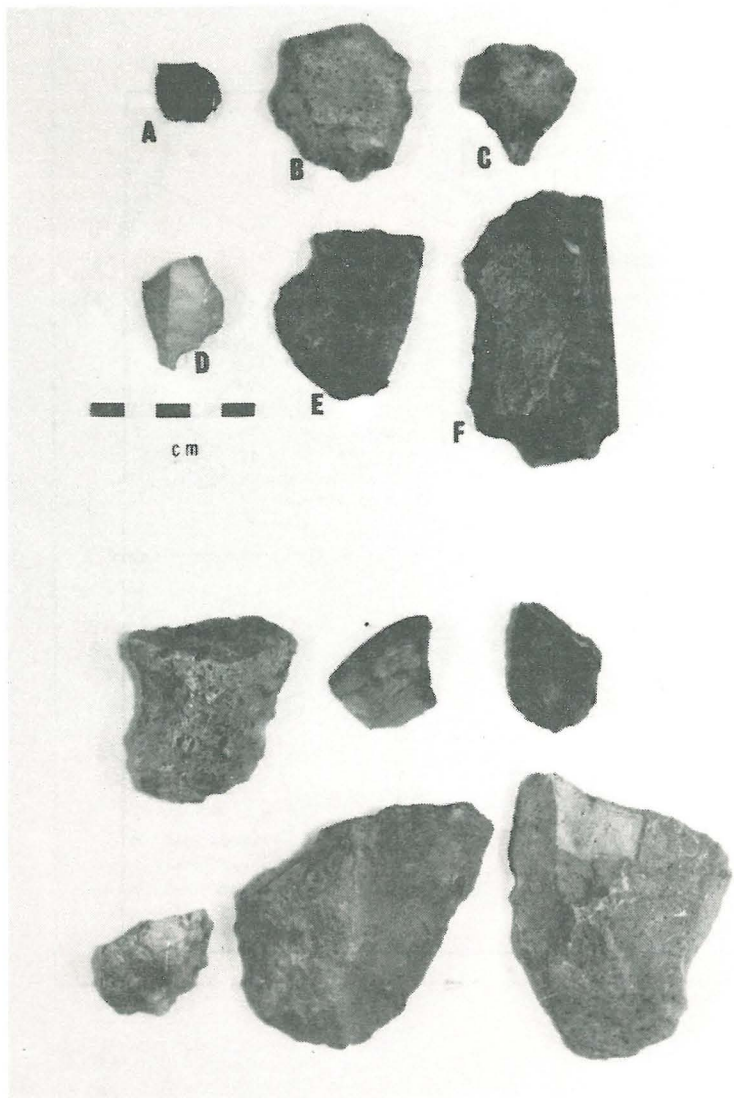


Figure 1.3 Archaic stage lithic implements, Rio Sapoa Area.

The Bay of Culebra is one of two large bays on the Pacific coast of Costa Rica which provided protection from strong off-shore winds, and offered Precolumbian harbor facilities that helped to stimulate coastal trade. The winds are strongest from December through May, the dry season.

Topography and soil conditions around the bay combine to limit agricultural productivity in most areas adjacent to the coast. Most Precolumbian agriculture was probably carried out on the more fertile Tempisque River plain east of the headlands surrounding the bay (see Figure 1).

ARCHAEOLOGICAL RESEARCH IN THE 1970's

In 1971, March (1971) did a brief study of the Playa Panama area as part of a broader coastal survey undertaken by Alan Schroedel and supervised by Daniel E. Shea (Beloit College). In 1973, Shea was again conducting research in Costa Rica, this time in the General Valley with the Associated Colleges of the Midwest Central American Field Program. At the same time Lange was completing the initial work in the Nosara Valley and considering additional coastal work midway between the Salinas/Santa Elena zone and the Nosara Valley; he sought an area that would offer additional potential for finding remains of prehistoric trade networks. The Bay of Culebra was in the appropriate geographical setting and Chapman (1957) had identified the bay as a Precolumbian port-of-call or trade enclave; in addition, various plumbate vessels, Ulua marble vases, a stuccoed double whistling jar, and a stuccoed Teotihuacan tripod had reportedly come from sites on the bay, suggesting a pattern of extra-regional contacts. Shea recommended the Playa Panama area and after a preliminary reconnaissance, research was initiated on the bay and continued for many years.

1973 SEASON

The 1973 research entailed a brief reconnaissance of major sites around the bay; all sites encountered were large coastal shell midden complexes and were well-known (and well exploited by local pot-hunters). Jícaro and Venado beaches on the north side of the bay served as base camps for geological surveys designed to develop a background knowledge of local lithic and clay types.

Logistical limitations (no permanent access to a boat and/or motor and no access to the north side of the bay by road) meant that principal efforts focused on the south side (which was reached by a road only late in 1972). Research was conducted at the Vidor site on the lowlands and the Hunter-Robinson site, an "inland" midden accumulation (Moreau 1980), in a similar location to that of site 67 (Lange 1971:120) described earlier for the Bay of Salinas. In addition, Moreau briefly tested a site in the Sardinal River Valley (Moreau 1980) which also had marine mollusca remains.

In beginning the work on the Bay of Culebra, the three stage settlement pattern research design was distinctly inverted: the site level was applied first because of ease of accessibility, rather than having been derived from a systematic background survey of the entire region.

1976 RESEARCH

Research continued in the Bay of Culebra area in 1976. Survey efforts were centered on the Sardinal River Valley (see Finch and Swartz, this volume) on the south side of the Bay. The presence of shell middens at the site tested by Moreau in 1973 and surface shell at other valley sites clearly indicated a subsistence network linked to adjacent coastal areas. The presence of some shell even further inland at Hacienda Tempisque (on the river of the same name) raised the possibility of a wider-ranging coastal-Tempisque River Valley trade pattern.

1977 AND 1978 RESEARCH

Sardinal

One result of the Sardinal Valley survey was further testing at the Ruiz Site (Lange 1980a) during 1977. Interest in the site had been spurred by finding the fragment of a lost wax gold mold on the surface (Finch and Swartz, this volume: fig. 3.2; Lange and Accola 1979). It was hoped that testing and excavation might reveal additional evidence of either metallurgical or trade endeavors. Additional research at the site was supported by the National Museum of Costa Rica and the National Geographic Society. The objectives were not realized, but chronologically-related metallurgical and environmental data from the site helped to develop our understanding of the relationship between coastal and near-coastal sites.

Guacamaya

The Guacamaya Valley was the coastal extension of the Sardinal Valley survey area during 1977. The beach at Guacamaya is generally open to the ocean, and does not present a very favorable setting for marine mollusca habitation. Interest in the area and access to the land was encouraged by Rodrigo Soto in 1977, and by the owner, Don Carlos Saborio, whose wife had amassed a collection of archaeological material from Guacamaya. Don Carlos generously provided transportation by private plane for a preliminary inspection of the area, and once the decision to carry out a survey there had been made, placed housing and other facilities at the disposal of the crew. The survey at Guacamaya was conducted by Lynette Norr, Elena Troyo, Gloria Hernández (National Museum of El Salvador), Juan Vicente Guerrero, John Lawrence, and Rodrigo Soto.

Inspection of deep erosional cuts in the valley floor revealed buried cultural levels and substantial geomorphological alteration of the terrain. Shell middens, although not nearly as large or as numerous as those on the Bay of Culebra and Bay of Salinas, were clustered in one area in the middle of the valley floor. Surface debris

produced concentrations of Early, Middle, and Late Polychrome materials, as well as shell and animal bone. A small gold frog (Figure 2.1) was also surface collected and is a further indication of prehistoric metallurgy in the area (Lange and Accola 1979). This was a small, thin gold frog of a style generally considered to have been locally made in Greater Nicoya (Héctor Gamboa, personal communication) rather than imported. Late Zoned Bichrome and Early Polychrome materials were found in the largely looted cemeteries at the base of the slope on the edge of the valley. Thus, the geographical location of early cemeteries appears to have been similar in both the Guacamaya and Nosara (see Guerrero, this volume) valleys.

Systematic survey did not begin on the Bay of Culebra until 1978, when massive site destruction was threatened by a proposed tourist project. This in turn caused sufficient funds to be made available so that previous logistical impediments to survey on the north side of the Bay were to some extent alleviated.

THE DEVELOPMENT OF TOURISM IN COSTA RICA AND THE BAY OF CULEBRA PROJECT

Many countries in the tropical areas of the world have viewed the development of international tourism as a means of stimulating economic development. Costa Rica has been no exception, and, after a rather slow start in the 1960's, the 1970's saw a strong emphasis on development of tourist centers to attract foreign investments and vacationers. The Bay of Culebra has figured prominently in Costa Rica's plans to become more competitive into the international tourist market.

Having decided in the late 1970's to go ahead with the Bay of Culebra project, the Instituto Costarricense de Turismo hired a Project Coordinator to begin developing guidelines for the feasibility studies. In April of 1976, Project Coordinator (Javier Bolanos, an architect), aware of the archaeological importance of the area, contacted the National Museum of Costa Rica to discuss cultural resource ramifications of the project. It is important to indicate that this action was taken at the initiative of the Project Coordinator. Some care was taken to explain the archaeological importance of the area to the project coordinator, and this resulted in the following phrasing being included in the guidelines (ICT 1976:12) given to companies bidding for the contract for the feasibility study:

Por ser el area una de las principales, si no la principal, zona arqueologica del pais, se debe definir su proteccion, correcta exploracion y su aprovechamiento como recurso turistico, respetando las leyes que al respecto existen; todo debidamente coordinado con el Museo Nacional, analizando la posibilidad de establecer estrategicamente un Museo Regional.

Concern for the cultural resources on the bay is not simply a matter of mitigating the destruction of yet another group of archaeological sites, but of dealing with the loss of primary data from one of Costa Rica's most important archaeological areas, and perhaps one of the most important on the entire Pacific coast of Lower Central America.

In August 1978, when the then new Carazo government requested additional archaeological site survey in the tourist project area, rapid survey located 27 additional sites. This confirmed intuitive impressions that Pre-columbian remains were highly varied and almost contiguous. A copper bell was excavated from Nacascolo on the north side of the bay (from a burial associated with ceramics with Mexican motifs; Wallace and Accola 1980), and obsidian blades (which have no known sources in Costa Rica) blades have both been surface collected and excavated from the Vidor Site on the south side of the bay. Recent studies of obsidian blades from both Nicaragua and northwestern Costa Rica (Stross, Asaro, and Michel n.d.) suggest Guatemalan and El Salvadoran sources for most of these blades. Finally, an Ulua, Honduras marble vase fragment which was also found at Vidor, also supported the contention that this area had received external contacts from the Mesoamerican Early Classic on. As a possible center of trade, the bay was also a regional center, and previous studies had indicated that locations peripheral to the bay participated in a regional socio-economic system. Finally, substantial documentation on the archaeology of the bay and its importance already existed (Abel 1978; Accola 1978a; Lange 1976, 1977b, 1978a; Stone 1966). Conserving and salvaging data from the area was a major cultural resource management problem.

We were concerned with both *primary impact*, resulting directly from the decision to build a hotel in the place where a site is located, and *secondary impact*, resulting in the destruction of additional sites through infra-structure projects such as road building, drainage ditch and sewer installation, power line strips, and the like. The potential impact of development on cultural resources is less pronounced when temples or other architectural features are not visible.

Even during the research and survey in 1978, we lost one site (the Hunter-Robinson site; Moreau 1980) near the Bay of Culebra as a result of road building and improvement. This happened despite coordination among the Museum, the Office of Planning, and the Ministry of Transport. In a common bureaucratic slip, agreements reached in the office were not communicated to field personnel.

Other Bay of Culebra Research Prior to the Survey

Also during 1978, sites at Puerto Culebra, Nacascolo (Wallace and Accola 1980), and Monte del Barco (Accola and Ryder 1980) were tested. Excavations at Puerto Culebra revealed a large habitation/mortuary complex, apparently spanning all four temporal periods. The northern portion of the site was marked by shallow midden deposits, the central sector by large shell middens and inter-midden mortuary

areas, and the southern end by a Zoned Bichrome/Early Polychrome cemetery. Near the beach, middens with thick pottery concentrations similar to Panama Salinas (Bonilla, Calvo, and Salgado, this volume) were found, but no shell was present. No testing was done in the latter area. A large portion of this site was wantonly destroyed by U.S. nationals in 1982.

As noted above, preliminary excavations at Nacascolo yielded two status burials accompanied by a trade copper bell from Mesoamerica and reflecting interment and grave offering practices not previously recovered through scientific methods in the Bay of Culebra region. The skeletal material has been analyzed by Wallace and the ceramic data by Accola (Wallace and Accola 1980). Several shell middens at this site were also tested and many were found to have mixed deposits. Extensive research at this site has continued (see Vázquez, Ch. 5, this volume).

Excavations at the single component Monte del Barco site revealed a thin midden deposit dating to the Panama phase of the Middle Polychrome period. The site was somewhat unique as a single component unit, and indicated either one or more brief occupations. It is suspected that this site may have served as a temporary procurement station, an interpretation supported by analysis of the mollusca species present in the midden (Accola and Ryder 1980).

Thus, a relatively concentrated research effort had been made in the Bay of Culebra area prior to undertaking the survey described in this report. This prior work had gradually stimulated awareness of the importance of the region, and not just the sites immediately located on the bay itself. The Hunter-Robinson and Sardinal midden sites clearly indicated the relationship of sites further inland with coastal resources, while the Monte del Barco site pointed out the potential importance of even very small sites for understanding subsistence patterns in the area. Excavations at Puerto Culebra and at Nacascolo indicated we could not depend entirely upon the Vidor Site excavations to model our regional strategy, and that still little understood variables were present in the bay region with regard to settlement and subsistence patterns.

Methodologically, this implied that we had to attempt the most intensive coverage possible in considering our survey strategy. Even very small sites needed to be accounted for, and the site density was so great that the impact of the tourist project would be very substantial. A detailed survey would best allow negotiations with the Tourist Board prior to the construction stage when it might be possible to save a site by slightly shifting the location of a road or power line.

We had, in fact, hoped that the tourist project would be at the stage of laying out stakes and other construction guidelines by the time we were done with the survey, so that our respective maps and concerns might be closely correlated

in the field. Because of delays in the financing of the tourist project this was not possible. This level of detailed coordination will need to be achieved at some point in the future, if in fact the tourist project is ever completed.

SURVEY RESULTS

The results of the survey are summarized in Table 2.1 and illustrated in Figures 2.2, 2.3, and 2.4. In addition, three more Late Polychrome sites were reported found near Nacascolo (John Lawrence, personal communication) as part of intensive survey related to the excavations at that site. Detailed location data are on file with the National Museum of Costa Rica.

With the exception of the Ruiz Site, sites with all four major components were located in the valleys of major estuary systems draining into the bay. It is probable that the single, double, and triple component sites found in other locations represent specialized activity, or seasonal habitation, settings of populations from the larger sites. Sites such as the Hunter-Robinson site appear to have been located to provide equal access to both the bay and the Sardinal Valley, while sites 3047I-47-1 and 47-2 appear to represent farming activities by persons who were either related to, or part-time residents of, sites on the bay proper. All of the sites around the Bay of Culebra, and those between the bay and the valleys of the Sardinal and Tempisque Rivers, were part of a larger regional system which was principally focused on the bay, but also on the river valleys. One remaining question is the extent to which the extensive mortuary activities reflected at the Hacienda Tempisque (Day 1982) represents the interment of persons who lived on, or around, the Bay of Culebra. Systematic research is required to fill out the skeleton of the regional system documented by the survey.

TABLE 2.1

ZB = Zoned Bichrome (c. 600 BC - AD 500)
 EP = Early Polychrome (AD 500 - 800)
 MP = Middle Polychrome (AD 800 - 1200)
 LP = Late Polychrome (AD 1200 - c. 1550)

| Site No. | Components | Site Name |
|-------------|----------------|------------------------|
| 3047I-9-1 | ZB, MP | Sitio Zapotillal |
| 3047I-10-1 | EP, MP, LP | Sitio Papagayo |
| 3047I-11-1 | EP | |
| 3047I-11-2 | EP | |
| 3047I-21-1 | LP | |
| 3047I-21-2 | undefined | |
| 3047I-36-1 | EP | |
| 3047I-37-1 | EP | |
| 3047I-38-1 | MP | |
| 3047I-38-2 | EP | |
| 3047I-40-1 | ZB, LP, MP, LP | Sitio Puerto Culebra |
| 3047I-47-1 | ZB, MP, LP | |
| 3047I-48-1 | LP | |
| 3047I-61-1 | LP | Sitio Isla Huevos |
| 3047I-63-1 | MP, LP | Sitio El Conchal |
| 3047I-64-1 | ZB, EP, MP, LP | Sitio Manzanillo |
| 3047I-64-2 | LP | |
| 3047I-66-1 | LP | Sitio Culebra Salinas |
| 3047I-67-1 | EP, LP | Sitio Punta Piedra |
| 3047I-75-1 | MP | |
| 3047I-81-2 | | La Máscara* |
| 3047I-89-1 | ZB, EP, MP, LP | Sitio Nacascolo |
| 3047I-90-1 | | La Cascabel* |
| 3047I-95-1 | EP | Sitio Iguanita Salinas |
| 3047I-95-2 | undefined | |
| 3047I-97-1 | EP | |
| 3047I-102-1 | ZB, EP, MP | |
| 3047I-116-1 | MP, LP | Sitio Jícaro |
| 3047I-116-2 | LP | Sitio Punta Perla |
| 3047I-116-3 | | El Chaperno* |
| 3047I-116-4 | | El Jobo* |
| 3047I-117-1 | EP, MP | |
| 3047I-122-1 | MP, LP | Sitio Iguanita |
| 3047I-122-2 | EP, MP | |
| 3047I-123-1 | undefined | |
| 3047I-141-1 | EP | Sitio Virador |
| 3047I-143-1 | LP | Sitio La Molonga |
| 3047I-143-2 | LP | |
| 3047I-147-1 | MP | |
| 3047I-177-1 | undefined | Sitio Monte del Barco |
| 3047I-178-1 | EP | |
| 3047I-180-1 | ZB, EP | |
| 3047I-198-1 | LP | Sitio El Rastrojo |
| 3047I-200-1 | Undefined | Sitio Rocha |
| 3047I-200-2 | EP | |
| 3047I-224-1 | ZB | Sitio Loma Corral |
| 3047I-226-1 | EP | Sitio Cerro Soto |
| 3047I-226-2 | MP | |
| 3047I-226-3 | undefined | Sitio "Flood Plain" |
| 3047I-226-4 | EP | |

TABLE 2.1 CONTINUED

| Site No. | Components | Site Name |
|-------------|----------------|-----------------------|
| 3047I-227-1 | EP, MP, LP | Sitio Panamá Salinas |
| 3047I-227-2 | EP | |
| 3047I-227-3 | EP, MP | Sitio Los Bananos |
| 3047I-252-1 | undefined | |
| 3047I-253-1 | ZB, EP, MP, LP | Sitio Vidor |
| 3047I-253-2 | EP | |
| 3047I-260-1 | EP | |
| 3047I-278-1 | MP | Sitio Playa Hermosa |
| 3047I-305-1 | LP | Sitio Hunter-Robinson |
| 3047I-309-1 | EP | Sitio Cerro Mozotal |
| 3047I-315-1 | EP | |
| 3047I-337-1 | ZB, EP, MP, LP | Sitio Ruiz |
| 3047I-364-1 | MP | Sitio Q. Santa Rita |
| 3047I-416-1 | EP | Sitio Cerro Tabores |

*see also Vázquez, Ch. 5, this volume.

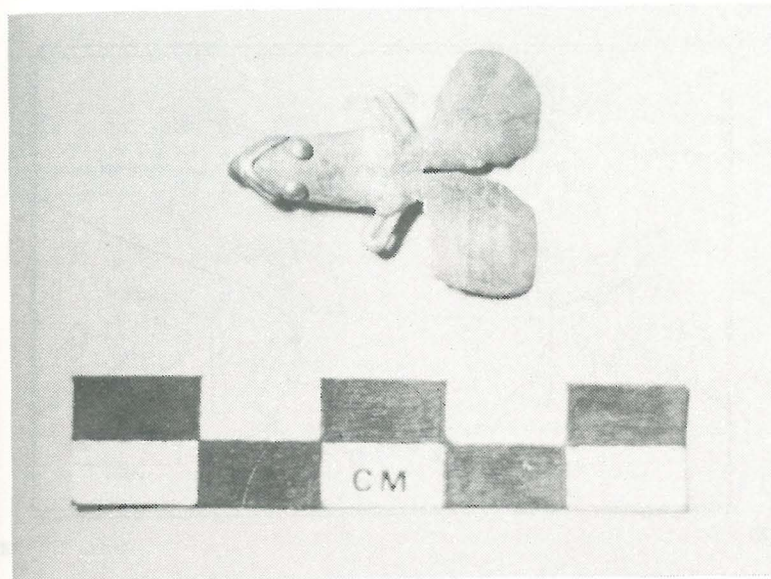
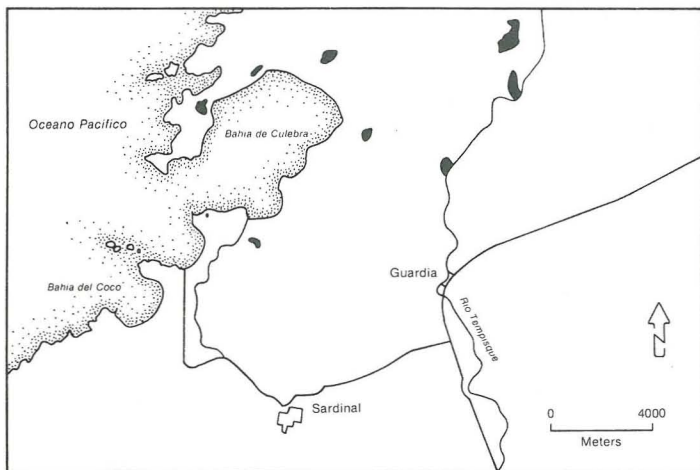
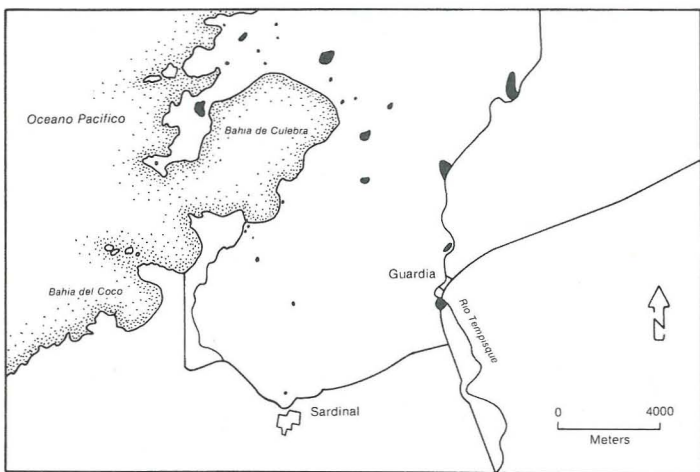


Figure 2.1 Gold frog pendant, surface collected from a Late Polychrome Period shell midden surface at Guacamaya.

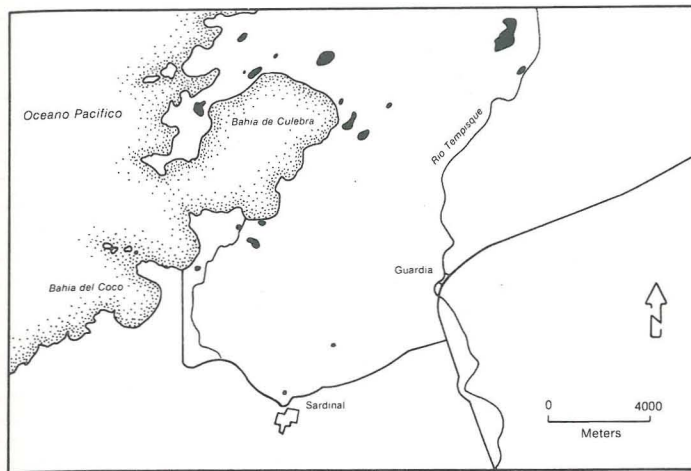


A

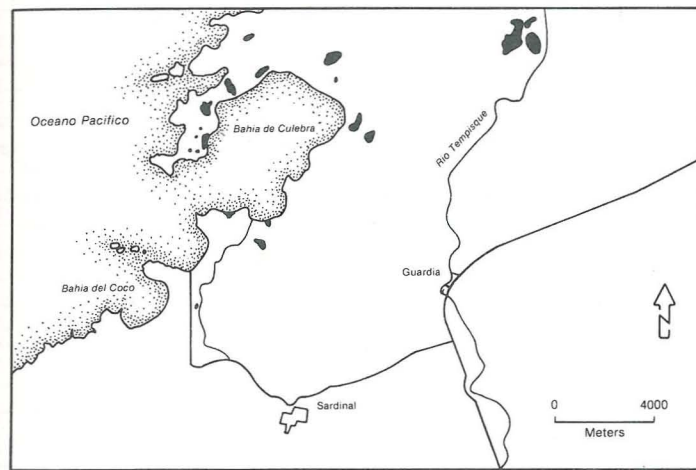


B

Figure 2.2 (A) Zoned Bichrome (600 BC - AD 500) and (B) Early Polychrome Period (AD 500 - 800) site locations, Bay of Culebra.

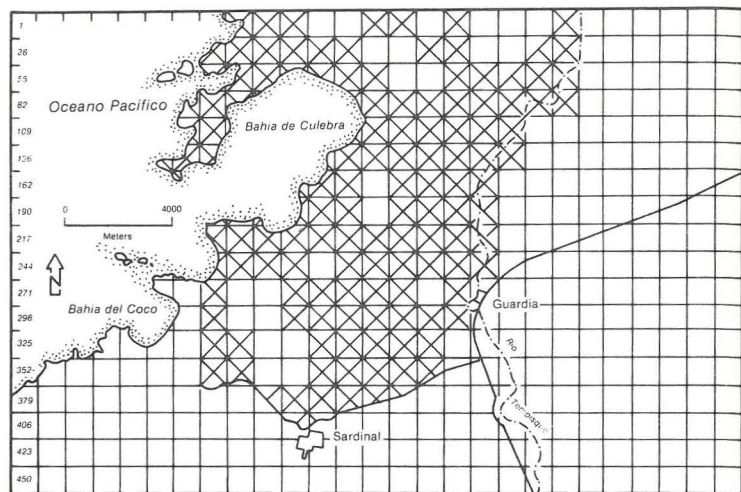


A

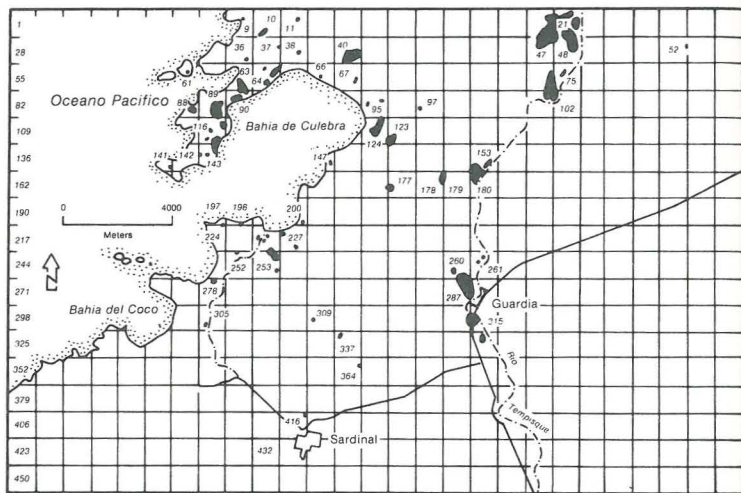


B

Figure 2.3 (A) Middle Polychrome Period (AD 800 - 1200) and (B) Late Polychrome (AD 1200 - 1550) site locations, Bay of Culebra.



A



B

Figure 2.4 (A) Area surveyed and (B) sites located, Bay of Culebra.