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THE JAMBELÍ CULTURE OF SOUTH COASTAL ECUADOR

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THIS BRIEF REPORT is the result of fieldwork from 1958 to 1961 in the mangrove swamps and *salitres* of the southern Ecuadorian coast. The survey of the Jambelí islands was undertaken during the summer of 1958 by Estrada, Meggers, and Evans. In 1960, Estrada tested stratigraphically a site, identified as G-84, within the present town of Posorja. Early in 1961, he made a preliminary survey of the *salitres* of Lagarto and El Morro. During the summer of that year, the three authors revisited this area and the sites on the southeastern coast of Puná Island. The strata cut at G-86 was also part of the final season's work. All the pottery was classified at the Museo Víctor Emilio Estrada, and notes taken there are the basis for the type descriptions. Except for type samples of sherds, all pottery and other artifacts were deposited in the Museo Estrada.

Most of the area occupied by the Jambelí Phase sites is not under private ownership, but we wish to express our appreciation to the many local residents for their guidance and assistance with excavation. Particular thanks are due Jorge Swett, who secured permission for us to investigate G-86, one of three sites that has sufficient depth for stratigraphic excavation. In Guayaquil, Walter Molina assisted in processing the sherds for analysis. In Washington, we are indebted

to George Robert Lewis for the line drawings of specimens, and to Judith Hill for typing the manuscript.

For support of certain of the field expenses during the 1958 season, the junior authors received Grant 2370 from the Penrose Fund of the American Philosophical Society. The 1961 investigations were part of Project J of the program organized by the Institute of Andean Research on "Interrelationships of New World Cultures," financed by a grant from the National Science Foundation. To all three organizations, we wish to express our deep appreciation.

Completion of this report was delayed by the unexpected death of the senior author in November 1961. Although he did not see the final version of the manuscript, we have retained the authorship we had agreed upon together, not only because we believe that Estrada would accept its content, but because without his persistence the Jambelí culture, represented by some of the most unproductive and uninviting sites to be found on the Ecuadorian coast, would have remained only superficially known.

## Geographical Distribution and Site Characteristics

Sites of the Jambelí culture occur on the coastal portions of the Provinces of El Oro and Guayas, extending from the Peruvian border up the coast and around the Gulf of Guayaquil to the vicinity of Playas (fig. 1). All the sites included in this survey are located on the peninsula between Playas and the Canal del Morro, on Puná Island or on the islands off the coast of El Oro. Sherds of Jambelí pottery types are reported from Tendales in El Oro Province, but this part of the mainland and the portion of Guayas Province extending along the eastern side of the Gulf of Guayaquil have not been surveyed.

Today, this region does not present the uniform appearance that it must have had during the existence of the Jambelí culture. The Playas-Posorja area has suffered noticeable desiccation within the memory of the residents, so that only small remnants are left of the mangrove swamps that once occupied about 50 percent of the area. Their former extent is indicated by the dotted lines representing the boundaries of the large *salitres* that have taken their place (fig. 2). This part of the coast now receives little rain, forcing the abandonment of once prosperous cattle ranches and reducing to ghost towns formerly populous communities. The same environmental situation exists on Puná Island except for the southeastern part, which is low and broken into small islands of mangrove giving it an appearance comparable to that of the islands of El Oro to the south (fig. 3).

The distribution and character of the Jambelí Phase sites indicates that the southern portion of the area conserves the appearance that

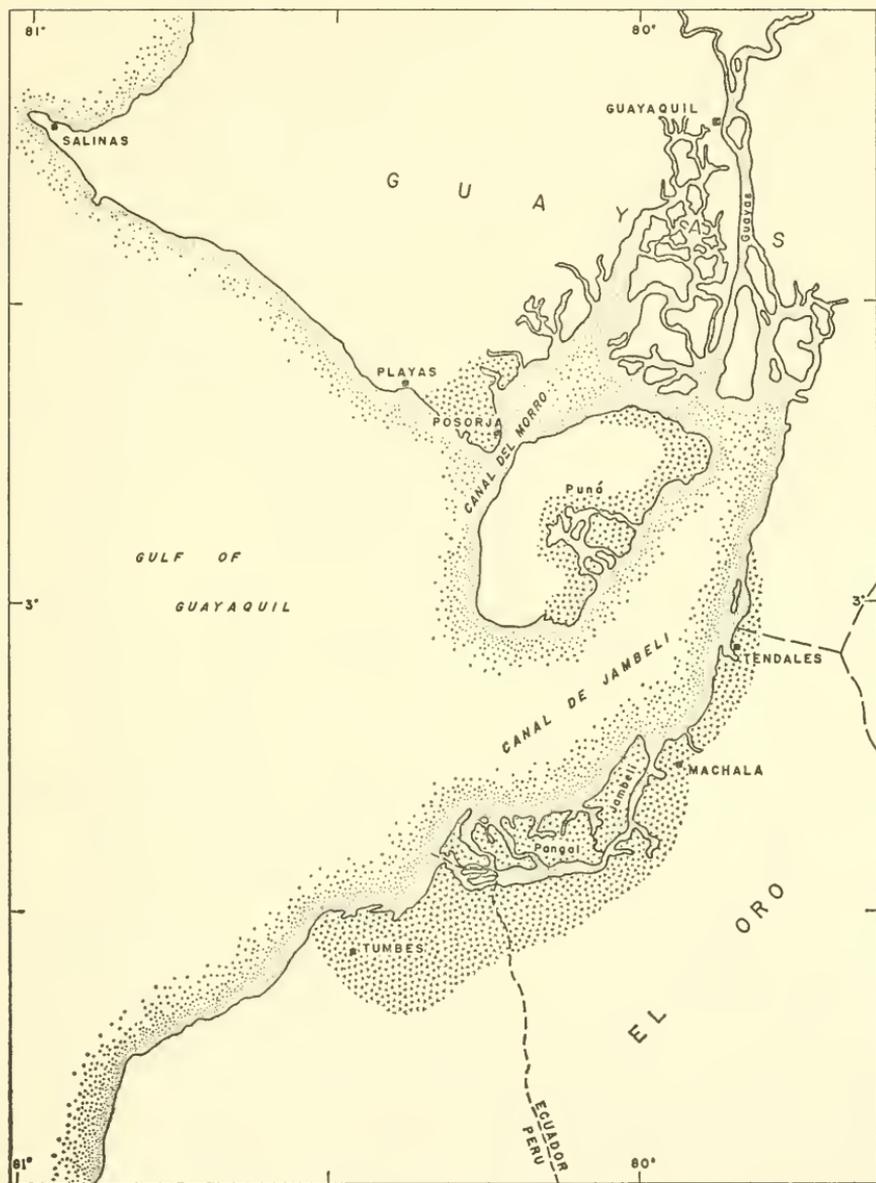


FIGURE 1.—Map of the southern coast of Ecuador, showing the approximate area occupied by sites of the Jambelí Phase.

the northern portion must also have presented around the beginning of the Christian Era. The mangrove islands extend at the present time from the Peruvian border northeastward to the vicinity of Machala along the coast of El Oro Province (fig. 4). The western side, exposed to the ocean, is subject to erosion from pounding waves,

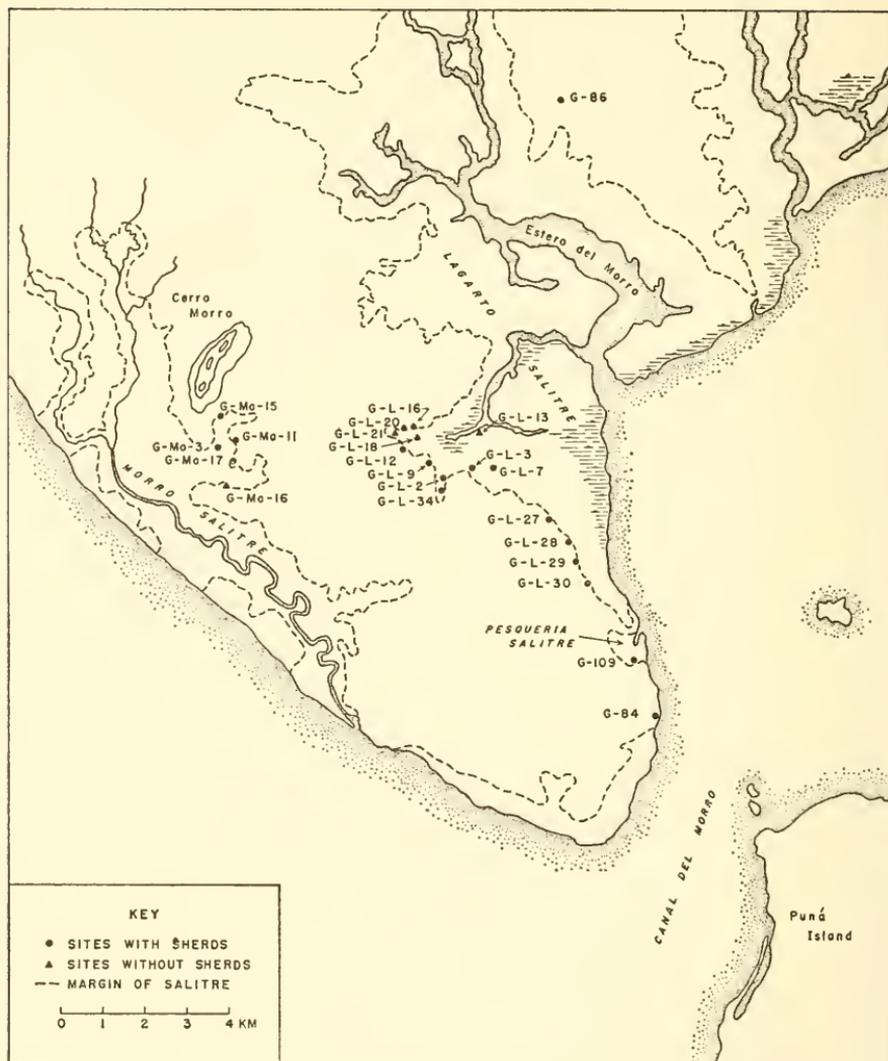


FIGURE 2.—Map of the southern Guayas coast, showing the locations of the Lagarto and Morro salitres and sites identified with the Jambelí Phase.

particularly evident at Site O-6: Las Huacas. Mangrove swamp also occupies a fringe of varying width along the mainland coast. In occasional areas among the islands, and on the mainland beyond the mangrove zone, the land rises 1-5 m. and the vegetation becomes xerophytic as it is to the north.

All Jambelí Phase sites are shell middens, the most common shell species being the small mangrove oyster *Ostrea columbiensis*. The accumulation is usually less than 50 cm. in thickness, although one site (G-86) had 1.60 m. of shell refuse mixed with sherds. Fragments

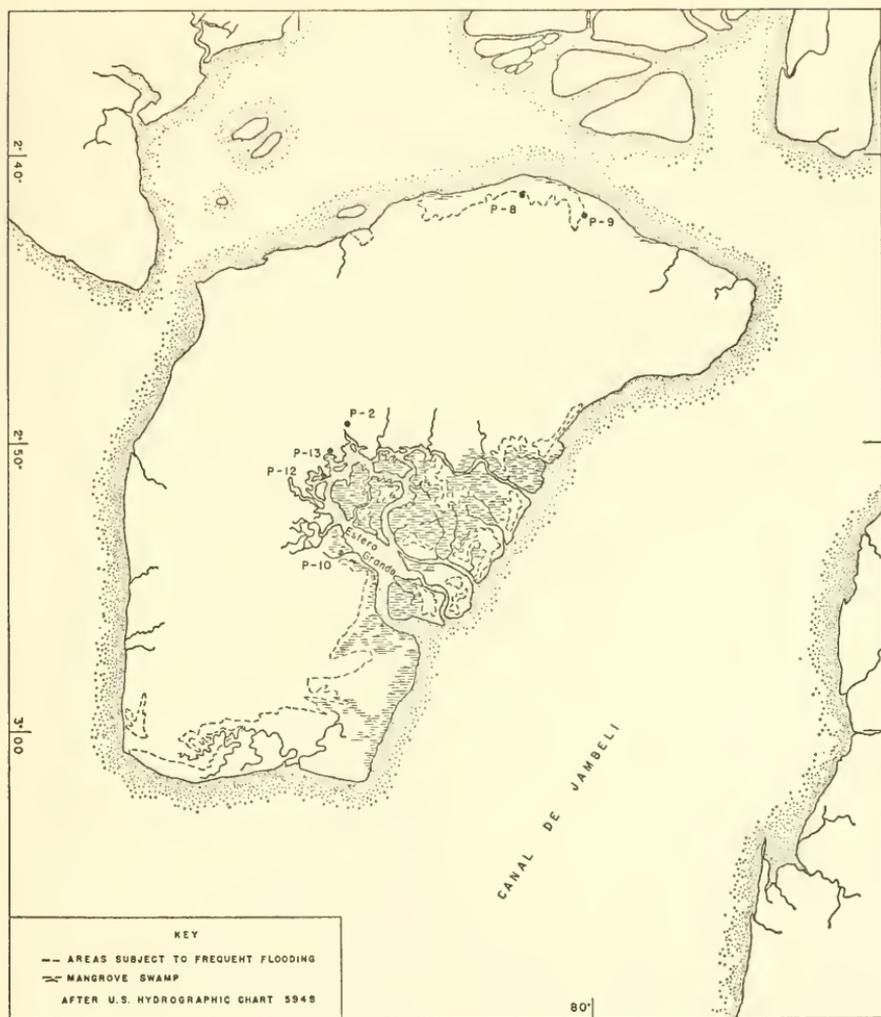


FIGURE 3.—Map of Puná Island, showing the area occupied by mangrove swamp and location of Jambelí Phase sites.

of fire-burnt rock and stone chips also occur. Site area varies from a maximum of  $150 \times 40$  m. (Site O-5) to about 10 m. in diameter, excluding badly eroded remnants of habitation sites. The majority of the sites are from 10–30 m. in diameter, with the refuse 20–40 cm. in depth, consisting principally of densely compacted shells (pl. 1, b).

In terms of their present-day environmental situation, the Jambelí culture sites fall into two groups: those on the margins of *salitres*, and those in active mangrove swamps. All the sites on the Guayas coast belong to the former group. They are located either at the edge of the *salitre* (pls. 1, a, and 2), or on an island 10 m. or more

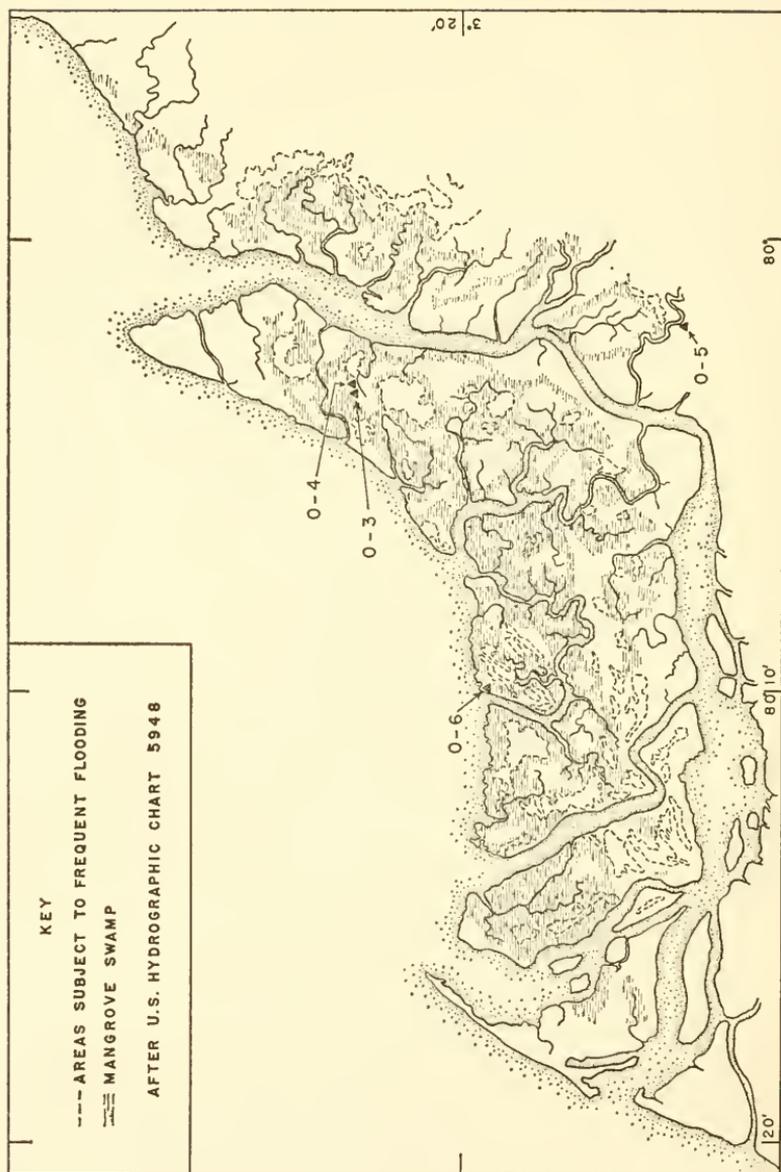


FIGURE 4.—Map of the coast of El Oro Province, showing distribution of mangrove swamp and location of Jambeli Phase sites.

from the former shoreline (pl. 3, *a*). Most of the *salitre* sites are exposed to wind action and are badly eroded. Many are reduced to small remnants and were identified with the Jambelí culture by the characteristic occurrence of shells of the mangrove oyster (*Ostrea columbiensis*), no sherds having been found. Since the seriated sequence shows these Guayas Province sites to be of equivalent age to those in the Province of El Oro, it is evident that a change has taken place in the elevation of the coast here with a silting up of the bays and inlets that has not affected the area to the south. Whether or not the progressive desiccation of the bays and destruction of the mangrove swamps are related to the abandonment of the area by the Jambelí culture, or whether this alteration occurred at a later date, is uncertain.

Some of the Jambelí sites on Puná Island and all those on the islands of El Oro Province are on small areas of high land scattered through what is predominantly mangrove swamp (pl. 4). At P-2: Campo Alegre on Puná Island, the situation is like that on the Guayas mainland: a shell midden bordering a flat now dry except in the rainy season (pl. 5). Except that their exposed condition resulting from the lack of covering vegetation makes them subject to damage from erosion, these *salitre* sites are not significantly different from those in living mangrove swamps.

Only three sites had sufficient depth of deposit and were sufficiently undisturbed to permit stratigraphic excavation. Two are on the Guayas mainland and the third on the coast of El Oro. The center of the modern town of Posorja (G-84) is a site of the Valdivia culture reoccupied by the Jambelí culture. A 2 × 1 m. excavation, made by Estrada, showed that the upper 40 cm. of the refuse deposit contained Jambelí material, with sherds more abundant than in any other Jambelí site. The midden contained characteristic shell refuse of mangrove oyster (*Ostrea columbiensis*), small clams (especially *Anomalocardia subimbricata*), and miscellaneous other shell species.

The site of G-86: La Manguita is located northeast of the town of El Morro on a branch of the Salitre San Miguel, which connects with Lagarto Salitre. The site occupies a hill about 100 m. from the *salitre*. Another shell midden occupies a rise 200 m. to the south. G-86 has a diameter of 14 m. The refuse is densely compacted with large quantities of mangrove oyster with some admixture of small clams and other species of shellfish. A 2.0 × 1.5 m. test was begun on the east side of the midden near the top and excavated in 20-cm. levels (pl. 3, *b*). The shell was pulverized and mixed with dirt, some showing traces of burning. All refuse was sifted, but the only artifacts encountered were a fragment of a stone bark beater (pl. 6, *b*) in Level 60–80 cm. and a perforated shell in Level 80–100 cm.

Several large fire-burnt stones came from Level 120-140 cm. Sterile black clay at a depth of 160 cm. established the bottom of the midden accumulation.

The site of O-5: Embarcadero is about 5 km. inland from the mouth of the Estero Embarcadero (fig. 4), where the left bank rises to 2 m. above high tide level. Shell refuse was visible for a distance of about 150 m. along this bank (pl. 4, a). The midden area slopes off to the surrounding land, which measures roughly 1 m. above high tide, a contour that is easily seen from the water. Along the eroded bank, vertical columns of shell about 10 cm. in diameter and about a meter long could be seen in several places, possibly representing former post holes. The site is densely overgrown but the midden deposit could be traced for 30-40 m. inward from the bank. Miscellaneous testing showed that sherds were fairly abundant throughout. A 1 × 1 m. stratigraphic excavation, designated as Cut 1 and controlled in 20-cm. levels, was placed 50 cm. in from the edge of the bank. The refuse consisted of hard, lumpy clay with an abundant admixture of shell, sherds, some fishbones, and small broken rocks. Sherds were present to a depth of 80 cm., where a dense layer of shells 20-25 cm. thick was encountered. Below this was sticky clay, the natural soil of the bank. The only unusual artifacts were a pottery figurine arm from Level 20-40., cm. and another figurine fragment from Level 40-60 cm.

None of the sites investigated in the Playas-Posorja region produced any human skeletal remains. White-on-red pottery was collected by Estrada from Site P-4, which consisted of a small circle of erect stones with two extended burials in the center (Estrada, 1957 a, p. 28 and fig. 10). Site O-7: Tendales, reported by local residents and not visited by any of the authors, produced human skeletal remains in association with ceramics of Jambelí types. This site, discovered during excavation of irrigation trenches, is reported to be several hundred square meters in area.

For ease in reference throughout the report, sites belonging to the Jambelí culture are listed below. Group "A" includes those from which sherd collections have been classified and which appear in Appendix Table 1. Group "B" includes sites in the *salitres* where no sherds were recovered, but in which the character of the site, its location, and the composition of the shell refuse are typical of the Jambelí Phase.

#### A. JAMBELÍ SITES WITH POTTERY:

##### El Oro Province:

- O-3: Estero Chivería No. 1
- O-4: Estero Chivería No. 2
- O-5: Embarcadero
- O-6: Las Huacas
- O-7: Tendales

- Puná Island, Guayas Province:  
 P-2: Campo Alegre No. 1  
 P-8  
 P-9  
 P-12: Los Chalacos  
 P-13: Jerónimo  
 Guayas Province:  
 G-84: Posorja  
 G-86: La Manguita  
 G-109  
 Lagarto Salitre, Guayas Province:  
 G-L-2  
 G-L-3  
 G-L-7  
 G-L-9  
 G-L-12  
 G-L-27  
 G-L-28  
 G-L-29  
 G-L-30: Cangrejito  
 G-L-34  
 El Morro Salitre, Guayas Province:  
 G-Mo-3  
 G-Mo-11  
 G-Mo-15  
 G-Mo-17

B. JAMBELÍ SITES WITHOUT POTTERY:

- Lagarto Salitre, Guayas Province:  
 G-L-13  
 G-L-16  
 G-L-18  
 G-L-20  
 G-L-21  
 El Morro Salitre, Guayas Province:  
 G-Mo-16

## Artifacts

As is typical of cultures of the Regional Developmental Period on the Ecuadorian coast (cf. Estrada, 1962, p. 52), the Jambelí culture is characterized by a variety of small ornaments, figurines, and objects of uncertain utility. The most frequently used material is shell, except for figurines, the majority of which are of pottery. Stone was rarely employed, possibly in part because of the absence of suitable raw materials in the mangrove swamp area. Bone and wood were probably also utilized, but conditions of preservation have prohibited their survival.

### Shell Artifacts

Shell artifacts are of two kinds: small complete shells carved or perforated for suspension, and objects fashioned from *Spondylus*

shell. The latter are the more abundant and variable. All are well made, with good symmetry. Surfaces vary from highly polished to slightly blemished.

PERFORATED COMPLETE SHELLS.—All three examples of this type come from the surface of O-6: Las Huacas. Two are cone shells perforated on one side near the pointed end by sawing a horizontal notch

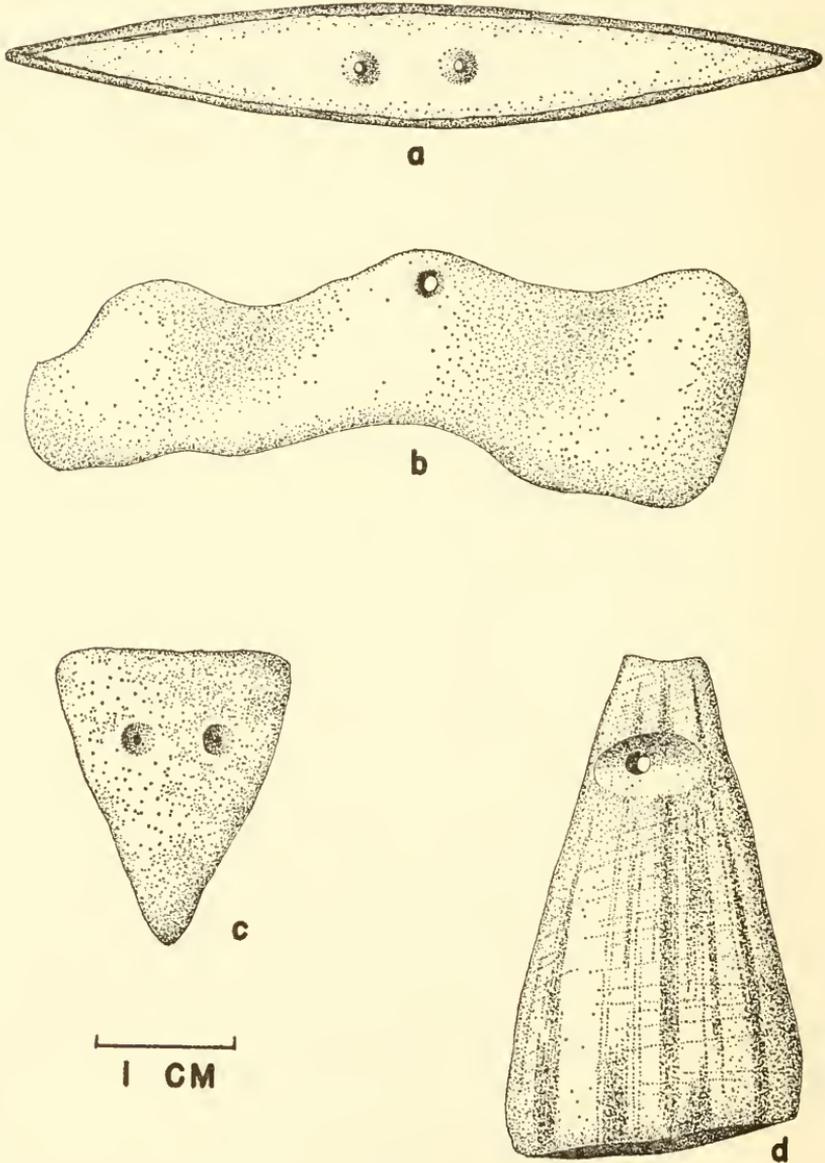


FIGURE 5.—Shell ornaments: *a-c*, pendants of worked shell from O-6, surface; *d*, small complete shell perforated for suspension from O-6, surface.

until the center of the notch cuts through to the interior (fig. 5, *d*). Length is 3.3 cm.; diameter at lower edge is 2.0 and 2.2 cm. The other shell is a small *Oliva peruviana* Lamarck perforated near one end by the same technique. Length is 2.2 cm.

CARVED CONCH SHELL.—A small conch shell (fig. 6, *a*), 9 cm. long,

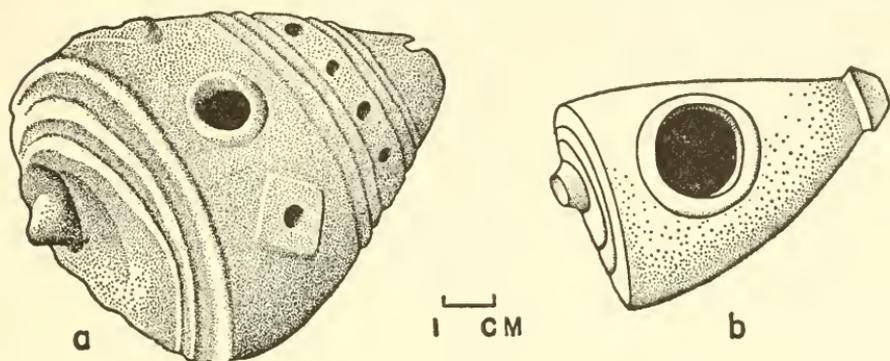


FIGURE 6.—Small carved and perforated conch shells: *a*, Jambelí Phase example from O-6, surface; *b*, Guangala Phase example from La Libertad (after Bushnell, 1951, fig. 24, 1).

has been decorated with perforations and diamonds by cutting out portions of the surface to a depth of 2–3 mm. It comes from the surface of Site O-6. In size and construction it is very similar to an object described by Bushnell (1951, p. 62) as a shell box from the Guangala culture (fig. 6, *b*).

BEADS.—Sixteen, flat, circular beads (fig. 7, *a-d*) carved from *Spondylus* shell come from the surface collection at O-6: Las Huacas. They are typically two-tone in color, partly red or orange and the remainder white. Three are pure white. Surfaces are usually polished but sometimes remain slightly pitted. The central perforation is slightly conical, the maximum diameter being less than 1 mm. greater than the minimum diameter. Diameter ranges from 1.4–2.3 cm.; thickness from 0.5–1.0 cm., with a single example of a thickness of 1.0–1.5 mm. Diameter of perforations range from 4–5 mm. Thickness is not correlated with diameter, so that some of the thickest beads have some of the smaller diameters.

BEAD BLANK.—One *Spondylus* disk (fig. 7, *e*) 2.5 cm. in diameter and 1.5 cm. thick, from Site O-6, probably represents a blank for the manufacture of a bead.

ATLATL HOOK.—A small object from the surface collection at Site O-6 of red *Spondylus* shell, carved in the form of a bird head, probably represents an atlatl hook (fig. 8, *b*). It is 5 mm. thick at the flat base and tapers slightly toward the top. The edges are rounded. There is a perforation 5 mm. in diameter through the center. The surfaces are not perfectly even and blemishes in the shell remain.

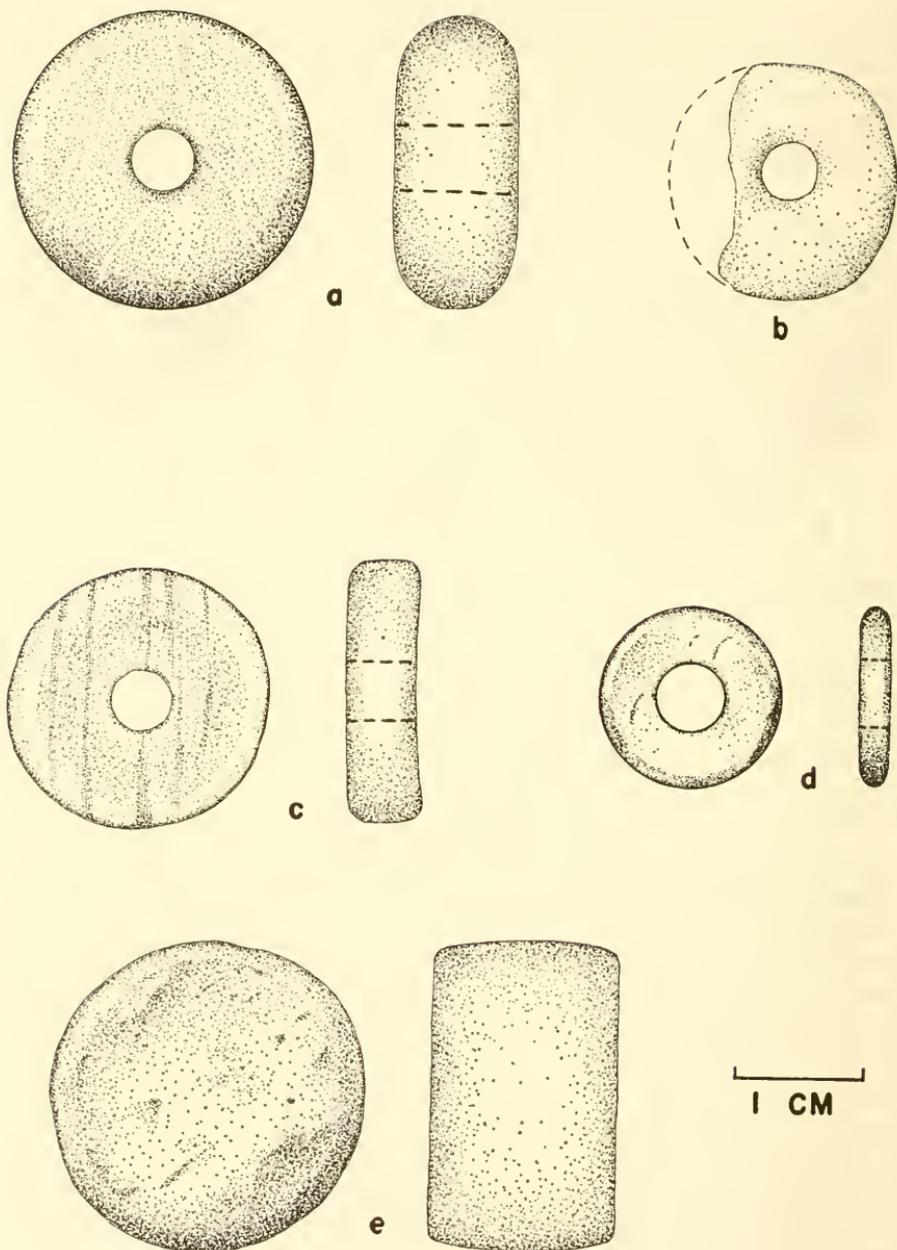


FIGURE 7.—Shell beads and blank from O-6, surface: *a-d*, finished beads of *Spondylus* shell; *e*, unperforated blank.

ANTHROPOMORPHIC AMULETS.—Two small highly stylized anthropomorphic objects from O-6: Las Huacas may be pendants or amulets (fig. 9). They are of similar size but differ in form. One (fig.

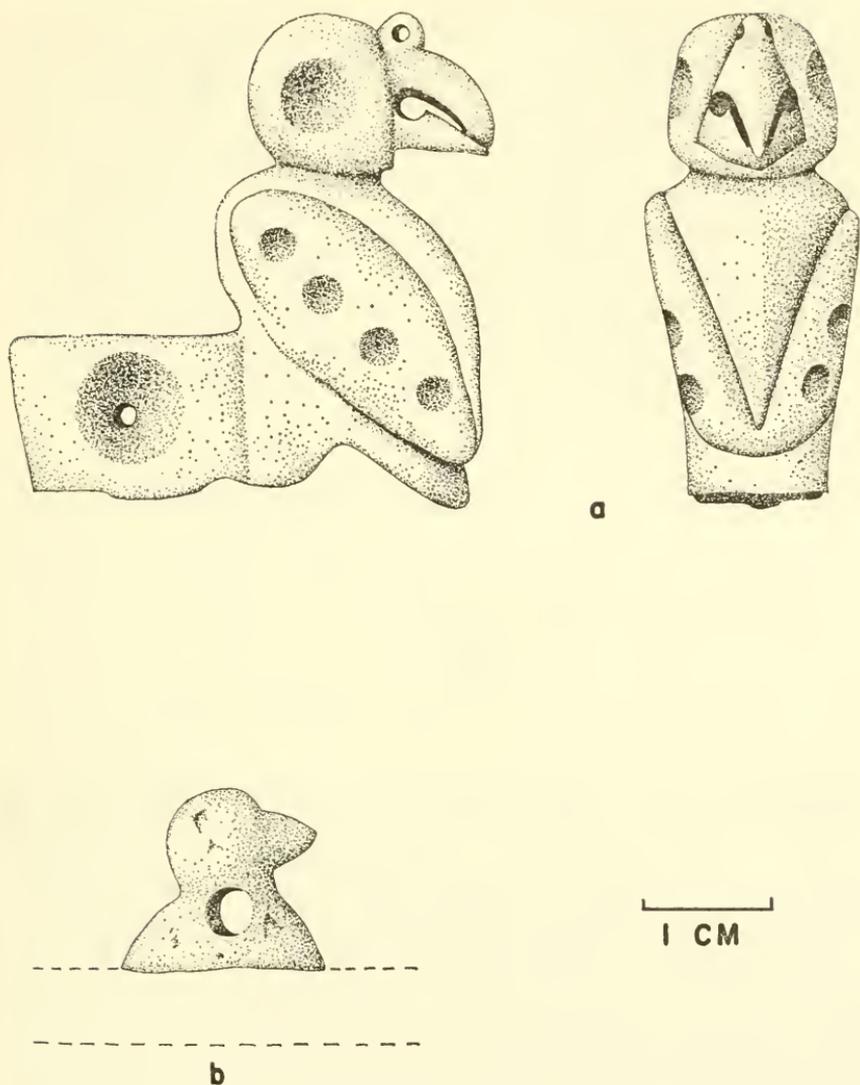


FIGURE 8.—Carved shell objects from O-6, surface, in the form of birds: *a*, carving of unknown use; *b*, possible atlatl hook.

9, *b*) is of orange-red *Spondylus* shell, less pitted on the back than on the front side. Width tapers from 2.2 cm. at the head to 1.3 cm. at the feet. Thickness is 2–3 mm. Two slight depressions represent eyes; the head is set off from the body by nicks at the sides, and a nick at the base separates the legs. Two horizontal incisions on the lower front suggest crossed arms. A perforation runs through the center of the head. Total height is 3.5 cm.

The other object, of a white shell, is generally similar in execution but thicker and lacks the perforation for suspension (fig. 9, *a*). The

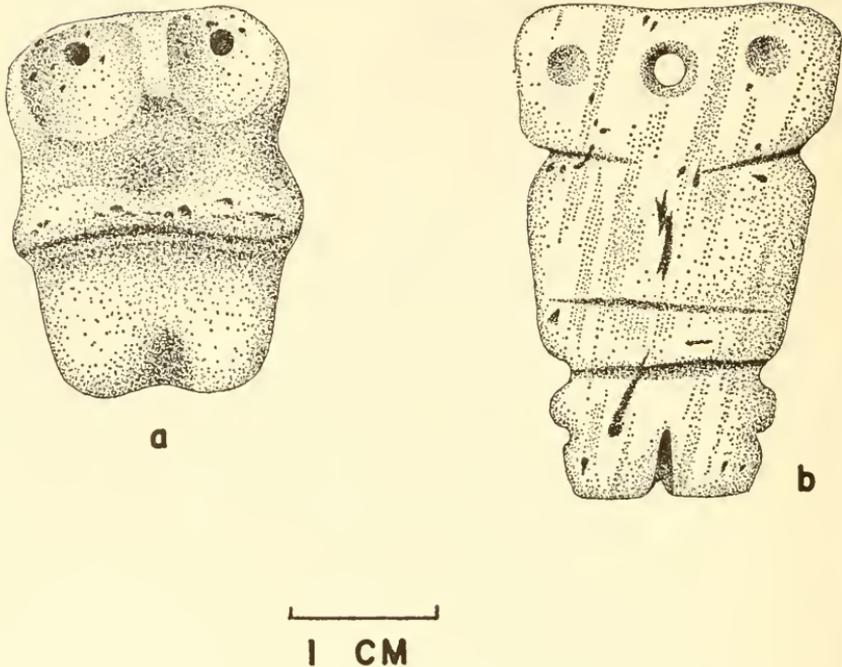


FIGURE 9.—Anthropomorphic shell amulets or pendants from O-6.

surfaces are smooth and unblemished except for the top of the head, which has tiny pits. Height is 2.7 cm., width 2.0 cm., and thickness 1.8 cm. A groove rather than a notch separates the legs, and a ridge substitutes for incisions to suggest folded arms. Rounded pits form the eyes and the nose is a ridge down the center of the face.

PLAIN PENDANTS.—Three small objects of worked shell from O-6: Las Huacas have one or two perforations suggesting they may have been used as pendants (fig. 5, *a-c*). Two have well smoothed surfaces; the third is somewhat rough and may be unfinished. The latter is triangular, 2.2 cm. from base to apex. Two holes are partially drilled (fig. 5, *c*). Another is 5.7 cm. long and 0.8 cm. wide at the center, tapering to a point at both ends. Thickness is 3 mm. The edges are slightly beveled. Two perforations are biconically drilled at the center (fig. 5, *a*). The third example is irregular in form, measuring 5.1 cm. long with undulating edges. There is a perforation at one edge near the center (fig. 5, *b*).

BIRD ORNAMENT.—A beautifully carved bird (fig. 8, *a*) of creamy white, slightly striped *Spondylus* shell comes from O-6: Las Huacas. The surface is even and polished. The bird, probably a parrot, has the head turned toward the tail. A large conical depression, 2 mm. deep and occupying the center of the head, forms the eye. A row of

four smaller depressions 1 mm. deep runs down the center of each wing. A rectangular projection at the front of the base is biconically drilled, apparently for attachment. The size and shape suggest that it may have formed part of an atlatl. Total height of the bird is 4.0 cm.; width 1.1 cm.; length from tail to front of projection, 4.0 cm.

### Stone Artifacts

Only a few stone objects come from sites of the Jambelí culture. They fall into two categories: utensils and ornaments.

#### UTENSILS

**METATES.**—Two metate fragments, one of sandstone and the other of coarse-grained conglomerate, come from the surface of O-5: Embarcadero. Both have a slightly concave upper surface, worn smooth and even. The larger fragment is thickest (3.5 cm.) at the center and tapers toward the edge; the other has its maximum thickness at the edge. The original sizes cannot be reconstructed.

**MANOS** (fig. 10).—One complete mano came from O-5: Embarcadero surface and a fragment from O-5, Cut 1, Level 60-80 cm. The complete example, of gray-green gabbro, is 13.0 cm. long and 7.5 cm. in maximum width. Both ends are worn convex, and wear is also visible on all but one side. The fragment is part of a rough, rounded cobble of gneiss, 7.0 cm. wide and 5.5 cm. thick, showing wear on one side only.

**HAMMERSTONES** (figs. 11 and 12, *b*).—Three cobbles of fine grained quartzite, all from the surface of O-6: Las Huacas, are battered on one or more edges from hammering. Form is generally ovoid, length from 7.5-9.2 cm. One has red paint covering one half of the surface (fig. 12, *b*).

**KNIFE OR SAW** (pl. 6, *d*).—A small fragment of fine grained sandstone from G-86, Cut 1, Level 120-140 cm. has a beveled edge that could have been used for sawing or cutting.

**BARK BEATERS** (pl. 6, *b-c*).—Two flat stone slabs, grooved on one surface, have been identified as bark cloth beaters. The nearly complete example (pl. 6, *c*) comes from G-L-30: Cangrejito. It is 6.5 cm. long, 4.5 cm. wide and 1.1 cm. thick. The form is rectangular with rounded corners. The upper surface is flat and bears two lengthwise grooves 2.5 mm. deep dividing the area approximately into thirds. One groove is 3.5 mm. wide, the other 4.5 mm. wide. The reverse surface is slightly irregular. The edges are flat. The fragment, from G-86, Cut 1, Level 60-80 cm., has four grooves 2.0-2.5 mm. wide and 5-7 mm. apart on the flat upper face. Thickness is 7.5 mm.

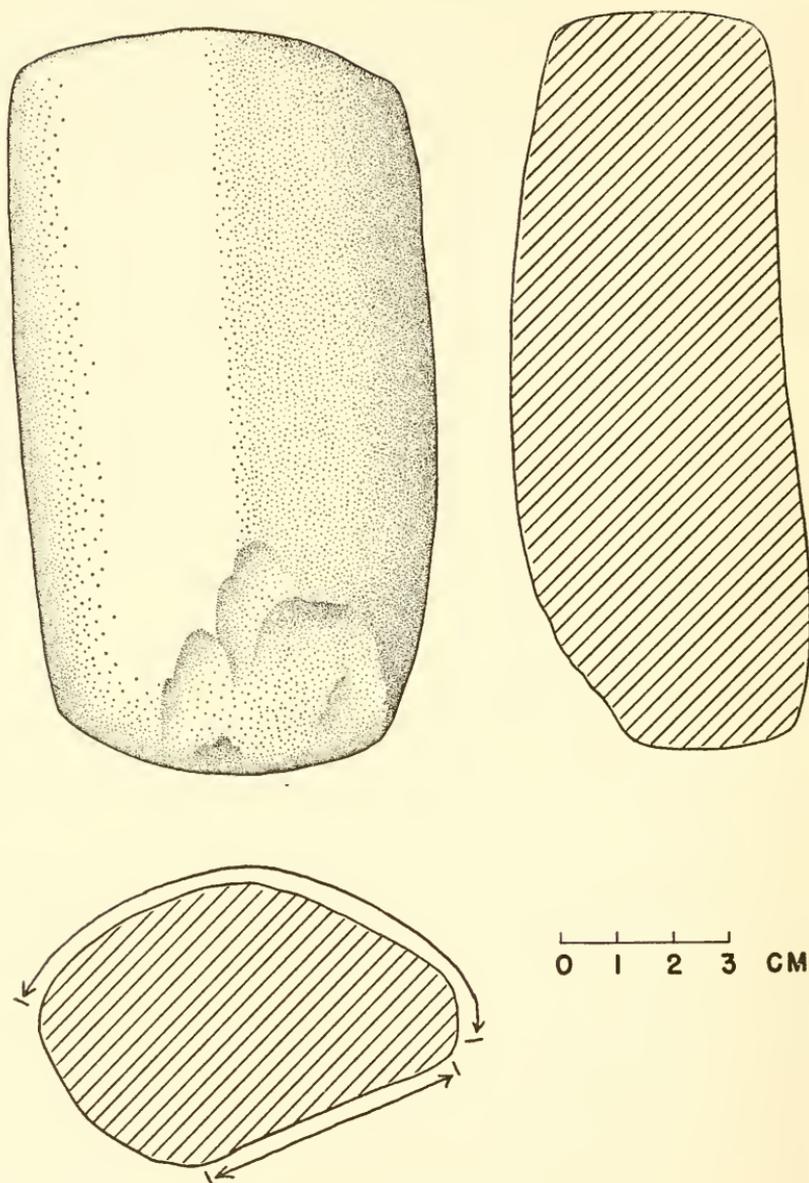
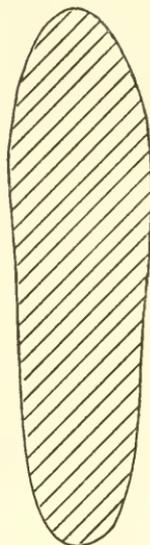
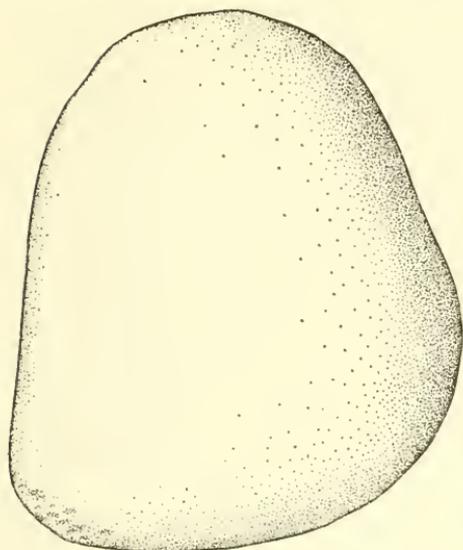
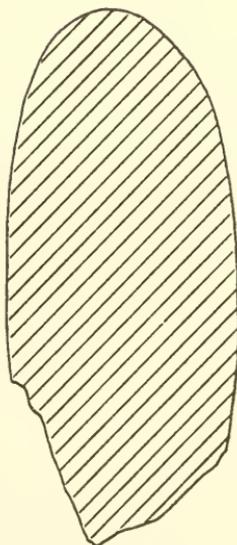
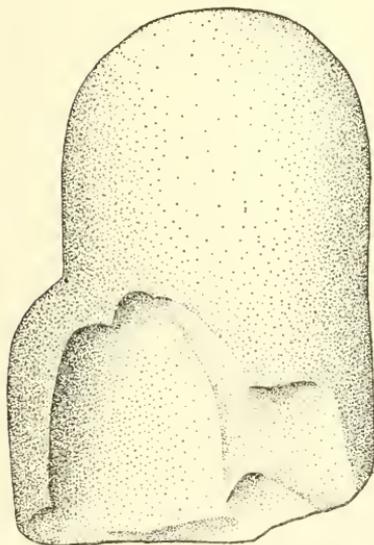


FIGURE 10.—Stone mano from O-5, surface.

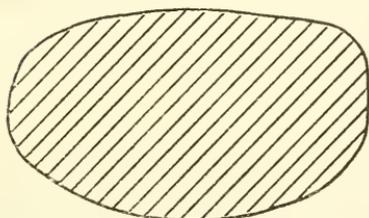
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FIGURE 11.—Hammerstones from O-6, surface.



a



b



0 1 2 3 CM

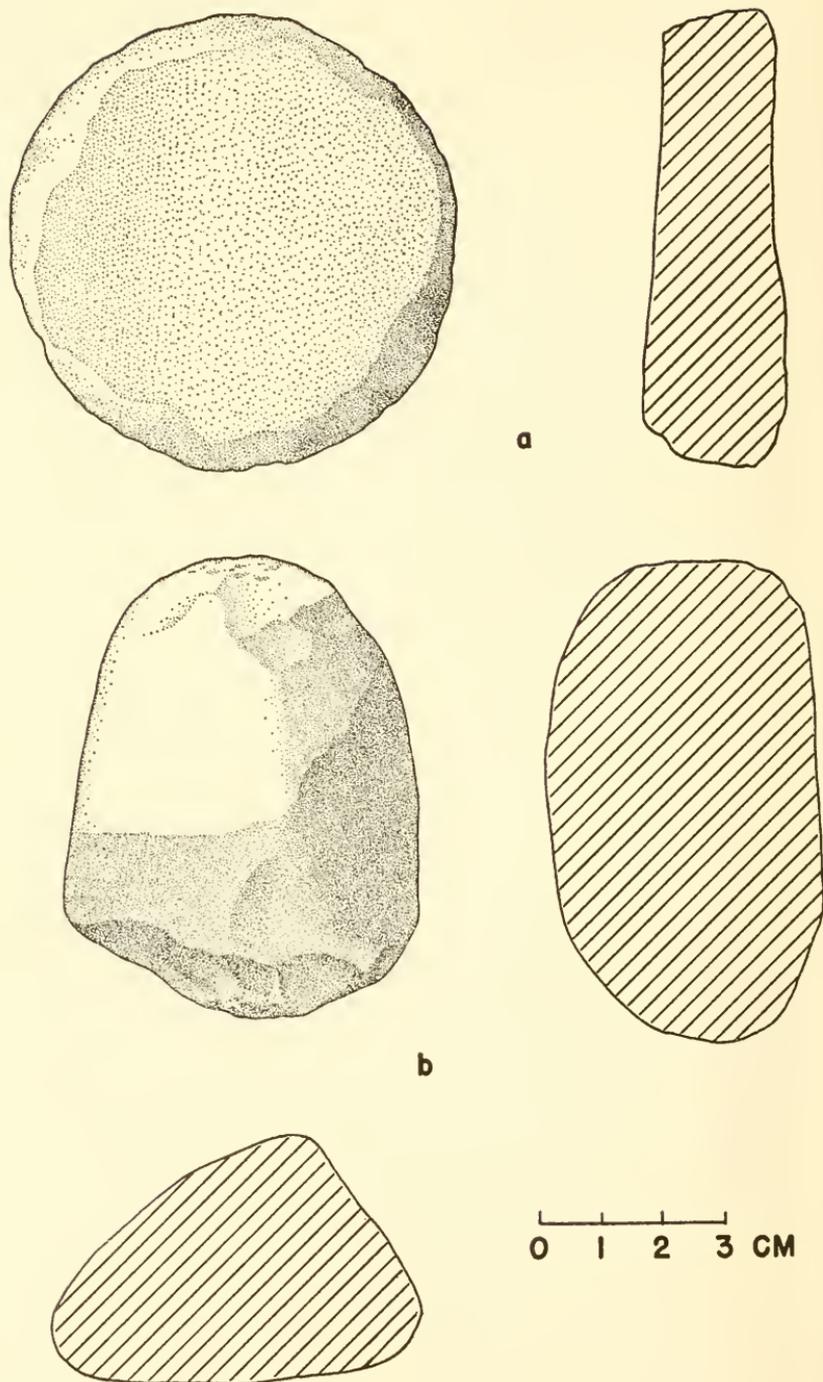


FIGURE 12.—Stone objects of the Jambeli Phase: *a*, crudely shaped disk from O-5, Cut 1, Level 80-100; *b*, hammerstone partly coated with red pigment from O-6, surface.

WORKED STONE.—A fragment of serpentine, 6.5×5.5 cm. and 2.0 cm. thick, shows grooves and circular marks produced by cord sawing. A small ovoid projection left from the sawing remains at the center. The object is from G-86, Cut 1, Level 0-20 cm.

DISCOIDAL SHAPED STONE (fig. 12, *a*).—A piece of fine conglomerate has been shaped into a disk 7 cm. in diameter and 1.8-2.5 cm. thick. The edges are rounded, and one surface is even while the other is slightly irregular. The object is from O-5, Cut 1, Level 80-100 cm.

ORNAMENTS

BEADS (fig. 13).—Basalt, shale, serpentine and chlorite schist were used for the manufacture of beads. One example of asymmetrical

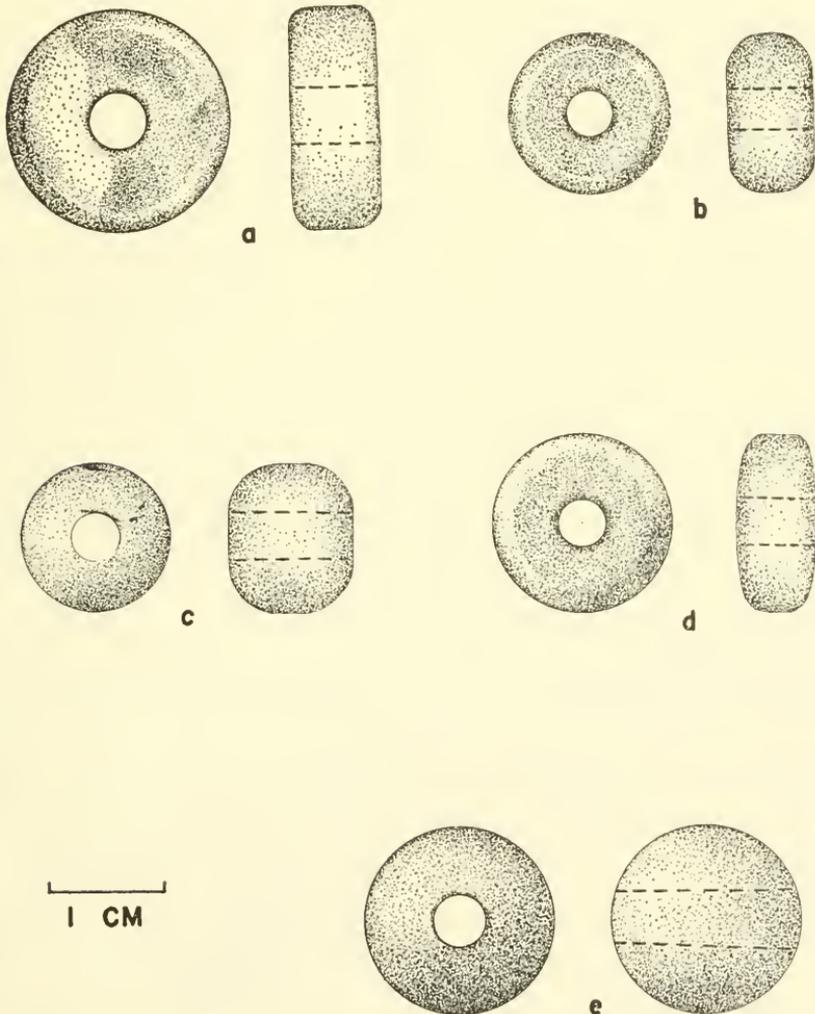


FIGURE 13.—Stone beads showing variation in diameter and thickness; all from O-6, surface.

form, with one side flat and the other irregularly faceted, came from G-Mo-3. Diameter is 1.5 cm. The remainder are from O-6: Las Huacas. One is perfectly round; the rest are flat disks like the beads made of shell, with flat faces and rounded or slightly flattened edges, and biconically perforated through the center. Diameter ranges from 1.4–2.0 cm., thickness from 2–11 mm.

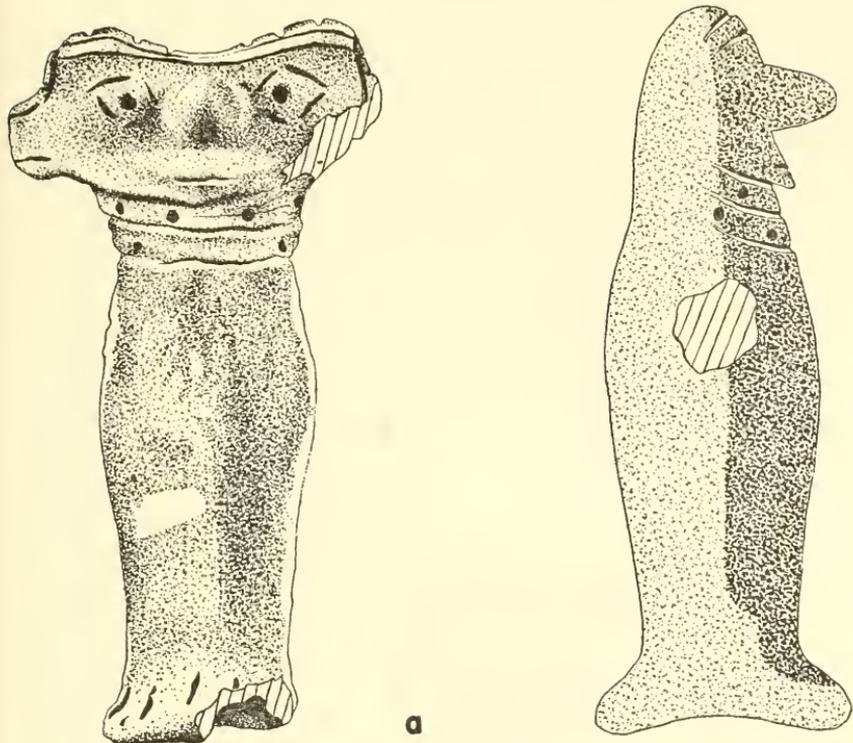
SPINDLE WHORL (?).—One beadlike object of soft, dark blue-gray stone with a well polished surface has the turreted form frequently associated with spindle whorls. It is 1.4 cm. in diameter, 8 mm. thick, and has a perforation 5 mm. in diameter through the center. It is from O-6: Las Huacas.

### Pottery Artifacts

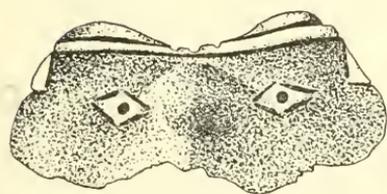
FIGURINES.—A highly stylized hollow anthropomorphic figurine is characteristic of the Jambelí culture. The head is rectangular, long from side to side, and narrow from chin to top. The top is flat, or slightly to deeply depressed in the center above the nose creating two marked lobes. There is a perforation at the center top. In profile, the top of the head is rounded or tapered. The body is semicylindrical, typically expanded to a maximum diameter below the arms and tapering toward the neck and feet. The legs are typically not separated; the feet are formed by eversion of the lower end of the body outward at the front and back (figs. 14, *a*, and 16, *a*). Incised lines indicate a minimal number of toes, usually three per foot. Arms are small, solid projections at the shoulder (fig. 15, *a*, *c*), attached when the surface was sufficiently dry to form a poor bond. The arms are frequently missing, leaving a clean break. Fingers may be represented by short incised lines on the front side. Occasionally, hands are more realistically formed by a reduction in the diameter of the arm.

Facial features vary within narrow limits. Eyes are typically a perforation surrounded by four incised lines in a diamond arrangement (figs. 14 and 15, *b*). One has a larger ring instead of a diamond (fig. 15, *a*). Another has two short gashes (fig. 15, *c*). The nose is a prominent, rounded nubbin, projecting 1.0–1.5 cm. above the surface of the face. Ear treatment is highly variable, and ears may be indicated either by incision (fig. 14, *c*) or by an expansion at the side of the head (fig. 14, *a*). One or more horizontal incisions define the forehead, and vertical incisions above suggest hair. The mouth is a narrow, horizontal, straight, or slightly curved gash 1.0–2.3 cm. long.

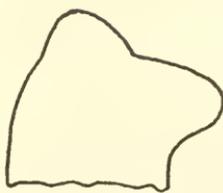
The front of the body is well smoothed or striated polished and may bear either painted or incised decoration or both. Two parallel incisions usually occur on the neck, and this "necklace" may be elaborated with rows of perforations (fig. 14, *a*, and 15, *c*). Two bodies have more



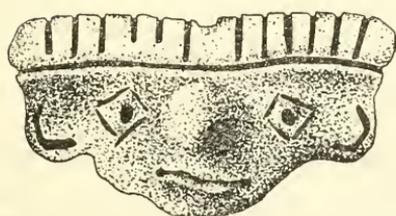
a



b



0  
1  
2  
3  
CM



c

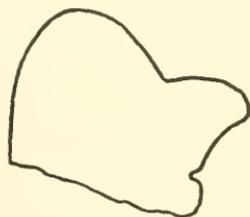


FIGURE 14.—Typical pottery figurines of the Jambelí Phase (dark stipple indicates red slip; light stipple is the natural surface; no stippling is white paint).

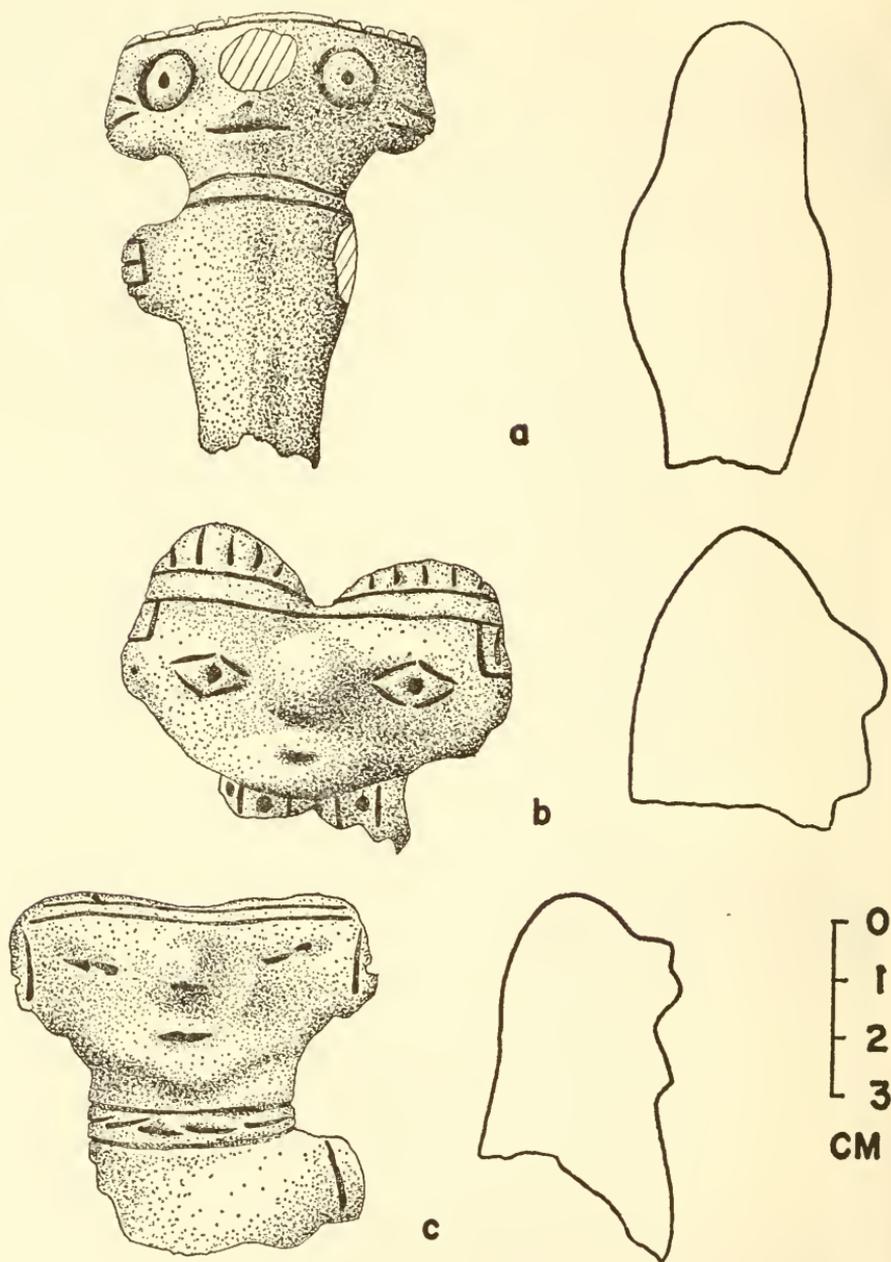
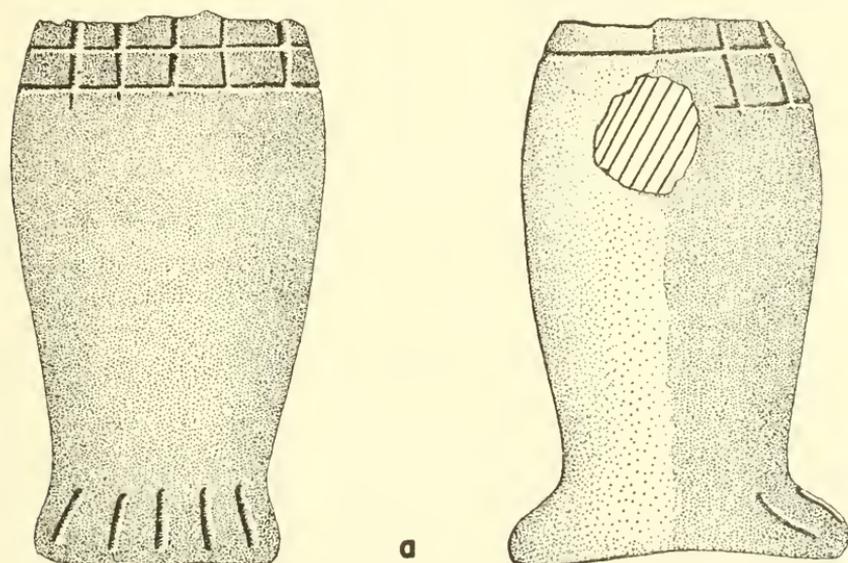


FIGURE 15.—Typical pottery figurines of the Jambeli Phase.

extensive incised and punctate decoration (fig. 16, *b*), while three others show traces of white-on-red painting. One arm has negative painting (fig. 30, *a*). Zones of the face are also typically white or red. The back is unpolished and undecorated.

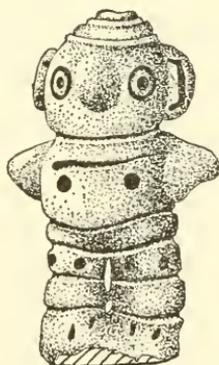
Only two of the figurines are complete. One of these is 15.5 cm. tall, the other 6.2 cm. Judging from the proportions of the fragmentary examples, these probably represent the size range. Complete heads range from 3.0–8.5 cm. in width, with the majority from 6.2–8.5 cm. Arms project 1.0–2.3 cm. outward from the body wall.

IMPORTED FIGURINES.—One atypical figurine body fragment comes from Site O-3 (fig. 17, *a*). It is solid, with flat surfaces, and is 1.3–1.6 cm. thick. One arm curves from the shoulder to join the body at the hip. The front has incised and red painted decoration. Two other fragments from the same site appear to represent the same style. In



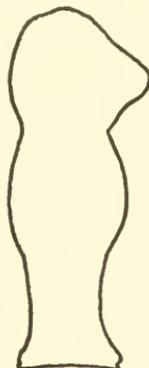
0 1 2 CM

a



0 1 2 3 CM

b



b

FIGURE 16.—Typical pottery figurines of the Jambelí Phase (dark stipple indicates red slip)

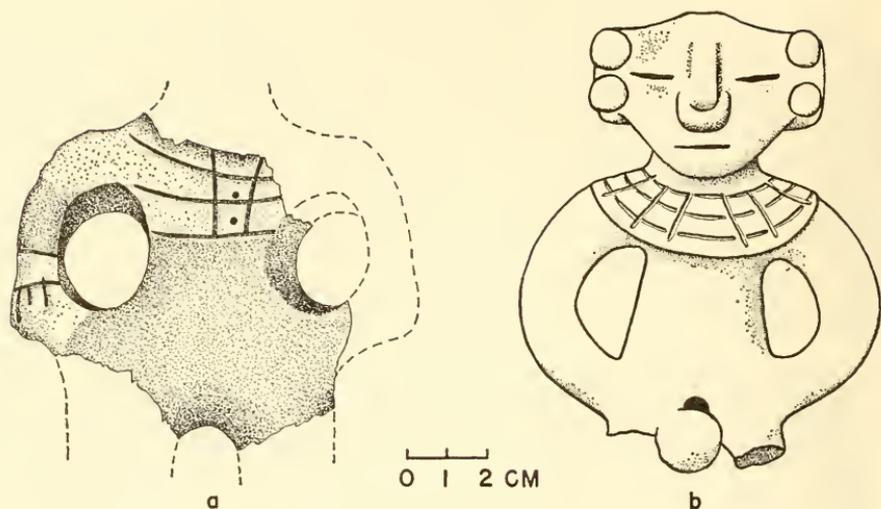


FIGURE 17.—Figurines suggesting contact between the Jambelí and Guangala Phases: *a*, solid pottery figurine body from O-3, surface (stippling indicates red paint); *b*, pottery figurine from the Guangala Phase showing similar form and collar treatment (after Bushnell, 1951, fig. 19, *j*).

general style, these figurines resemble a common Guangala type (fig. 17, *b*), although differences in detail suggest a copy rather than derivation by trade.

A small pottery figurine head from the surface of Site O-6 exhibits unusual treatment of the facial features and headdress (fig. 18). The eyes are low rounded applique with two short horizontal gashes not joined at the center. The nose, broken off, has two round holes at the base representing nostrils. The mouth is formed by two shallow grooves meeting at the center. The headdress gives the impression of a helmet, with flaps projecting down over the ears. An ornament has been broken off at the top. This is the only figurine head shown with earplugs. The style of headdress is similar to that of La Plata Sentado figurines of the Bahía culture (Estrada 1962, fig. 128, *a-b*).

**BEADS.**—Two pottery beads, one from G-84, Cut 1, Level 20–30 cm. and the other from the surface of O-6, are of the same form and size as the more common disk-shaped beads of shell. Both have flat, parallel surfaces, one with a slightly tapered and the other with a rounded edge. Diameters are 1.9 and 1.3 cm.; thickness 6 mm.; diameter of perforation, 4.5 mm. Surfaces are even but not polished. Form is symmetrical.

**WORKED SHERDS.**—Three sherds (two Jambelí Plain and one Ayalan Plain) from O-3: Chivería have grooves worn on the exterior surface from rubbing with a shaft.

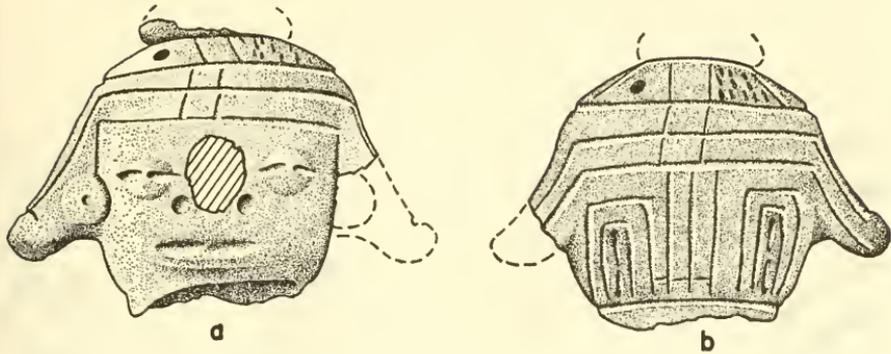


FIGURE 18.—Atypical figurine head from O-6, surface, with features suggestive of Bahía Phase influence.

Three plain sherds from O-3: Chivería have been shaped into crude disks with a diameter of 5–7 cm. and are biconically perforated through the center.

### Pottery Types

The description of the pottery of the Jambelí culture is based on the analysis of 15,414 sherds from surface collections and stratigraphic excavations (see Appendix, Table 1). Some of the sites produced sherds with such badly eroded surfaces that it was possible only to identify the ware as of the Jambelí type. Material of this kind, however, was not used in compiling the pottery type descriptions.

Very few complete vessels have been recovered, and the majority of the vessel shapes have been reconstructed from rim profiles and diagnostic body and base sherds. The drawings of reconstructed vessel shapes are generalizations that do not show the alternative base forms mentioned in the vessel shape descriptions. Terminology for vessel shape description follows the definitions used for the Valdivia culture (Evans, Meggers, and Estrada, 1959, pp. 26–68). Pottery type descriptions are arranged in alphabetical order, with the Spanish equivalent in parentheses for ease in cross-reference with previous publications in Spanish.

#### VESSEL FORM

##### 1. ROUNDED, SHALLOW TO DEEP BOWL (fig. 19, 1):

*Rim:* Outsloping to nearly vertical and direct. Rim diameter varies from 8–28 cm.

*Lip:* Rounded or slightly tapered.

*Base:* Rounded or slightly flattened.



0 1 2 3 CM  
RIM SCALE

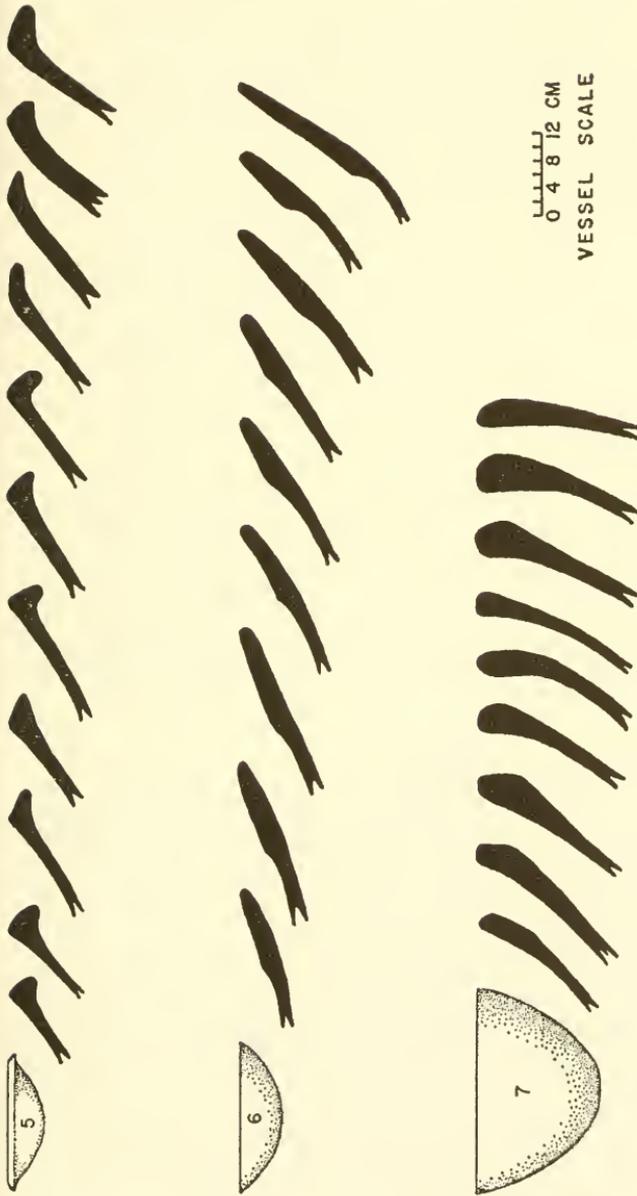


FIGURE 19.—Rim profiles and reconstructed vessel shapes 1-7 of the Jambelí Phase.

2. CARINATED BOWL (fig. 19, 2):  
*Rim:* Outslipping walls turn upward 2.0–3.5 cm. below the lip producing a slightly angular profile. Body wall thickness is frequently slightly greater above than below the angle. Rim diameter varies from 14–34 cm.  
*Lip:* Rounded.  
*Base:* Flattened or slightly rounded, or annular.
3. SHALLOW BOWL WITH FLAT RIM (fig. 19, 3):  
*Rim:* Wall thickness expanded to produce a flat horizontal or slightly insloping top 0.6–2.0 cm. wide. Exterior rim diameter varies from 16–30 cm.  
*Lip:* Rounded or tapered.  
*Base:* Probably flattened or annular.
4. SHALLOW BOWL WITH BEVELED OR UPTURNED RIM (fig. 19, 4):  
*Rim:* The appearance of an angular rim is produced either by beveling of the rim or by a carination 1.0–2.5 cm. below the lip. There is considerable variation in the form of the rim profile, all resulting in the same general shape effect. Rim diameter varies from 18–42 cm.  
*Lip:* Rounded or tapered.  
*Base:* Tall annular pedestal bases probably belong to this form, diameter 14–18 cm.
5. BOWL WITH EVERTED RIM (fig. 19, 5):  
*Rim:* Everted with a flattened outslipping top. Body wall is thickened at the angle of eversion. Exterior rim diameter varies from 22–36 cm.  
*Lip:* Rounded or tapered.  
*Base:* Rounded; possibly occasionally annular or pedestal.
6. SHALLOW BOWL WITH INTERIOR RIM THICKENING (fig. 19, 6):  
*Rim:* The interior wall thickness increases by 3–5 mm. from 3.0–5.5 cm. below the lip, producing a well defined raised band. Rim diameter varies from 16–24 cm.  
*Lip:* Rounded.  
*Base:* Probably rounded or slightly flattened.
7. DEEP BOWL WITH EXPANDED RIM (fig. 19, 7):  
*Rim:* Expanding 1–3 cm. below the lip to a thickness 0.5–1.0 cm. greater than the body wall. Since these bowls are typically large, this helps to strengthen the rim. Rim diameter 30–36 cm.  
*Lip:* Rounded or slightly flattened.  
*Base:* Probably rounded or slightly flattened.
8. SHALLOW BOWL WITH EXTERIOR FLANGE RIM (fig. 20, 8):  
*Rim:* Thickened on exterior wall 1–2 cm. below lip to produce a more or less prominent downslipping flange. Rim interior sometimes has a raised band as in Vessel Shape 6; a flat horizontal or insloping top is more typical. Exterior rim diameter varies from 18–34 cm.  
*Lip:* Rounded.  
*Base:* Several large sherds show attachment for hollow polypod legs and it is possible that this is the characteristic base form.
9. JAR WITH CONSTRICTED NECK AND EVERTED RIM (fig. 20, 9):  
*Rim:* Strongly everted, most frequently with a strongly angular interior profile slightly rounded on the exterior by thickening of the wall. There is a continuous variation from a short eversion to an outswEEPing neck, correlated to some extent with vessel size. Shoulder may be rounded or slightly angular. Rim diameter varies from 10–24 cm.

*Lip:* Rounded or slightly flattened.

*Base:* Probably rounded or slightly flattened.

10. ROUNDED JAR WITH CONSTRICTED MOUTH (fig. 20, 10):

*Rim:* Incurving and direct or slightly expanded. Mouth diameter 8-20 cm.

*Lip:* Rounded.

*Base:* Probably rounded or slightly flattened.

11. JAR WITH EXTERIORLY THICKENED RIM (fig. 20, 11):

*Rim:* Incurving from rounded or slightly angular shoulder and thickened on the exterior to 1-4 times the thickness of the body wall. Thickened area is 1.3-4.5 cm. wide, the smaller rims belonging to smaller sized jars. Rim interior is typically concave, exterior convex. Mouth diameter ranges from 20-46 cm.

*Lip:* Rounded.

*Base:* Probably rounded or slightly flattened.

12. LARGE COMPOTERA WITH APRON FLANGE (fig. 21, 12):

*Rim:* Slightly everted and thickened, with a broad flange added 1-3 cm. from the lip on the exterior. More rarely, the flange is not inset, but drops from the edge of the rim. The flange is 3.5-5.0 cm. wide and may be insloping, vertical or outsloping. Rim diameter ranges from 24-44 cm.

*Lip:* Rounded or tapered.

*Base:* A tall annular pedestal with diameter 20-30 cm.

13. LARGE COMPOTERA (fig. 21, 13):

*Rim:* Slightly expanded or slightly everted with flattened top. Occasionally with a low ridge on the exterior 4-5 cm. below lip. Exterior rim diameter, 28-50 cm.

*Lip:* Rounded.

*Base:* Tall annular pedestal with diameter 20-30 cm.

#### BASE FORM

Sherds of several base forms, in addition to the common slightly flattened type, are represented in the pottery samples (fig. 22). Unfortunately, all of the complete vessels recovered have rounded or slightly flattened bases, so that reconstruction of the vessel forms to which the annular, pedestal, and polypod bases belong must be inferred from other kinds of evidence. One vessel shape and rim is clearly associated with a polypod base and this is shown on the diagram of rim and reconstructed vessel shapes (fig. 20, 8); the other associations are too uncertain to appear on the diagram.

1. ROUNDED OR SLIGHTLY FLATTENED: All the complete bowls are slightly flattened on the bottom so that the vessel will rest without tipping. The base is not sharply defined, but blends into the curved body wall. This form of base is probably the most common, and is probably associated with most, if not all, of the rim forms.
2. ANNULAR (fig. 22, a): A low annular ring, with a base diameter of 8-20 cm., and a height of 1.5-4.5 cm., is represented in the following pottery types: Jambelí Plain, Ayalan Plain, Jambelí White-on-Red, Jambelí Polished Red, Jambelí Red Banded, and Jambelí Negative.





FIGURE 20.—Rim profiles and reconstructed vessel shapes 8-11 of the Jambelí Phase.

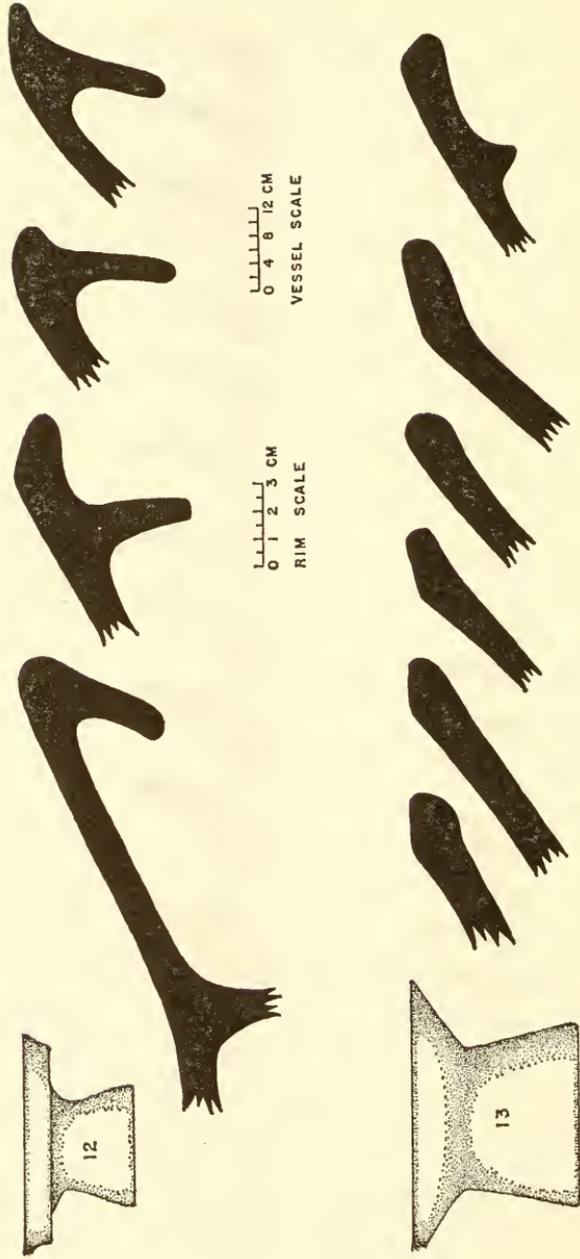


FIGURE 21.—Rim profiles and reconstructed vessel shapes 12-13 of the Jambelí Phase.



FIGURE 22.—Forms of bases associated with Jambelí Phase vessel shapes: *a*, annular; *b*, annular pedestal; *c*, hollow polypod; *d*, solid polypod.

3. ANNULAR PEDESTAL (fig. 22, *b*): A tall annular pedestal, measuring 6.0–8.5 cm. in existing height and 14–30 cm. in base diameter, is associated with the following pottery types: Jambelí Red Wash, Jambelí White Wash, Jambelí Incised. None of the Ecuadorian sherds had any of the body wall attached but complete vessels with this form of base are represented in the collection from Garbanzal, Peru (Mejía Xesspe, 1960, lam. 1, *a-c*).
4. HOLLOW POLYPOD (fig. 22, *c*): Hollow legs, circular in cross section, with maximum diameter near attachment to the body wall, tapering to a rounded tip, are associated with the following pottery types: Jambelí Plain, Ayalan Plain, Jambelí White-on-Red, Jambelí Red Banded. Maximum diameter is 2–5 cm. Only one is complete enough to reconstruct the length, which is about 9 cm. The area of attachment is visible on several rim sherds of Form 8, but these are too small to indicate whether the legs were used in sets of three or more.
5. SOLID POLYPOD (fig. 22, *d*): A single example of a solid leg, similar in form to the hollow ones but less bulbous, is classified as Jambelí Plain. Maximum diameter is 3 cm.; length 7.5 cm.

## Pottery Type Descriptions

## Ayalan Plain (Ayalan Ordinario)

SIZE OF SAMPLE: 4924 sherds.

## PASTE:

*Temper:* Fine sand containing mica, which glitters in pinpoint specks on the surface. Sand grains less than 1 mm.; abundant and well distributed. Eroded surfaces not abrasive to touch.

*Texture:* Fine grained, compact, slightly laminated appearance; occasional air pockets.

*Color:* Cross section varies from completely bright orange to completely dark gray, the majority of the sherds being orange.

*Method of manufacture:* Coiling.

## SURFACE:

*Color:* Range similar to Jambelí Plain; typically orange to tan. Rarely, surfaces are gray.

*Treatment:* Smoothed, usually leaving fine brushlike marks parallel to the rim. Bowl interiors generally even but not slick or smooth. Some surfaces slightly striated. The swiping treatment so characteristic of Jambelí Plain is rare.

*Hardness:* 3.5-4.0

## FORM (total rims from seriated samples, 405):

*Rim:* Exteriorly thickened, everted, interiorly thickened, expanded, or direct, with rounded, flattened or tapered lip.

*Body wall thickness:* Range 0.4-1.2 cm.; majority 4-6 mm.

*Base:* 1) Flattened; 2) annular, diameter 6-16 cm.; or, 3) hollow polypod, maximum diameter 5 cm.

*Reconstructed common vessel shapes:*

Form 9—46 percent

Form 4—13.8 percent

Form 1—13.6 percent

Form 5—5.2 percent.

*Minor vessel shapes* (frequency less than 5 percent): Forms 8, 10, 3, 2, 11, 7, 12, and 13.

*Appendages:*

*Rim lug* (fig. 23, *e*): Lobe extending outward at 30° angle from rim; maximum width 4.2 cm. A single specimen comes from the surface of Site O-6.

*Spout:* Slightly concave wall, exterior diameter 4 cm. Also from surface of Site O-6 (fig. 23, *a*).

TEMPORAL DIFFERENCES WITHIN THE TYPE: None discernible.

CHRONOLOGICAL POSITION OF THE TYPE: Ayalan Plain is the principal plain pottery type in the early part of the seriated sequence (see fig. 38).

## Jambelí Incised (Jambelí Inciso)

SIZE OF SAMPLE: 80 sherds.

PASTE: Like Ayalan Plain; see that type description for details.

SURFACE: Even, but not smooth or slick. Portions of either surface may have red wash or red slip.

FORM (total rims from seriated samples, 9):

*Rim:* Direct, everted or expanded, with rounded lip.

*Body wall thickness:* 0.4-1.5 cm.

*Base:* Tall annular pedestals represent a high proportion of sherds with incised decoration. Base diameter 10-18 cm. Probably associated with Vessel Shape 4.

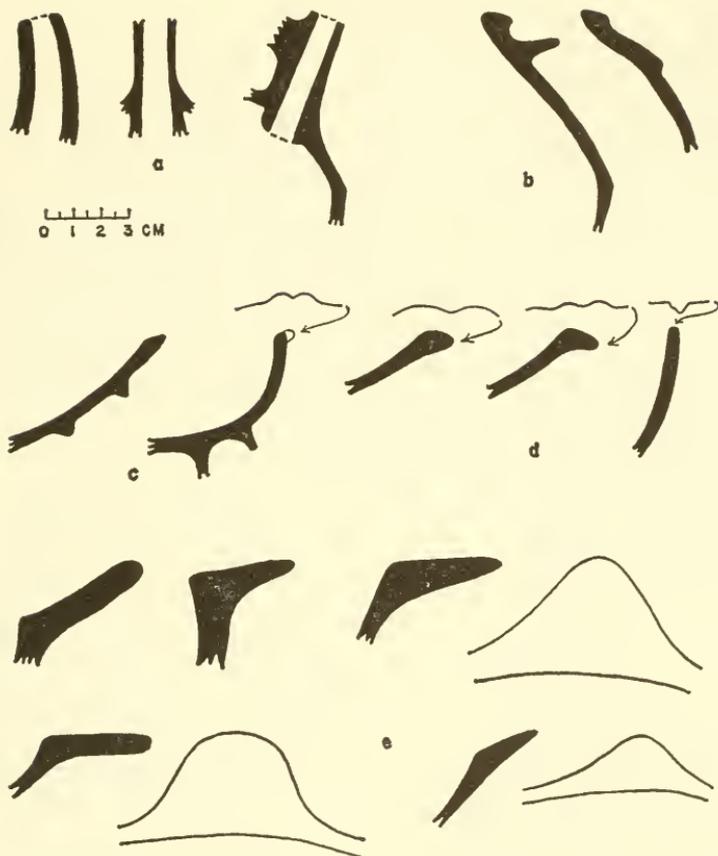


FIGURE 23.—Rim embellishments: *a*, spouts; *b*, neck flanges; *c*, body flanges; *d*, undulating rims; *e*, rim lugs.

*Reconstructed common vessel shapes: Forms 12, 4, and 9.*

DECORATION (pl. 7; figs. 24–29):

*Technique:* Incisions alone or combined with nubbins, openwork, or impressed rings. Incised lines straight and sharply defined (fig. 24). Width 0.5–1.5 mm.; depth 0.5–2.0 mm.; generally with little variation on single sherd. Incised lines combined with rings and openwork are more deeply cut than those associated with nubbins. Nubbins are small (diameter 4–6 mm.) circular pellets of slight elevation, and not worked into the adjacent surface (pl. 7). Openwork consists of small circular perforations or small openings triangular or approximately keyhole in shape, typically not exceeding 1.5 cm. in maximum dimension (figs. 25–26). Impressed rings always have a punctate in the center (figs. 27–28).

*Motif:* Rectilinear patterns composed of straight parallel, intersecting, or stepped lines. Only one of the three forms of embellishments associated with incision—openwork, impressed rings, or applique pellets—is used on any single vessel. Designs are simple. Incision and pellets occur most frequently on Form 9, incision and openwork on annular bases of Form 4, and incision and impressed rings on flanges of Form 12.

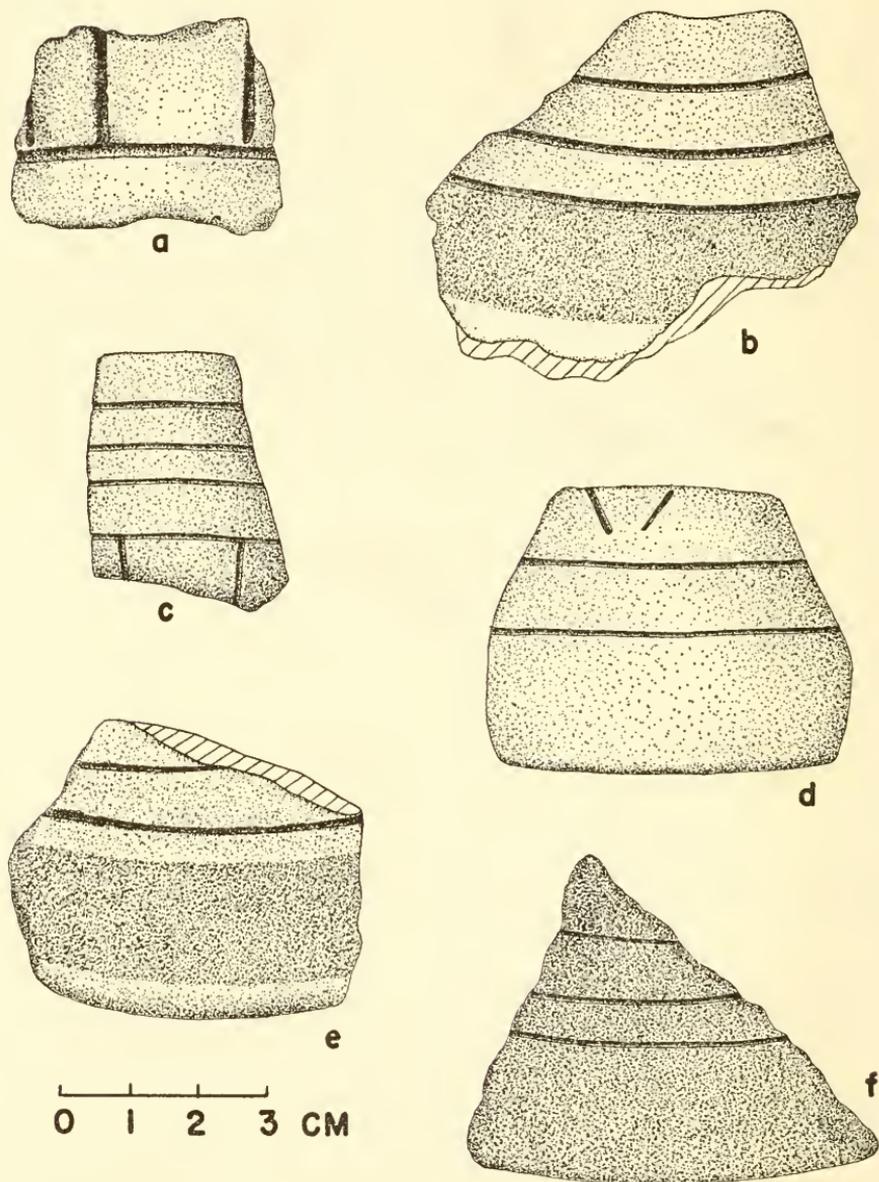


FIGURE 24.—Sherds of Jambelí Incised (dark stippling indicates red slip; light stippling, natural surface; no stippling, white paint).

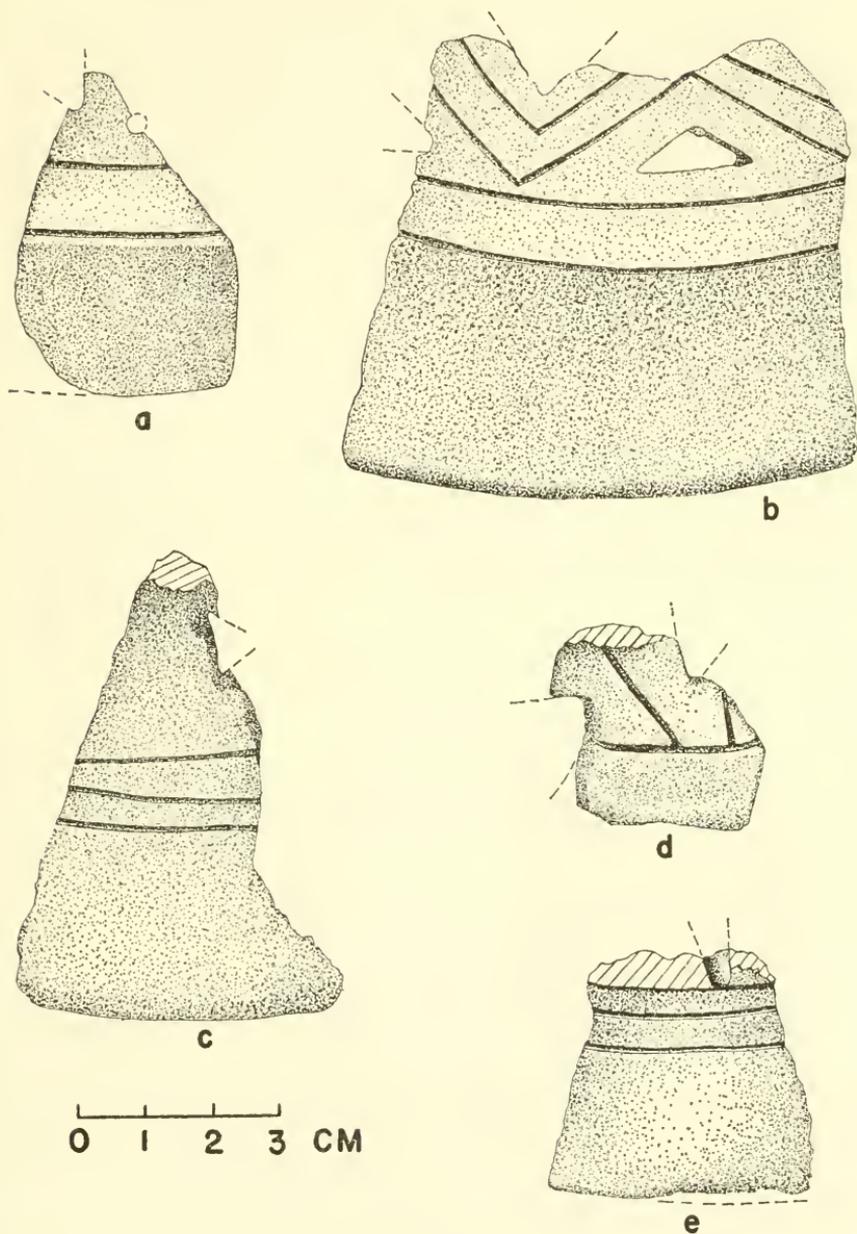


FIGURE 25.—Sherds of Jambelí Incised with openwork (dark stippling indicates red slip; light stippling, natural surface).

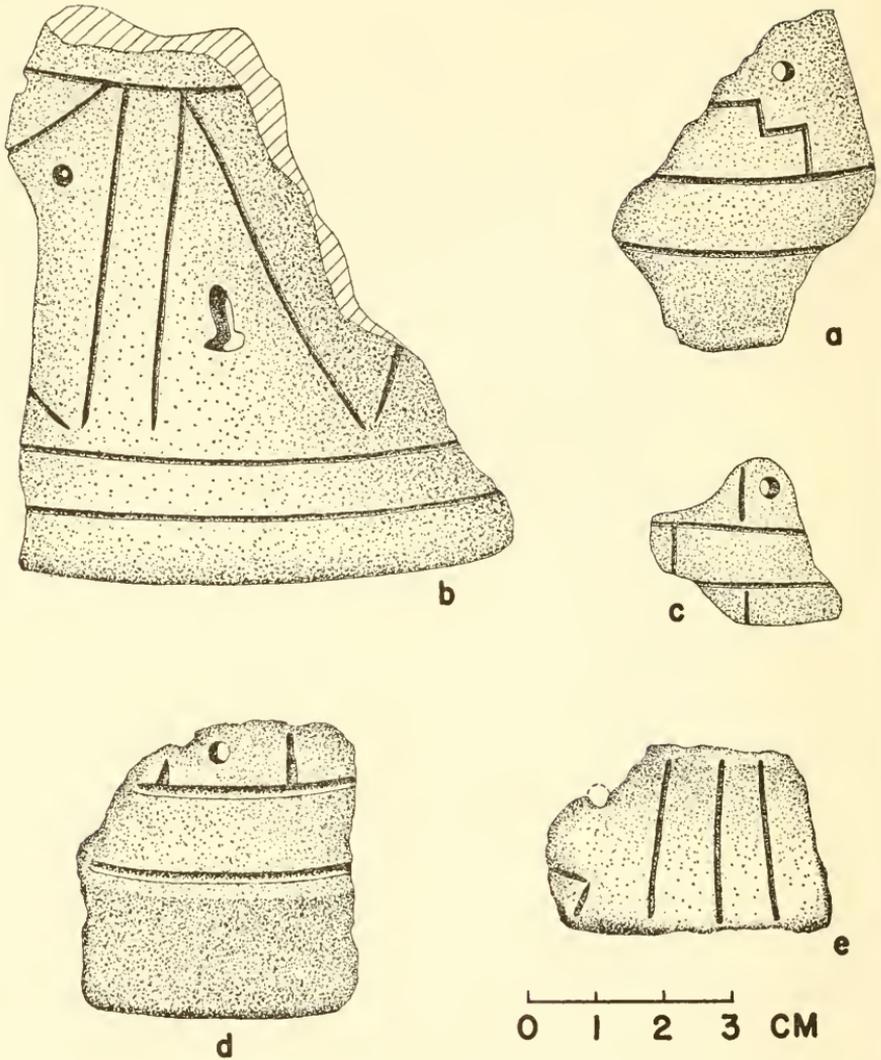


FIGURE 26.—Sherds of Jambeli Incised with openwork (dark stippling indicates red slip; light stippling, natural surface).

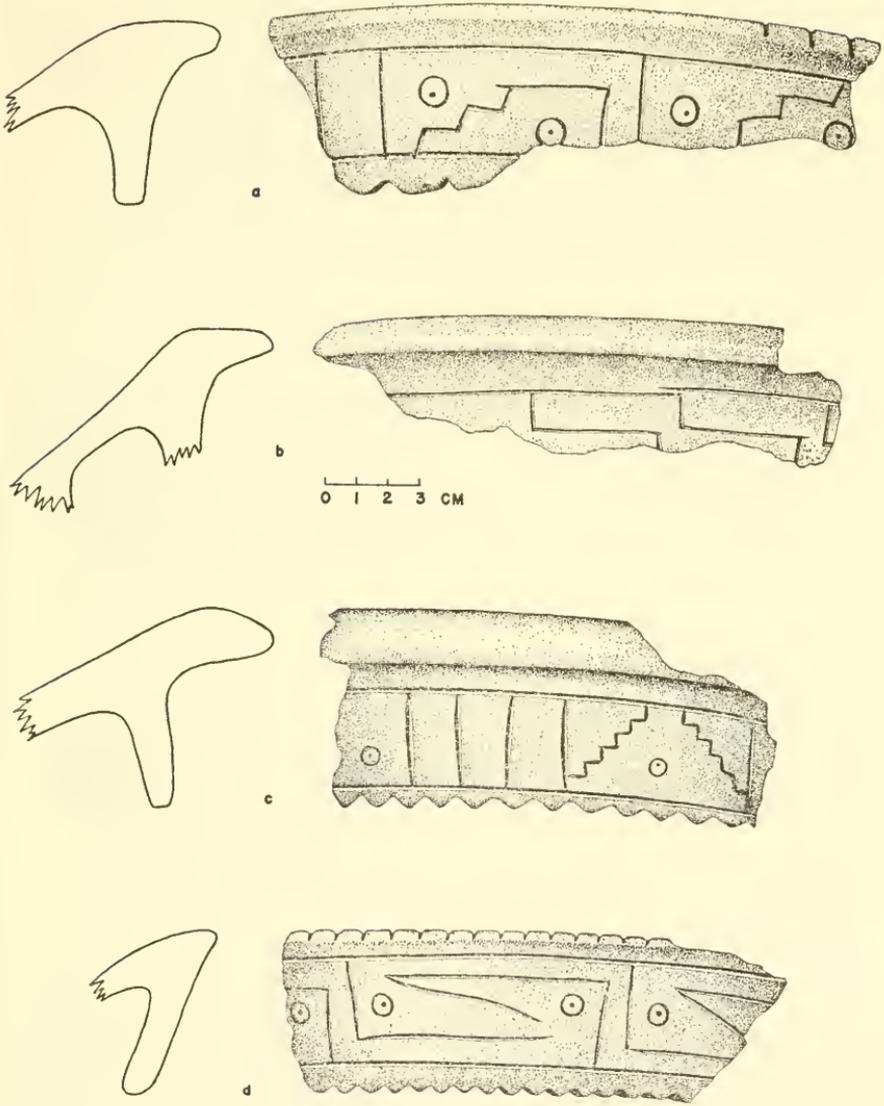


FIGURE 27.—Sherds of Jambelí Incised with impressed rings on the flange of Vessel Form 12.

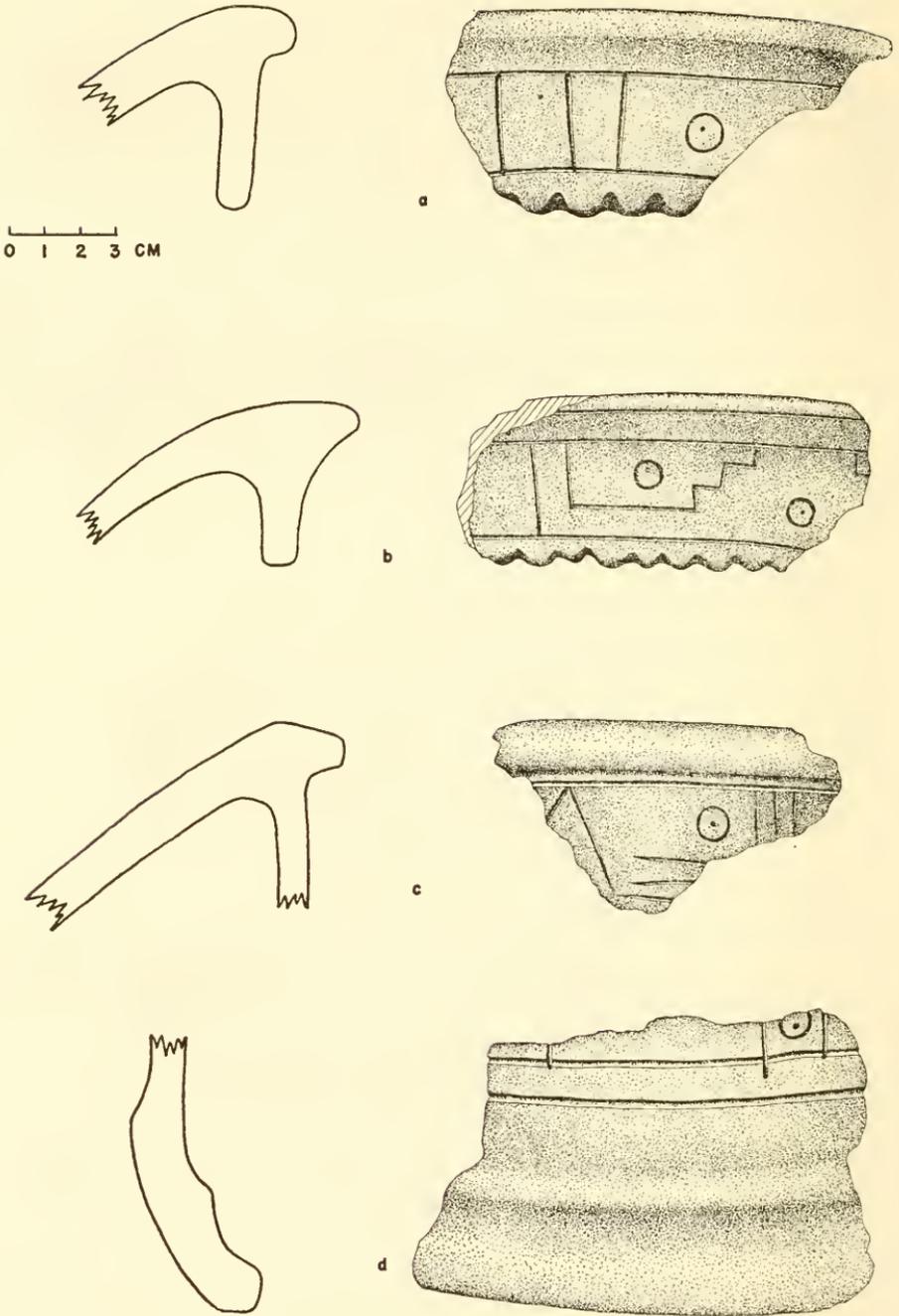


FIGURE 28.—Sherds of Jambeli Incised with impressed rings on the flange and pedestal base of Vessel Form 12.

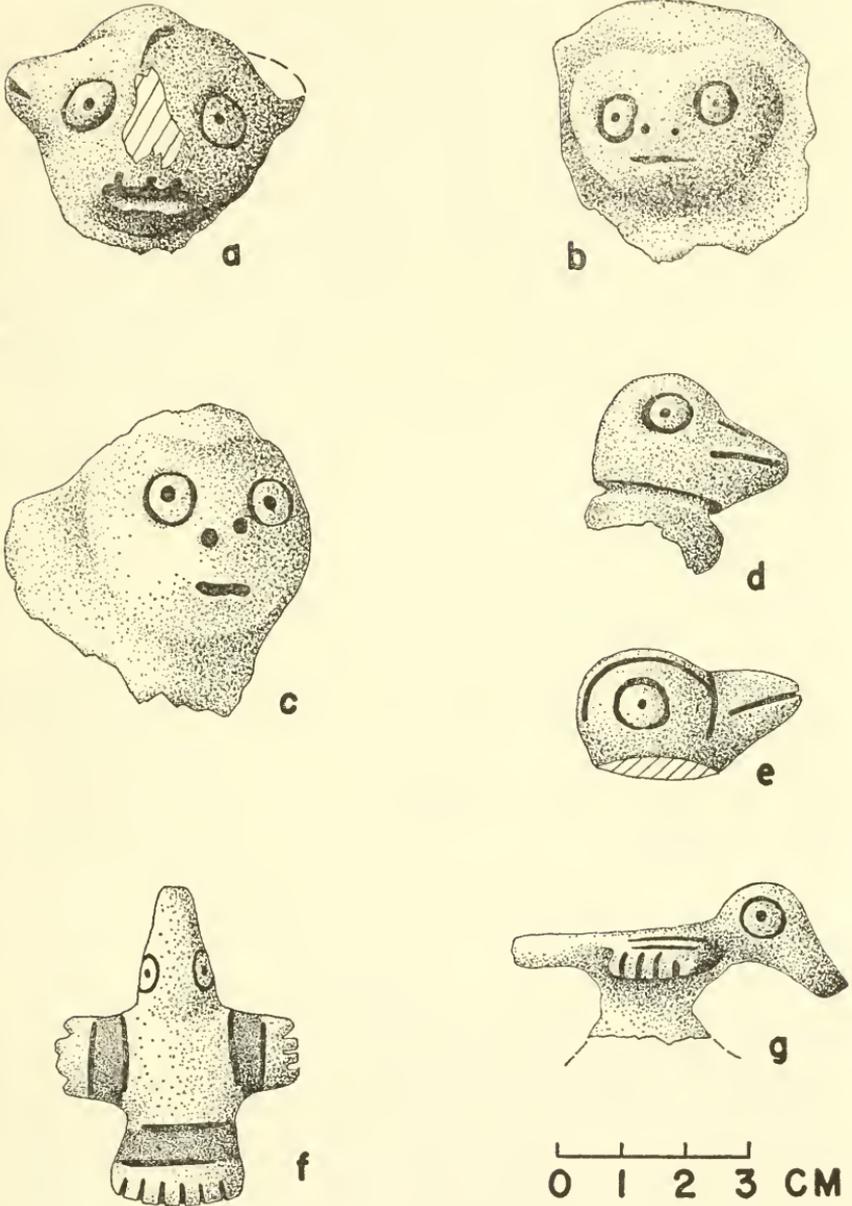


FIGURE 29.—Adornos from vessels of Jambelí Incised (dark stippling indicates red paint; light stippling, natural surface).

*Associated techniques:* Seven small pottery adornos were collected from the surface of Site O-6. Several complete vessels from Garbanzal, Peru, show this kind of adorno on the upper part of tall pedestal bases with incised decoration (fig. 42: 55-56; Mejía Xesspe, 1960, lam. 1, *a, c*), and the adornos from Site O-6 must have occupied the same position. The surface is generally even, but unpolished, and only one adorno shows traces of slip or paint. Three are identifiable as bird heads (fig. 29, *d-g*); the remaining four are generalized but probably represent an animal (fig. 29, *a-c*). All have the same type of eye: a ring with a punctate in the center. The animal heads have slightly to highly projecting noses, with two punctates at the base to represent nostrils. The mouth is an irregular horizontal gash. These heads are attached at the back to the vessel wall. Two are solid and the other two are hollow. Of the three birds, two are heads and the other a complete bird with outstretched wings. The latter has zoned red paint between the pairs of incisions on the wing and tail.

TEMPORAL DIFFERENCES WITHIN THE TYPE: None discernible.

CHRONOLOGICAL POSITION OF THE TYPE: Present in small frequency throughout the seriated sequence (see fig. 38).

### Jambelí Negative (Jambelí Negativo)

SIZE OF SAMPLE: 45 sherds.

PASTE: Majority like Ayalan Plain; a few like Jambelí Plain. See those type descriptions for details.

SURFACE: Painting applied to plain or red slipped surface. Plain surfaces even but not polished. Red slip varies from thin unpolished coating to polished red slip comparable to Jambelí Polished Red. Rare sherds are white slipped on the rim, then painted.

FORM (total rims from seriated samples, 17):

*Rim:* Direct with rounded or tapered lip. Rarely expanded with flat top.

*Body wall thickness:* 3-7 mm.

*Base:* Typically flattened; rarely annular 14-16 cm. diameter.

*Reconstructed common vessel shapes:*

Form 1—82.5 percent

Form 3—11.8 percent

Form 10—5.9 percent.

DECORATION (figs. 30 and 31):

*Technique:* Black paint applied by the resist or negative technique to a plain, red slipped or white slipped portion of the surface. Frequently combined with white paint on a red slipped surface, either as an integrated design in which the negative painting is alternated with or superimposed on the white painted design, or on the opposite surface (i.e., the interior is negative painted and the exterior white-on-red). Where well preserved, the black is dark and covers the red slip completely. Edges of painted areas are sharply defined. Black lines are more unequal in width than unpainted lines left by the application of resist material. Negative paint is fugitive and frequently difficult to detect even when the surface is wet, suggesting that this technique of decoration may have been more common than the eroded condition of the sherds now indicates.

*Motif:* Lines and dots, independently or in combination. Dots are unpainted areas to which resist material was originally applied. They occur in a single row in the center of a band 8 mm. wide, or several adjacent rows cover a

larger area. Dots are 3-7 mm. in diameter, with little variation on a single design. Smaller dots are more circular than larger ones, which may be slightly ovoid. Rarely, dots are black and surrounded by a black ring. Separation is from 1-3 mm. Unpainted stripes range from 2-8 mm. in width; black stripes from 1-9 mm. Lines are straight or curved, and parallel lines are commonly employed.

TEMPORAL DIFFERENCES WITHIN THE TYPE: None discernible.

CHRONOLOGICAL POSITION OF THE TYPE: Present in minor frequency throughout the seriated sequence (see fig. 38).

### Jambelí Plain (Jambelí Ordinario)

SIZE OF SAMPLE: 6488 sherds.

#### PASTE:

*Temper:* Abundant coarse white quartz sand with abundant pinpoint flecks of mica. Quartz grains 1-2 mm. frequent, some up to 5 mm., and well distributed in paste.

*Texture:* Sandy, giving abrasive feeling to eroded surfaces; compact; not friable. Tendency to show lamination parallel to surface.

*Color:* Typically, completely oxidized so that the cross section has the same color as the surface. Thick rim may have medium to dark gray core.

*Method of manufacture:* Coiling; sometimes fractured along coil junctions.

#### SURFACE:

*Color:* Rather uniformly orange to orange-tan or orange-brown; occasional medium gray fire clouds.

*Treatment:* Smoothing varies with vessel shape. Bowl interiors relatively even, showing fine brush marks adjacent to the rim, but never slick to touch; bowl exteriors typically swiped, leaving characteristic elongated marks from dragged temper grains parallel to rim. Jar necks have brushlike marks on interior and exterior; bodies poorly smoothed leaving uneven and irregular pitted surfaces.

*Hardness:* 4-4.5

FORM (total rims from seriated samples, 561):

*Rim:* Exteriorly thickened, everted, interiorly thickened, expanded or direct, with rounded, flattened, or tapered lip.

*Body wall thickness:* Range 0.4-1.2 cm.; majority 5-7 mm.

*Base:* 1) flattened; 2) annular, diameter 10-28 cm.; 3) hollow polypod; maximum diameter 4-5 cm.; 4) solid polypod, diameter 3 cm., length 7.5 cm.

*Reconstructed common vessel shapes:*

Form 9—46 percent

Form 4—19.7 percent

Form 11—14.8 percent.

*Minor vessel shapes* (frequency less than 5 percent): Forms 1, 5, 10, 3, 2, 12, and 13.

*Appendages:*

Rim lug: Trianguloid lobe projection extending horizontally outward 3 cm. at rim. Examples are from the surface of Sites O-3 and O-6 (fig. 23, e).

TEMPORAL DIFFERENCES WITHIN THE TYPE: None discernible.

CHRONOLOGICAL POSITION OF THE TYPE: Increases from a frequency of 3.6 percent at the earliest site to become the dominant plain type in the latter part of the seriated sequence (see fig. 38).

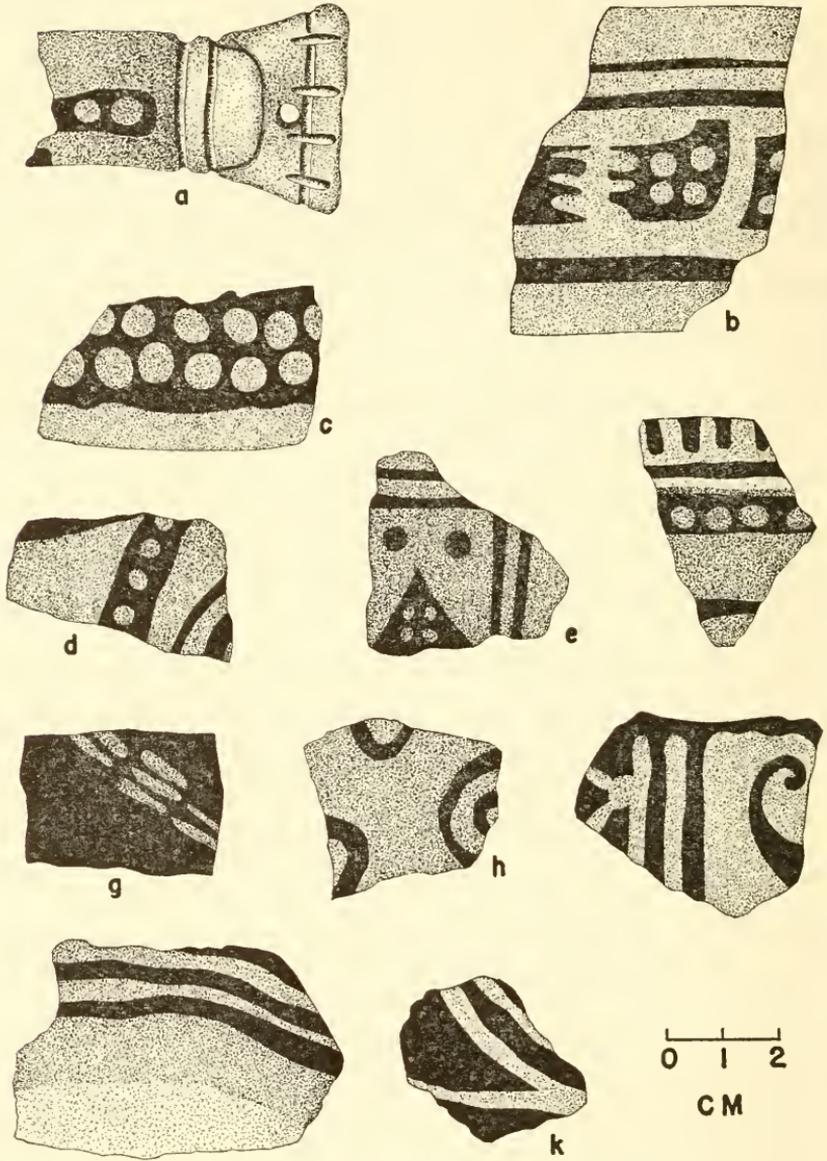


FIGURE 30.—Sherds of Jambelí Negative (black indicates black paint; dark stippling, red slip; light stippling, natural surface).

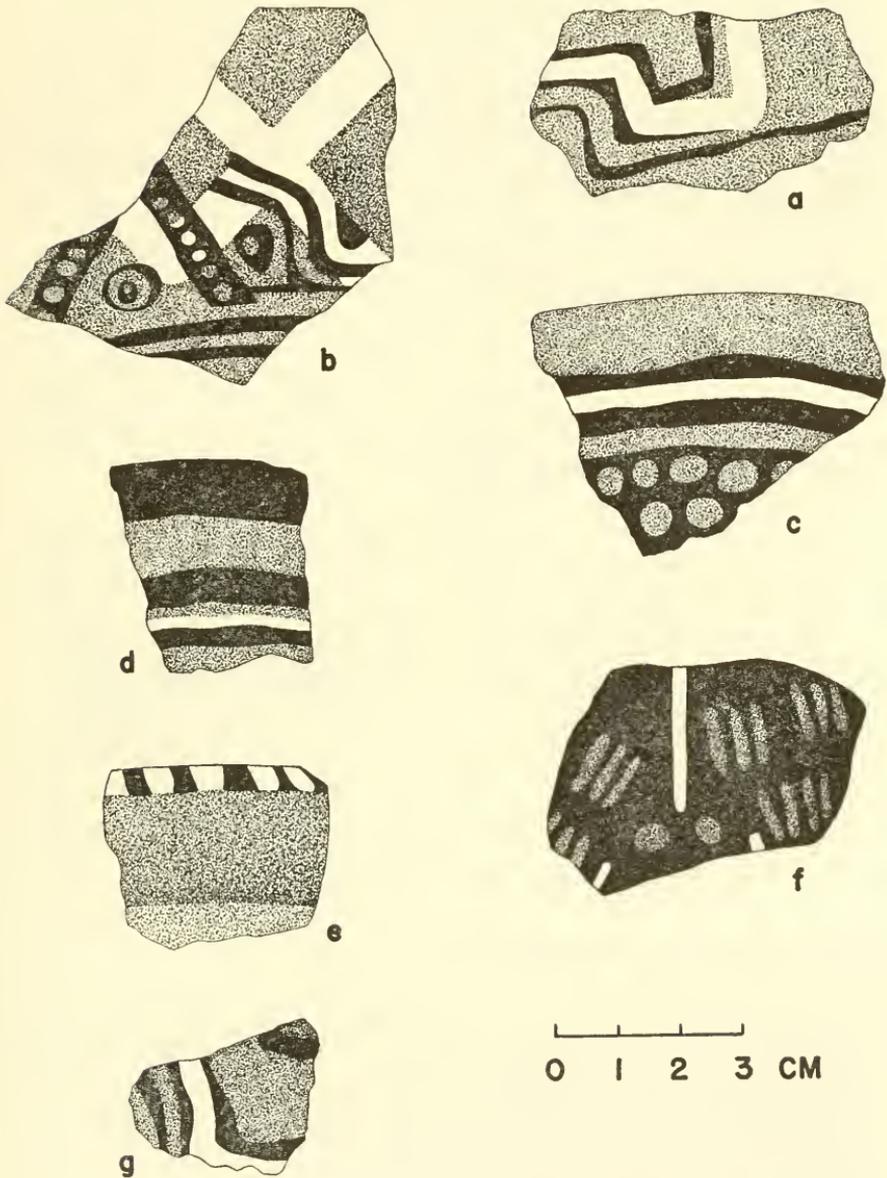


FIGURE 31.—Sherds of Jambelí Negative in combination with white paint (black indicates black paint; dark stippling, red slip; no stippling, white paint).

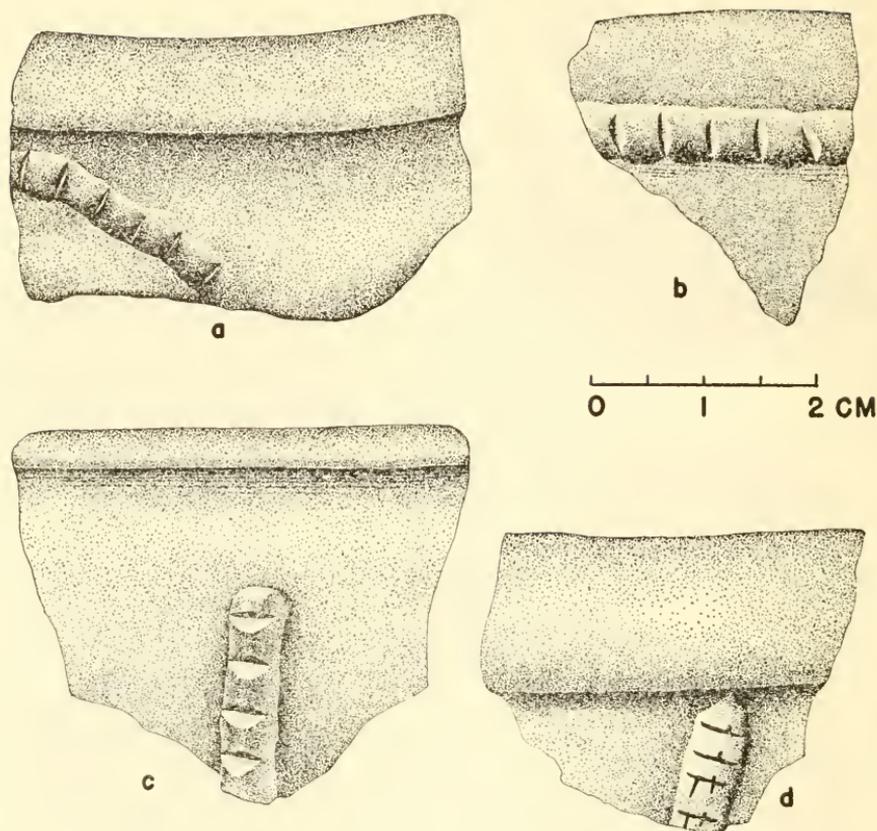


FIGURE 32.—Sherds of Jambelí Punctate, nicked rib variety.

### Jambelí Punctate (Jambelí Punteado)

SIZE OF SAMPLE: 52 sherds.

PASTE and SURFACE: Like Jambelí Plain or Ayalan Plain; see those type descriptions for details.

FORM (total rims from seriated samples, 18):

*Rim:* Direct or everted with rounded or tapered lip.

*Body wall thickness:* 4–10 mm.

*Base:* Probably rounded or slightly flattened.

*Reconstructed common vessel shapes:*

Form 9—61 percent

Form 1—16.6 percent

Form 2—16.6 percent

Form 5—5.5 percent.

DECORATION:

*Technique:* Punctates represent a great variety of size and form, ranging from “pinpoint” marks to irregularly shaped gashes (figs. 32–33). Most typical are short incisions less than 8 mm. long and less than 0.5 mm. wide. Pinpoint punctates are next in frequency. Circular or ovoid marks, or other

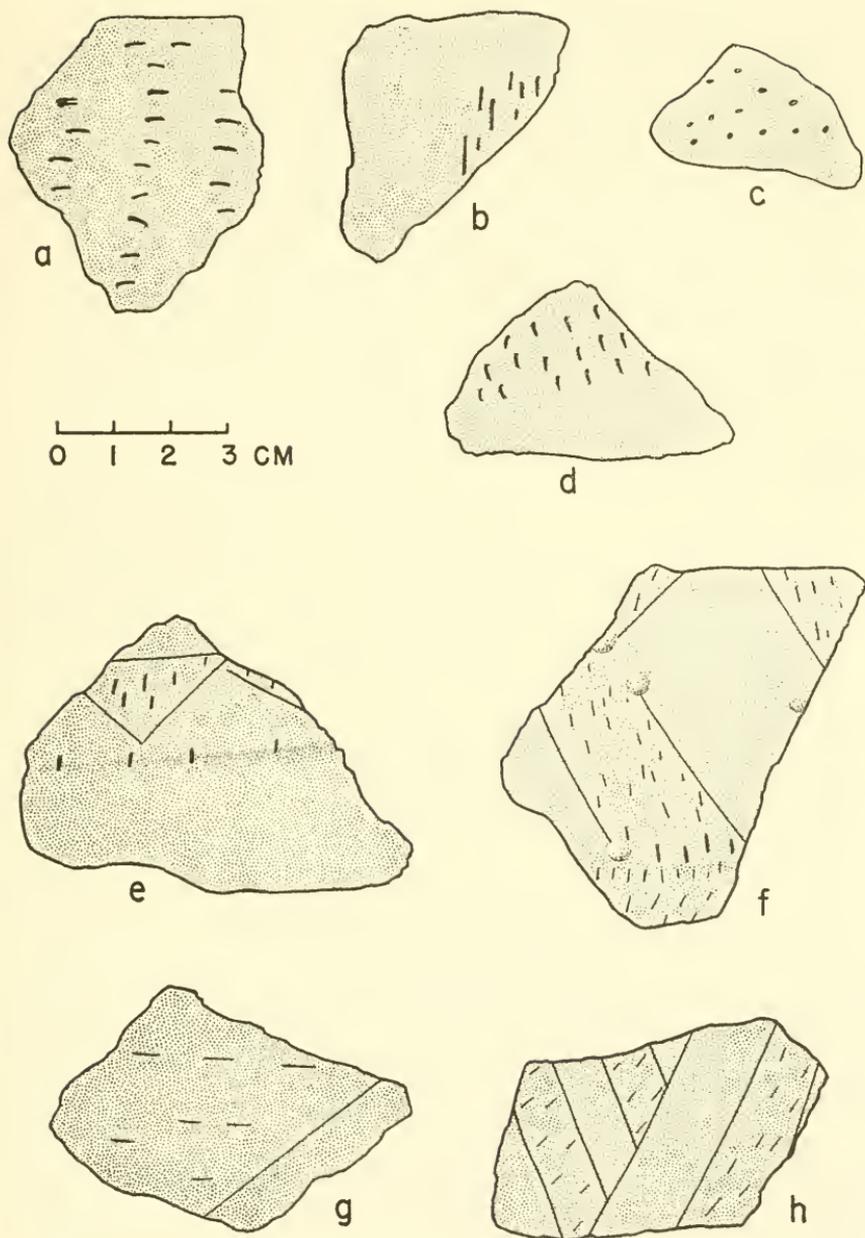


FIGURE 33.—Sherds of Jambelí Punctate, unzoned and zoned varieties.

forms, are very rare. Punctates on a single sherd do not differ markedly in size. Application is somewhat haphazard and punctates are not typically evenly spaced or arranged in rows, except when applied to ribs or rims. Incised lines are fine and generally straight. Some sherds also have zoned red slip. Decoration is always on the exterior.

*Motif*: Punctate decoration can be divided into four classes: 1) Nicked rim—a row of nicks along the edge of the lip, or more rarely around the neck of vessels of Form 9; 2) Nicked rib—a row of nicks along an applique rib on the upper vessel wall (fig. 32); 3) Punctate areas—overall application of punctation to the entire surface, or large areas thereof (the latter differs from zoned punctate in the absence of a bordering incision); 4) Zoned punctate—bands or triangular areas outlined by incised lines and filled with punctations, which may be randomly distributed or in rows.

TEMPORAL DIFFERENCES WITHIN THE TYPE: None discernible. All four motifs occur throughout the seriated sequence.

CHRONOLOGICAL POSITION OF THE TYPE: Present in small frequency throughout the seriated sequence (see fig. 38).

### Jambelí Polished Red (Jambelí Rojo Pulido)

SIZE OF SAMPLE: 1320 sherds.

PASTE: Like Ayalan Plain; see that type description for details.

SURFACE:

*Color*: Unslipped surfaces light orange to tan, very uniform in hue. Slipped surfaces rich red.

*Treatment*: Unslipped surfaces even, occasionally smooth; majority show fine smoothing marks and minor defects; more eroded than slipped surfaces. Slipped surfaces (exterior of jars and deep bowls; both surfaces of shallow bowls), well smoothed, even, polished. Slip appears thinner than on Jambelí White-on-Red, but this may result from greater erosion.

*Hardness*: 3.5-4.0

FORM (total rims from seriated samples, 330):

*Rim*: Direct, interiorly thickened, everted, with rounded or tapered lip.

*Body wall thickness*: 0.3-1.4 cm.; majority 5-8 mm.

*Base*: Typically slightly flattened; occasionally annular; diameter 8-20 cm.

*Reconstructed common vessel shapes*:

Form 1—48.2 percent

Form 9—24.2 percent

Form 6—7.0 percent

Form 8—6.4 percent.

*Minor vessel shapes* (frequency less than 5 percent): Forms 5, 4, 10, 3, and 13.

TEMPORAL DIFFERENCES WITHIN THE TYPE. None discernible.

CHRONOLOGICAL POSITION OF THE TYPE. Present with relatively uniform frequency throughout the seriated sequence (see fig. 38).

### Jambelí Red Banded (Jambelí Rojo en Bandas)

SIZE OF SAMPLE: 183 sherds.

PASTE: Like Ayalan Plain; see that type description for details.

SURFACE:

*Color*: Light orange to light tan.

*Treatment*: Smoothed, producing an even but not polished finish; fine horizontal smoothing marks visible on interior, rim, or exterior, usually not present on bowl interiors.

*Hardness*: 3.5-4.0

FORM (total rims from seriated samples, 83):

*Rim*: Direct, everted, interiorly thickened, or expanded with rounded or tapered lip.

*Body wall thickness*: 5-8 mm.

*Base:* Probably typically slightly flattened; 6 hollow polypod feet, maximum diameter 4 cm.; one annular base 9 cm. diameter.

*Reconstructed common vessel shapes:*

Form 1—20.4 percent

Form 9—21.6 percent

Form 3—19.3 percent

Form 8—16.9 percent

Form 4—12.0 percent

Form 5—6.0 percent.

*Minor vessel shapes* (frequency less than 5 percent): Form 6.

**DECORATION:** Red slip or wash applied in bands or zones in four major ways (frequently occurring in combination): 1) along the rim interior for a width of 1.5–2.5 cm.; 2) along the rim top; 3) covering the exterior and extending 1.5 cm. over onto the interior; 4) concentric bands on the interior. A single example shows circular areas 1 cm. in diameter on the exterior.

**TEMPORAL DIFFERENCES WITHIN THE TYPE:** None discernible.

**CHRONOLOGICAL POSITION OF THE TYPE:** Present throughout the seriated sequence in a frequency of under 5 percent (see fig. 38).

### Jambelí Red Wash (Jambelí Rojo Bañado)

**SIZE OF SAMPLE:** 641 sherds.

**PASTE:** Like Ayalan Plain; see that type description for details.

**SURFACE:**

*Color:* Typically light orange on plain surfaces. Wash the same shade of red as Jambelí Polished Red.

*Treatment:* Plain surface smoothed, leaving slight to marked irregularities and horizontal smoothing marks; some bowls swiped on exterior; more poorly finished than plain surfaces on vessels with polished red slip. Surface to which red wash was applied is more even and smooth but leaving faint smoothing tracks sometimes visible, as well as mica flecks.

*Hardness:* 3.5–4.0

**FORM** (total rims from seriated samples, 182):

*Rim:* Direct, everted, or exteriorly thickened with rounded lip.

*Body wall thickness:* 0.3–1.5 cm.; majority 5–9 mm.

*Base:* Typically slightly flattened; rarely annular pedestal; about 10 cm. diameter.

*Reconstructed common vessel shapes:*

Form 9—66.5 percent

Form 2—13.2 percent.

*Minor vessel shapes* (frequency less than 5 percent): Forms 1, 6, 5, 8, 10, 3, and 11.

**TEMPORAL DIFFERENCES WITHIN THE TYPE:** None discernible.

**CHRONOLOGICAL POSITION OF THE TYPE:** Present with little change in frequency throughout the seriated sequence. Diminished percentage in the earliest sites may reflect loss by erosion rather than smaller original frequency (see fig. 38).

### Jambelí Shell Scraped (Jambelí Raspado con Concha)

**SIZE OF SAMPLE:** 446 sherds.

**PASTE:** Typical of Jambelí Plain and Ayalan Plain, with a slightly higher frequency of incompletely oxidized examples.

**SURFACE:**

*Color:* Typically light orange to tan. Large gray areas are common on the exterior, less frequent on the interior.

*Treatment:* One surface scraped with the edge of a ribbed clamshell producing broad parallel grooves more or less 1.5 mm. wide and 1.5 mm. apart, varying with the size of the shell used as the tool. The majority show scraping in one direction only, but intersecting or overlapping patterns occur. About 95 percent of the sherds are scraped on the interior only, suggesting that this is a technique of surface finish rather than one of intentional decoration since the vessels are constricted mouthed jars. Exterior scraping is restricted to the necks of jars of Form 9, and the marks run vertically, probably for decorative effect (pl. 8).

*Hardness:* 3.5-4.5

FORM (total rims from seriated samples, 36):

*Rim:* Everted and slightly to markedly thickened at the angle of eversion, or direct with rounded or flattened lip.

*Body wall thickness:* 0.3-1.1 cm.; majority 4-6 mm.

*Base:* Probably slightly flattened.

*Reconstructed common vessel shapes:* Form 9—94.3 percent.

*Minor vessel shapes* (frequency less than 5 percent): Forms 1 and 10.

TEMPORAL DIFFERENCES WITHIN THE TYPE: None discernible.

CHRONOLOGICAL POSITION OF THE TYPE: Present throughout the seriated sequence with no apparently significant change in frequency (see fig. 38).

### Jambelí White-on-Red (Jambelí Blanco Sobre Rojo Pulido)

SIZE OF SAMPLE: 599 sherds.

PASTE:

*Temper:* Sand abundantly mixed with minute grains of mica; sand typically fine but with occasional coarser inclusions up to 1.5 mm. Abundant and well mixed.

*Texture:* Fine grained, sandy; tendency to laminated appearance accentuated by slit air pockets parallel to surface.

*Color:* Range from completely oxidized light orange, to orange along the surface with medium to dark gray core, to gray through entire cross section.

SURFACE:

*Color:* Decorated areas covered with a thin red slip, typically a dark rich red of relatively uniform hue. Undecorated surfaces light orange or tan. Gray fire clouds may occur on interior or exterior.

*Treatment:* Slipped surfaces smooth, even, and where uneroded show a gloss. Unslipped surfaces even, sometimes showing smoothing marks, but not polished. Sparkling pinpoint mica grains are visible on slipped and unslipped surfaces.

*Hardness:* 3.5-4.0

FORM (total rims from seriated samples, 227):

*Rim:* Direct, interiorly thickened, everted, with rounded or tapered lip.

*Body wall thickness:* 0.3-1.1 cm.; majority 3-5 mm.

*Base:* 1) Slightly flattened; 2) Annular, diameter 16-18 cm.; 3) Hollow polypod, maximum diameter 4-5 cm.

*Reconstructed common vessel shapes:*

Form 1—62 percent

Form 3—15 percent

Form 6-7.9 percent.

*Minor vessel shapes* (frequency less than 5 percent): Forms 5, 4, 9, 8, 10, 12, and 13.

*Additional rare vessel shapes:* 1) Jar with spout and bridge handle: Spout length 4 cm., exterior diameter 1.3 cm., interior diameter 0.8-0.9 cm., maximum body diameter 12 cm. (fig. 23, a).

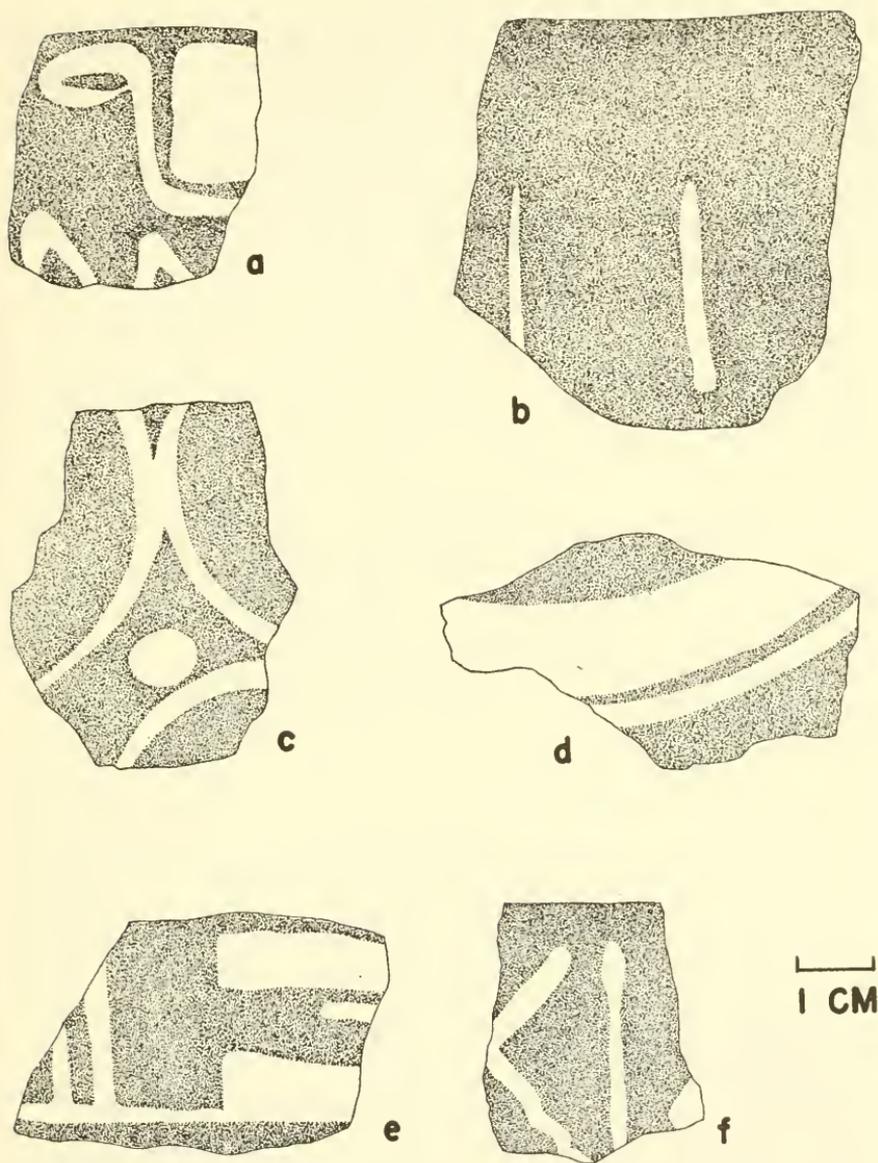
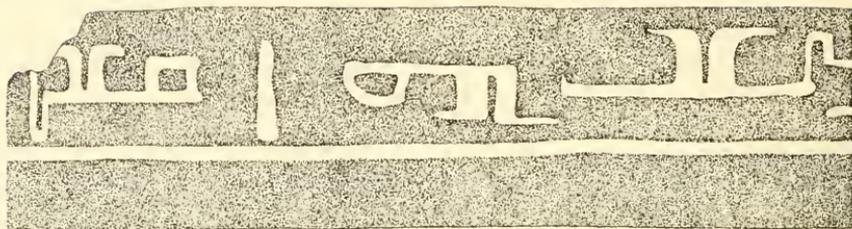


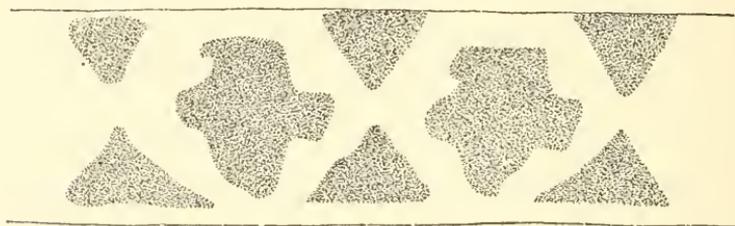
FIGURE 34.—Sherds of Jambelí White-on-Red (dark stippling indicates red slip; no stippling, white paint).

DECORATION:

*Technique:* 1) White stripes and zones on red slip. Stripes typically 2–7 mm. wide, occasionally 1.3–1.8 cm. wide; some variation in width due to poor control of brush; termination may be tapered to point or thickened by excess paint; paint sometimes thick and easily chipped off. Solid areas are rectangular, up to 4 by 6 cm., or circular. Unequal thickness of paint makes color vary from white to pinkish in thin places where underlying red



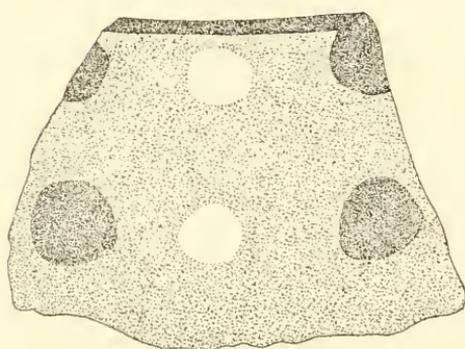
a



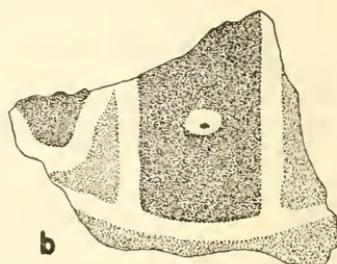
b

0 1 2 3 CM

FIGURE 35.—Rolled out designs from complete vessels of Jambelí White-on-Red (dark stippling indicates red slip; no stippling, white paint).



a



0 1 2 3 CM

FIGURE 36.—Sherds of Jambelí White-on-Red, white and red variety (dark stippling indicates red slip; light stippling, natural surface; no stippling, white paint).

slip shows through. Solid areas were outlined and then filled in (figs. 34-35; pls. 9-10). 2) Alternating bands of red and white, white applied after red and may overlap slightly onto red areas (fig. 36).

*Motif:* Rectilinear patterns composed of single or parallel lines forming rectangular or diamond-shaped areas or stepped designs are most typical of white-on-red decoration. Curvilinear designs are rare. Solid areas are typically rectangular, rarely circular, and most frequent on the exterior. White and red designs are usually concentric bands, alternating white and red, with red bands slightly wider than the white ones. A rare variant consists of red and white spots on an unslipped surface (fig. 36, *a*). Painting is applied to interior of shallow bowls, exterior of deep bowls and jars; occasionally to both surfaces.

**TEMPORAL DIFFERENCES WITHIN THE TYPE:** None discernible. Both white-on-red and white and red techniques occur throughout the seriated sequence.

**CHRONOLOGICAL POSITION OF THE TYPE:** Characteristic throughout the seriated sequence (see fig. 38).

### Jambelí White Painted (Jambelí Blanco Pintado)

**SIZE OF SAMPLE:** 74 sherds.

**PASTE:** About 50 percent like Ayalan Plain; the remainder like Jambelí Plain; see those type descriptions for details.

**SURFACE:**

*Color:* Red-orange, orange, brownish, or gray as a result of differential firing.

A few sherds have a thin red wash; none has a polished red slip.

*Treatment:* Smoothed, sometimes leaving horizontal smoothing marks; surface remains somewhat uneven and irregular with small defects. Broad scraping tracks on interior. Mica flecks glisten on both surfaces.

*Hardness:* 3-4

**FORM** (total rims from seriated samples, 25):

*Rim:* Direct or everted with rounded lip.

*Body wall thickness:* 0.3-1.0 cm.; majority, 3-7 mm.

*Base:* Probably slightly flattened.

*Reconstructed common vessel shapes:*

Form 9—88 percent

Form 2—12 percent.

*Additional rare vessel shapes:* 1) Miniature vessel with rounded body, slightly constricted mouth spanned by strap handle; height including handle 7.7 cm., maximum body diameter 5.6 cm., mouth diameter 3.5 cm. (pl. 11, *f*).

2) Jar of Form 9 with a horizontal flange around the neck 2 cm. below the rim; mouth diameter 9 cm. (fig. 23, *b*).

**Appendages:**

Horizontal Rim Lobe (pl. 11, *d*). A bowl of Form 2 has a prominent lobed lug extending horizontally from the rim exterior. Width at point of attachment, 6 cm.; outward projection, 3.5 cm. The upper surface has two white bands perpendicular to the mouth. The specimen is from the surface of Site O-6.

**DECORATION** (fig. 37; pl. 11):

*Technique:* White painted lines 2-5 mm. wide, with variation in width on a single sherd. Differences in paint thickness produce color range from white to pinkish. Spacing of parallel lines not uniform.

*Motif:* Parallel straight lines in groups of three or more, usually running vertically down from the rim. Rare examples have parallel horizontal lines

or diagonal lines. Painting may occur on the exterior of jars, interior of bowls, or the interior slope of everted rims of Form 1.

TEMPORAL DIFFERENCES WITHIN THE TYPE: None discernible.

CHRONOLOGICAL POSITION OF THE TYPE: Present in minor frequency throughout the seriated sequence (see fig. 38).

### Jambelí White Wash (Jambelí Blanco Bañado)

SIZE OF SAMPLE: 71 sherds.

PASTE: Like Ayalan Plain; see that type description for details.

SURFACE:

*Color:* Plain surfaces light orange or light tan; medium gray fire clouds common.

*Treatment:* Smoothed, often leaving smoothing marks faintly visible. White wash uneven, unequal in thickness, sometimes smeared, and not thick enough to obliterate defects in the smoothing of underlying surface; rarely smooth, never polished. Bowls better smoothed than jars.

*Hardness:* 3.5-4.0

FORM (total rims from seriated samples, 23):

*Rim:* Direct or everted with rounded lip.

*Body wall thickness:* 0.3-1.3 cm.; majority 3-5 mm.

*Base:* Probably typically flattened; two pedestal bases, diameters 20 and 30 cm.

*Reconstructed common vessel shapes:*

Form 2—52.3 percent

Form 5—13.1 percent

Form 10—13.1 percent.

*Minor vessel shapes* (frequency less than 5 percent): Forms 9, 8, 12, and 13.

TEMPORAL DIFFERENCES WITHIN THE TYPE: None discernible.

CHRONOLOGICAL POSITION OF THE TYPE: Present in minor frequency throughout the seriated sequence (see fig. 38).

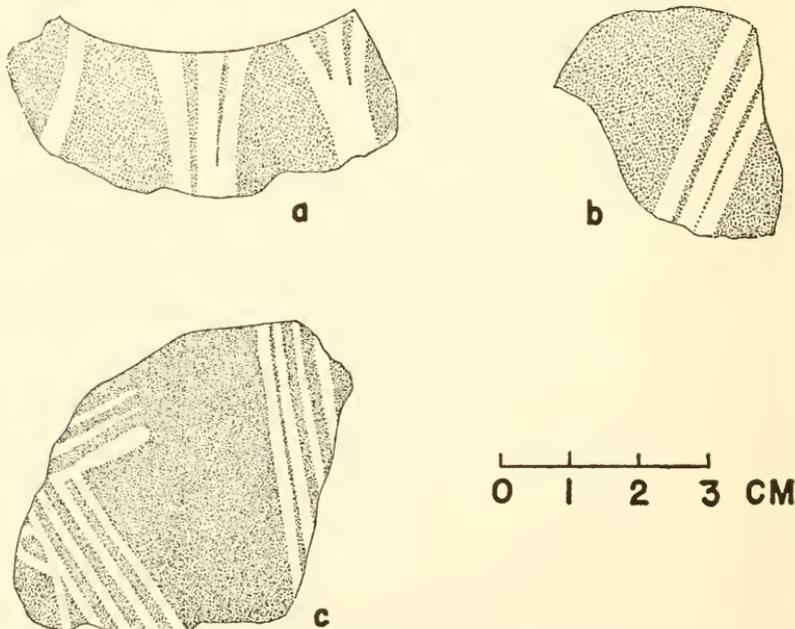


FIGURE 37.—Sherds of Jambelí White Painted (stippling indicates natural surface; no stippling, white paint).

**Posorja Polished Plain (Posorja Pulido)**

SIZE OF SAMPLE: 458 sherds.

**PASTE:**

*Temper:* Fine sand, grains not easily visible.

*Texture:* Fine grained, compact but often laminated, with long fine air pockets.

*Color:* Medium gray to tannish gray.

**SURFACE:**

*Color:* Dusty gray tan where polish eroded; polished areas vary from dark gray to tan.

*Treatment:* Even and, where uneroded, slick to touch. Fine horizontal brush marks faintly visible on interior, more rarely on exterior.

*Hardness:* 3.5-4.0

**FORM (total rims from seriated samples, 22):**

*Rim:* Direct, everted, or interiorly thickened with rounded lip.

*Body wall thickness:* 4-7 mm.

*Base:* Probably rounded or slightly flattened.

*Reconstructed common vessel shapes:*

Form 9—22.7 percent

Form 10—18.2 percent

Form 2—18.2 percent

Form 1—9 percent.

*Minor vessel shapes* (frequency less than 5 percent): Forms 8 and 11.

TEMPORAL DIFFERENCES WITHIN THE TYPE: None discernible.

CHRONOLOGICAL POSITION OF THE TYPE: Present only during the early half of the seriated sequence (see fig. 38).

## Trade Sherds

Several sites of the Jambelí Phase produced sherds of plain or decorated types belonging to two other cultures found in the Province of Guayas. The largest number are of Guangala Phase origin; a few represent the early Manteño Phase.

**GUANGALA PHASE TYPES.**—Sherds of Guangala Phase origin include plain types and the following decorated types (Appendix Table 2): Barcelona Painted Dark Line (Barcelona Línea Oscura), Guangala Burnished Line (Guangala Bruñido), Guangala Finger Painted (Guangala Pintado con Dedo) and Chorrera Iridescent (Chorrera Iridiscente). Although Guangala pottery was identified at only a few sites, its seriated position (fig. 38) suggests that contact between the Jambelí and Guangala Phases occurred throughout the duration of the Jambelí Phase as it is now known.

**MANTEÑO PHASE TYPES.**—A few plain sherds from Site G-L-30 were identified by Estrada as representing the fine kaolinite paste of Playas Gray Polished (Playas Gris Pulido). Two decorated sherds from Site O-3 are Playas Engraved (Playas Grabado) (Estrada, 1957 a, p. 72). These types are characteristic of the Manteño culture, which is later than the Regional Developmental Period. Since these sherds are from surface collections, they are most easily

explained as intrusions resulting from later Manteño occupation of the area around the Gulf of Guayaquil.

### Unclassified Decorated

Most of the decorated sherds left unclassified were too small or too badly eroded to identify. The remainder consisted principally of applique nubbins.

APPLIQUE NUBBINS.—One rim of Form 9 from Site O-5 has two rounded pellets attached side by side under the everted rim. Traces of red wash are visible on the upper surface of the rim, which has a diameter of 14 cm. Another rim from the same provenience has a nubbin with a punctate in the center in the same position on the rim exterior.

Several sherds from the surface of Site O-3 are ornamented with a horizontal row of low applique nubbins 2-5 mm. high, applied either to the surface or to a low ridge.

### Implications of the Seriated Sequence

The seriated sequence of the Jambelí culture is based on trends in change of frequency in the plain types derived from analysis of the sherds from stratigraphic excavations at sites G-84, G-86 and O-5. Into this framework, surface collections from 10 additional sites were seriated. Finally, the attempt was made to include sites represented by a sample of less than 100 sherds, and 7 of these fit the pattern of change sufficiently well to be incorporated into the graph (fig. 38).

The two principal plain types exhibit a rather smooth pattern of change, in which Jambelí Plain, tempered with coarse micaceous sand, increases in popularity while Ayalan Plain, tempered with fine micaceous sand, shows a corresponding decline in frequency. Some of the samples exhibiting a larger amount of both types than is consistent with the pattern of the curve reflect an unusually high degree of surface erosion. This loss of surface results in the classification of some sherds as plain that might originally have had a slipped or painted surface. Sites P-2 and G-L-3 are examples of this kind of distortion.

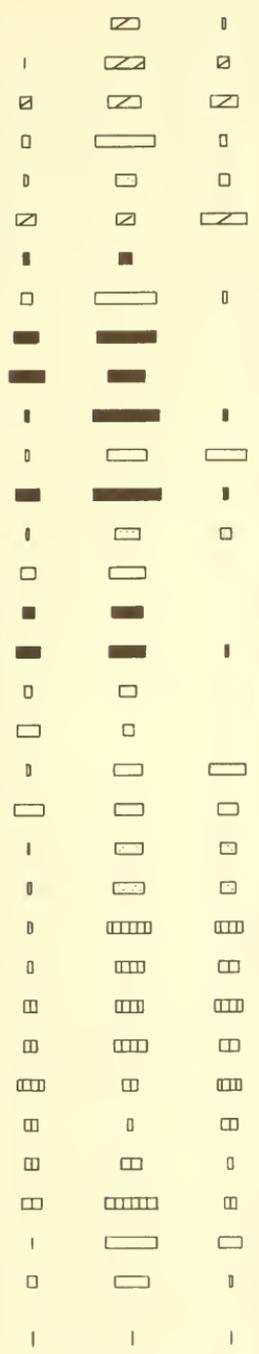
The only real time marker, in terms of presence or absence, is Posorja Polished Plain, which is restricted to the early half of the sequence. It perhaps represents a survival of the polished plain ware tradition characteristic of the preceding Formative Period.

None of the decorated types exhibits any consistent pattern of change. Each type maintains a relatively uniform frequency from the earliest to the latest site, with fluctuations that can be attributed either to differential amounts of surface erosion or to errors resulting from the small size of the sherd sample. Attempts were made to

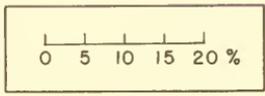
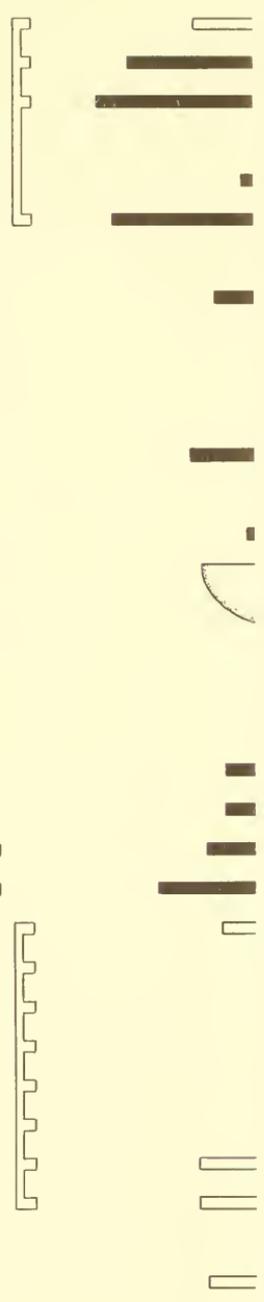
JAMBELI SHELL  
SCRAPED

JAMBELI  
POLISHED RED

JAMBELI WHITE  
ON RED



- O-5, 0-20 CM
- 20-40
- 40-60
- P-12
- G-84, 0-10 CM
- O-5, 60-80
- G-Mo-11
- G-L-30
- G-L-7
- G-L-2
- G-L-27
- O-5, TEST
- G-109
- G-84, 10-20
- G-Mo-3
- G-Mo-17
- G-L-28
- P-2
- G-L-3
- O-6
- O-3
- G-84, 20-30
- 30-40
- G-86, 0-20 CM
- 20-40
- 40-60
- 60-80
- 80-100
- 100-120
- 120-140
- 140-160
- P-8
- P-9



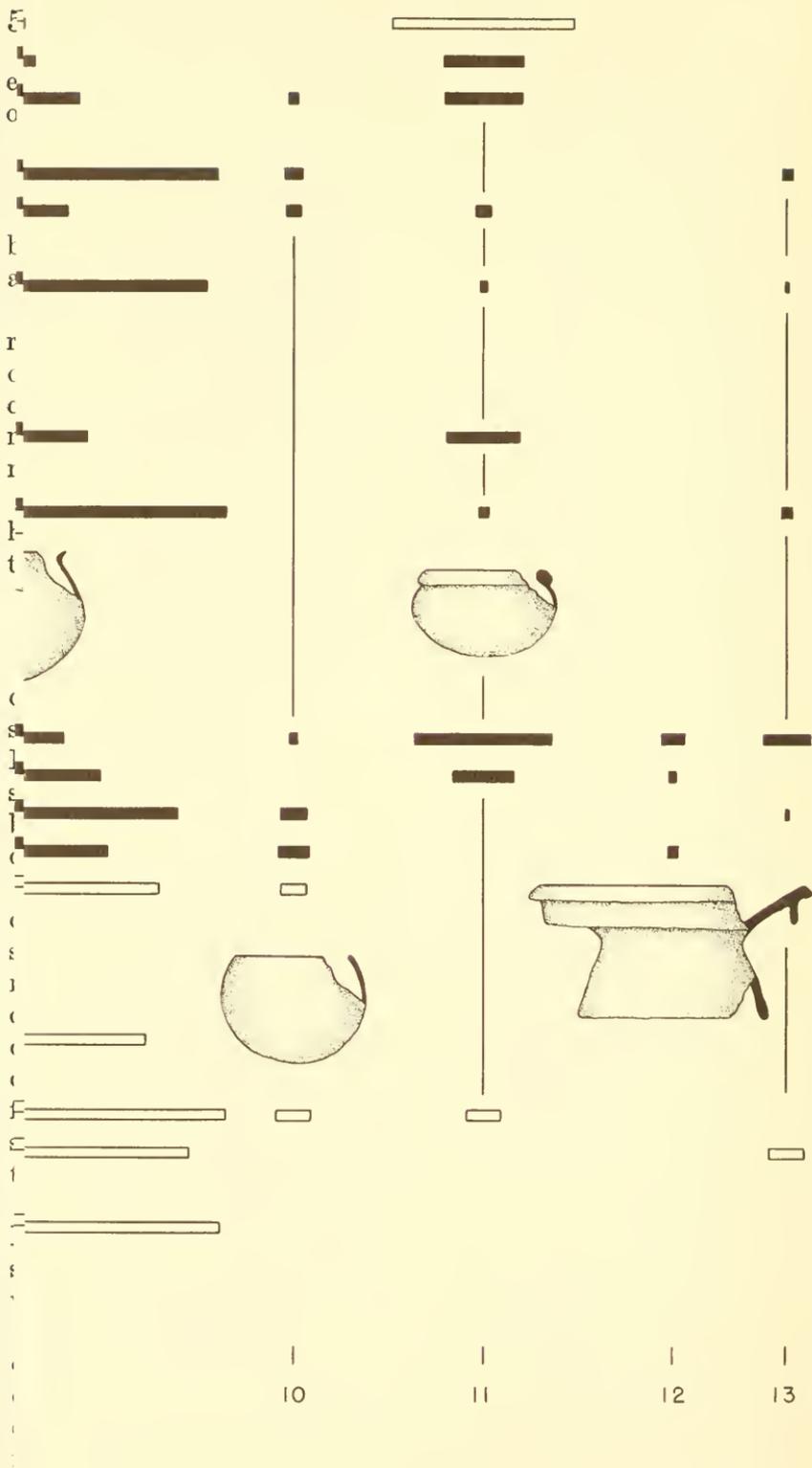


Fig. 39.—Changes in vessel shape frequency during the seriated sequence of the Jambeli Phase (white bars indicate samples with less than 49 rims).



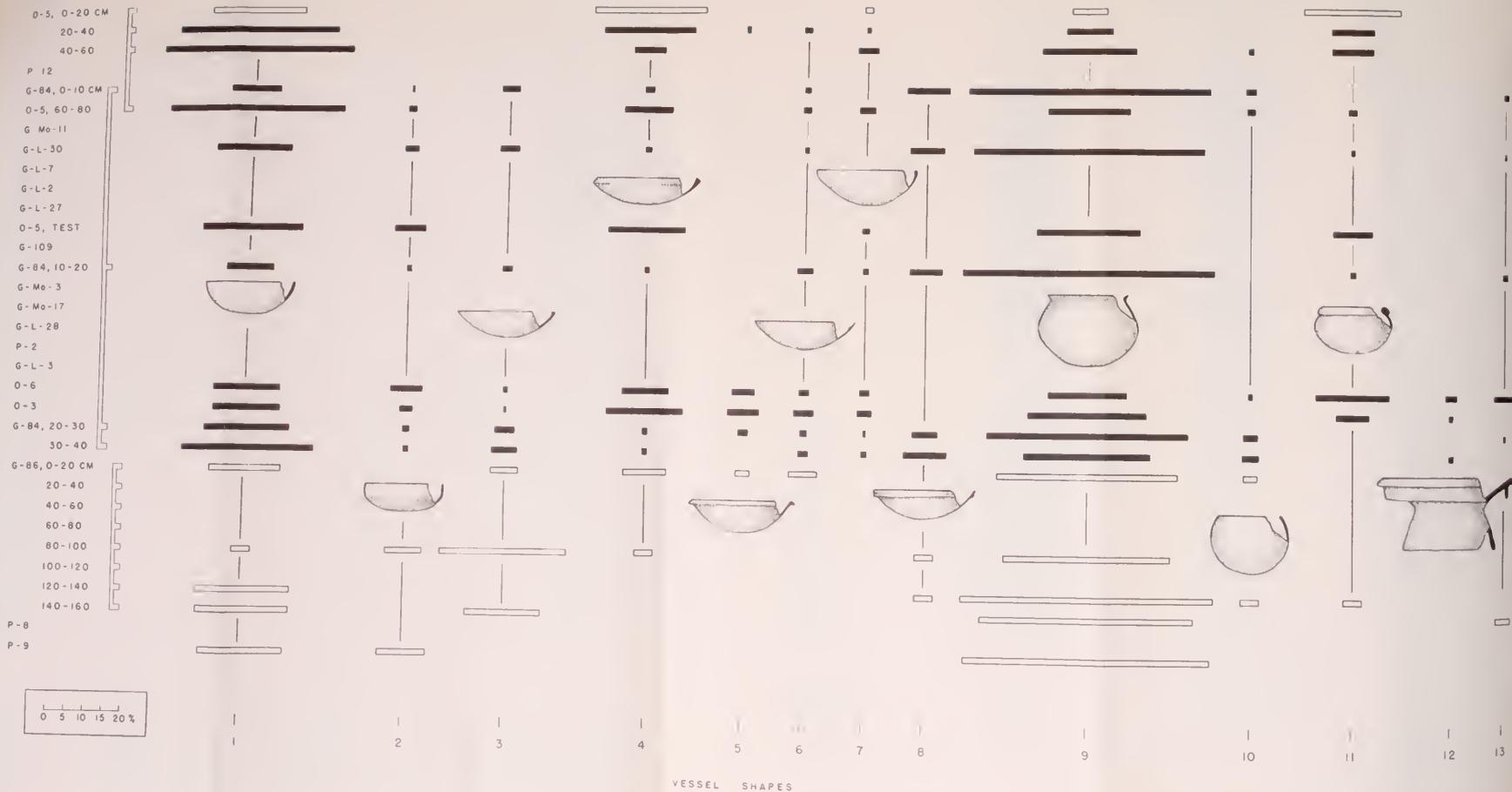


FIGURE 39.—Changes in vessel shape frequency during the seriated sequence of the Jambel Phase (white bars indicate samples with less than 49 rims).

detect temporal differences in the decorative motifs, but no distinctions could be found that could not be attributed to deficiencies in the size of the sample.

Analysis of the rim forms and reconstructed vessel shapes showed the same picture of cultural uniformity through time (fig. 39). Only two forms have a restricted distribution: Form 5, a bowl with an everted rim, and Form 12, a large compotera. Both are limited to the early half of the sequence. Annular bases are present throughout, and this is probably also true of hollow legs since their absence from the earliest and latest levels can be accounted for by the small size of the sherd sample. The only solid leg comes from an early site. Spouts, although very rare, appear to occur throughout the sequence.

Discussion of the temporal differences in the frequency of various types of artifacts is hampered by the fact that these are relatively rare in comparison to sherds. The majority of those artifacts included in this report are from Site O-6, where the constant erosion of the site by the sea, and the existence of a resident population able to salvage objects as they were revealed, provides a combination of collecting circumstances not met with at any other Jambelí site. In view of the relatively small amount of excavation undertaken, it consequently is difficult to determine whether the absence of figurine fragments from the lower third of the sequence reflects a real absence or the inadequacy of collections from early sites. The two bark beater fragments are from sites that occupy an early and a late position, suggesting that this trait was present throughout the sequence.

Of considerable interest is the question of whether the entire area in which the Jambelí culture remains are found was occupied at the same time, or whether a movement from north to south or south to north can be inferred. The seriated position of the sites does not provide a clear-cut conclusion, but the absence of any El Oro Province sites in the lower third of the seriated sequence may reflect a more recent movement into that part of the area from the north. In the upper third of the sequence, the situation is reversed. The largest sites are in El Oro or southeastern Puná Island, and those in the Playas-Posorja region are typically small with sparse pottery refuse. If this interpretation of a shift in population concentration from north to south is correct, it may be correlated with the gradual desiccation of the northern portion of the area, which caused the extinction of the mangrove swamp on which the subsistence of the Jambelí Phase was largely dependent.

In summary, it can be said that all the evidence derived from an examination of the chronological distribution of ceramic traits, artifacts, and other cultural features of the Jambelí culture presents a picture of uniformity and consistency. There is no indication that

contacts that the people of this culture had with neighboring contemporary groups produced any disturbing effect or resulted in the introduction of any novel elements into their way of life. Part of the explanation of this stability may lie in the habitat, which was unattractive to the agricultural populations that occupied the rest of the Ecuadorian coast at the time the Jambelí culture was in existence.

### Chronological Position and Affiliations

Neither carbon-14 nor obsidian dates are currently available for any sites of the Jambelí culture, but several kinds of evidence place it in the Regional Developmental Period in the chronology of the Ecuadorian coast. One is the presence of the ceramic horizon markers—white-on-red painting and negative painting—characteristic of this period. Another is the occurrence of trade pottery and artifacts from the Guangala and Bahía cultures in Jambelí refuse, establishing the contemporaneity of the Jambelí sites with these two Regional Developmental cultures.

Although decorative techniques are less elaborate and varied than in other regional complexes, the vessel shapes, figurines, shell and stone ornaments, and other aspects of the material culture are typical of the prevailing pattern throughout the coastal area between 500 B.C. and A.D. 500, as is evident from the following tabulation:

<i>Traits</i>	<i>Culture complexes</i>			
	<i>Jambelí</i>	<i>Guan-gala</i>	<i>Tejar</i>	<i>Bahía</i>
White-on-Red painting	X	X	X	X
Negative painting	X	X	X	X
Red paint in bands	X	X	X	X
Pottery figurines	X	X	?	X
Polypod or tripod vessel supports	X	X		X
Tall annular base of compotera with cutout design areas	X	?	X	
Carinated bowl	X	X	X	X
Compotera	X	X	X	X
Shell container	X	X		
Stone bark beater	X			X
Shell atlatl hook	X	X		
Shell pendant	X	X		
Spindle whorl	X	X	X	X

What sets the Jambelí culture apart is its subsistence emphasis. While sites of the Guangala and Bahía cultures contain some shell, this is the principal component of Jambelí habitation refuse. At a time when the conversion to agriculture, introduced in the late Formative, had been achieved to the north, the Jambelí culture apparently preserved the shellfish gathering pattern characteristic of the early Formative Valdivia and Machalilla cultures. An explanation for this lag can be found in the hostility of the environment

around the Gulf of Guayaquil to agricultural exploitation. The presence of a few metate and mano fragments in Jambelí refuse can be interpreted either as an indication of limited use of cultivated plants or as evidence of the exploitation of wild plant foods. In any case, it is clear that the major subsistence emphasis of the Jambelí culture was different from that prevailing on other parts of the Ecuadorian coast during the Regional Developmental Period (fig. 40).

Of the contemporary regional cultures, the Jambelí culture is most closely affiliated with the Guangala complex, which occupied the northern portion of the Guayas coast (fig. 41). Jambelí White-on-Red is practically identical to Guangala White-on-Red in vessel shape, surface finish, and decorative technique and motif (pl. 12). While the type seems too common in Guangala sites to have originated by trade from the Jambelí culture, this possibility cannot be ruled out until more detailed analysis has been made of the Guangala ceramic sequence (cf. Bushnell, 1951, p. 44). Another decorative technique shared by the two complexes is red paint in bands. The Jambelí ceramic complex, however, is much simpler and less varied than that of the Guangala culture.

Throughout the seriated sequence, there is evidence of contact with the Guangala culture in the form of trade sherds.<sup>1</sup> While these represent a number of the most common decorated types—Barcelona Painted Dark Line (Barcelona Línea Oscura), Guangala Burnished Line (Guangala Bruñido), Guangala Finger Painted (Guangala Pintado con Dedo) and Chorrera Iridescent (Chorrera Iridescente)—it is of interest to note that not a single sherd of Guangala Bicolor, La Libertad Bicolor, or La Libertad Tricolor was recovered. Since these types are more characteristic of the late Guangala culture, their absence may be an indication that the period of contact is to be equated with early Guangala. Confirmation of this possibility will have to await more detailed analysis of the ceramic sequence of the Guangala culture.

Two diagnostic artifacts from Jambelí sites can be related to the Guangala culture. One, a body fragment of a solid pottery figurine (fig. 17, *a*), is unlike the typical Jambelí figurine type but generally resembles a common Guangala type (fig. 17, *b*). The second object, a carved complete shell with a hole at the center providing access to the interior (fig. 6, *a*), is like shells from the Guangala culture identified as containers (fig. 6, *b*). Whether the Jambelí example was acquired by trade or is locally made cannot be determined, but it is

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<sup>1</sup> The assumption made by Estrada (1961, Cuadro 1) from preliminary analysis of stratigraphy at G-84 that the Guangala types are survivals into the later Jambelí complex has not proved correct.

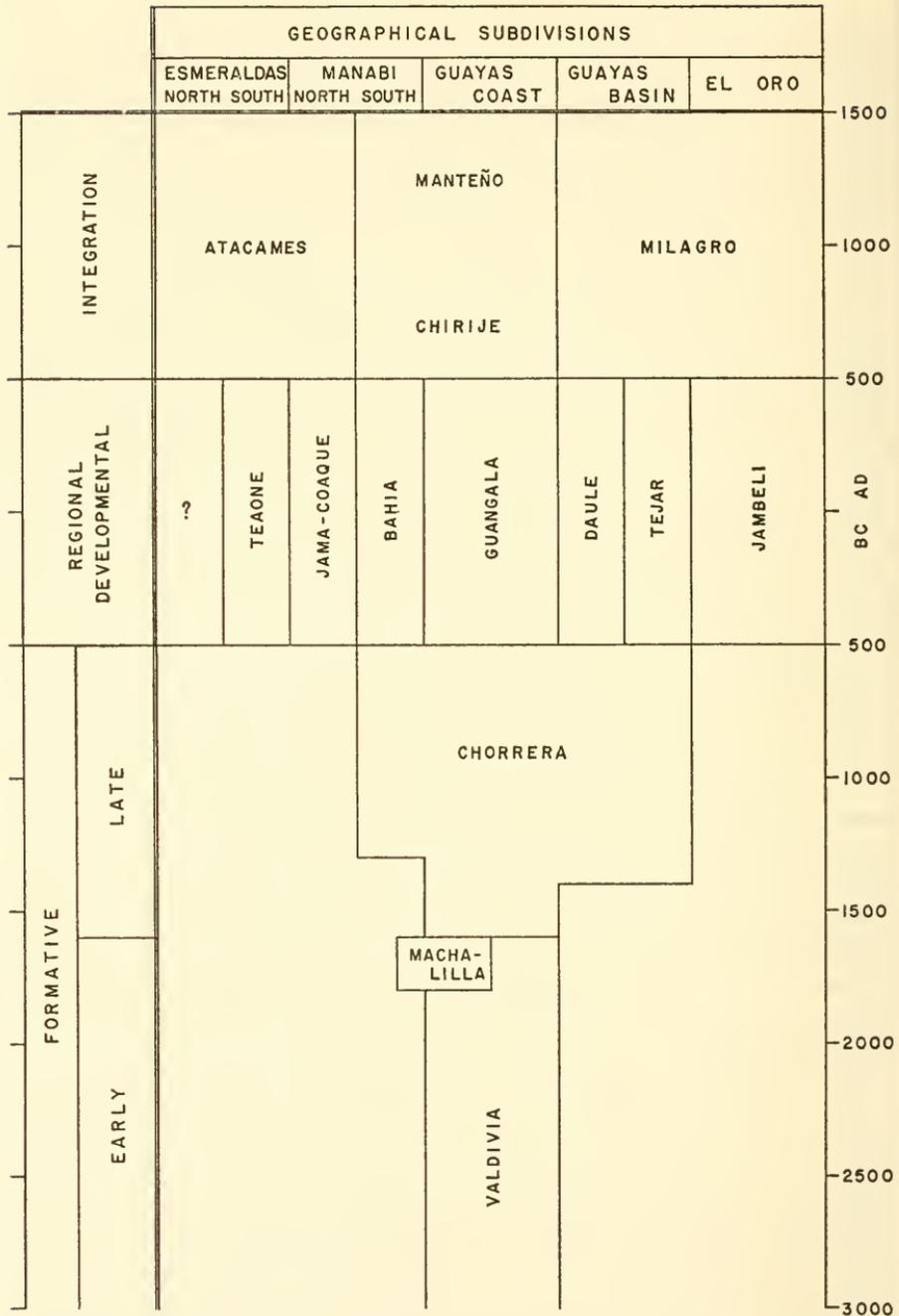


FIGURE 40.—Chronological sequence of archeological complexes on the Ecuadorian coast.

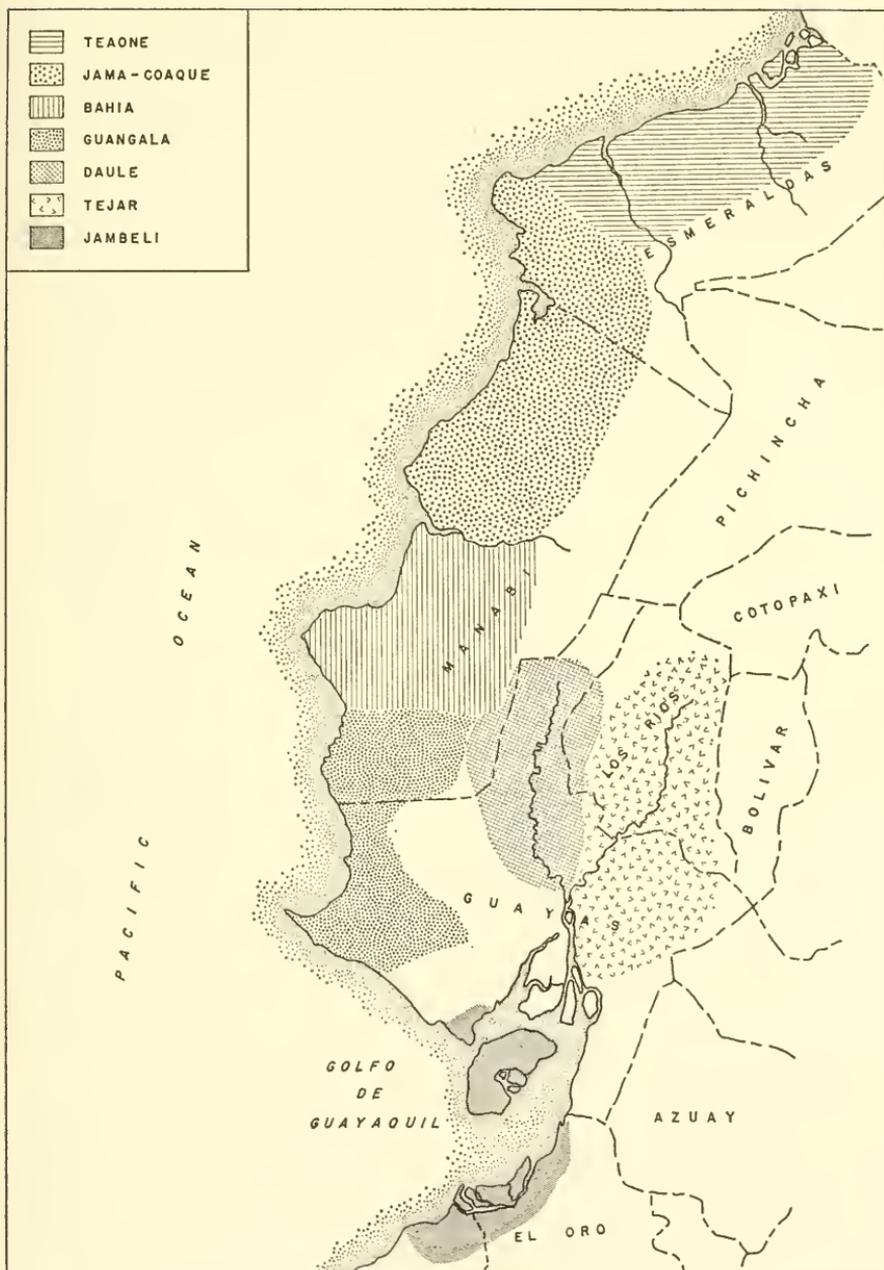


FIGURE 41.—Approximate geographical distribution of archeological complexes on the Ecuadorian coast during the Regional Developmental Period.

a rare enough object to be interpreted as evidence of contact between the two groups regardless of its origin.

Unfortunately, no carbon-14 dates are yet available for sites of the Guangala culture. Absolute dates have been obtained from obsidian at two Guangala sites, and these cover a range from 340 B.C. to A.D. 360 (Evans and Meggers, 1960, fig. 19).

Another link to absolute chronology is the stone bark beater (pl. 6, *b-c*), which is known elsewhere on the Ecuadorian coast only from the Bahía culture (pl. 6, *a*). The site of M-7: Esteros from which the specimen came, has two carbon-14 dates:  $2150 \pm 240$  or 190 B.C. (Sample W-833), and  $2200 \pm 240$  or 240 B.C. (Sample W-834) (Rubin and Alexander, 1960, p. 181). Since the trait is likely to have reached the Jambelí culture from the Bahía area, the dates may be slightly earlier than the appearance of bark beaters farther to the south, although this is not necessarily the case. An atypical pottery figurine head has a headdress with ear flaps (fig. 18) resembling those frequently worn by La Plata Sentado figurines of the Bahía culture (Estrada, 1957, figs. 70 center and 90) providing another possible link with the north.

To the south, the only archeological materials showing strong affinities with the Jambelí culture are those from Garbanzal, 9 km. south of Tumbes on the right bank of the Río Tumbes in Peru (Ishida et al., 1960, p. 423). Two sites are reported, one on the alluvial terrace and another on a higher terrace. Although the investigators have considered both to belong to the same cultural complex, correlations with Ecuadorian archeology suggest that a distinction should be made. The site on the lower level produced 23 complete vessels and additional fragments readily classifiable into pottery types of the Jambelí Phase, including Jambelí Incised, Jambelí White-on-Red, Jambelí White Painted, Jambelí Polished Red, and Jambelí Negative (op. cit., p. 120, fig. 54-56). The sand and mica temper is also typical of Jambelí wares (Mejía Xesspe, 1960, lam. 1, *F*). Vessel shapes duplicate those representing the Jambelí Phase (fig. 42).

The characteristics of the second Garbanzal site, on the upper terrace, appear to be different. Artifacts were recovered from shaft and chamber tombs (Mejía Xesspe, 1960, fig. 2), and included globular jars and 34 pieces of copper ax money (Ishida et al., p. 423 and Appendix 1, fig. 2). In Ecuador, both shaft tombs and ax money are associated with cultures of the later Integration Period.

A distinction between the two Garbanzal sites is important for establishing the absolute dating of the Jambelí culture because a carbon-14 date has been obtained for Tomb 2 at the site on the upper terrace of Garbanzal by the Radiocarbon Laboratory of the Department of Physics and Chemistry, Gakushuin University. The sample

(G-605) gave a date of  $1740 \pm 70$  years or A.D. 220 (Ishida et al., 1960, p. 518). This is earlier than expected if it refers to the Milagro culture, as the copper ax money would imply. However, the characteristics of the site and associated materials do not permit its identification with the Jambelí culture as it is known in Ecuador.

The only evidence in conflict with the chronological placement of the Jambelí culture between 500 B.C. and A.D. 500 is the few sherds of early Manteño types from surface collections at Sites G-L-30 and

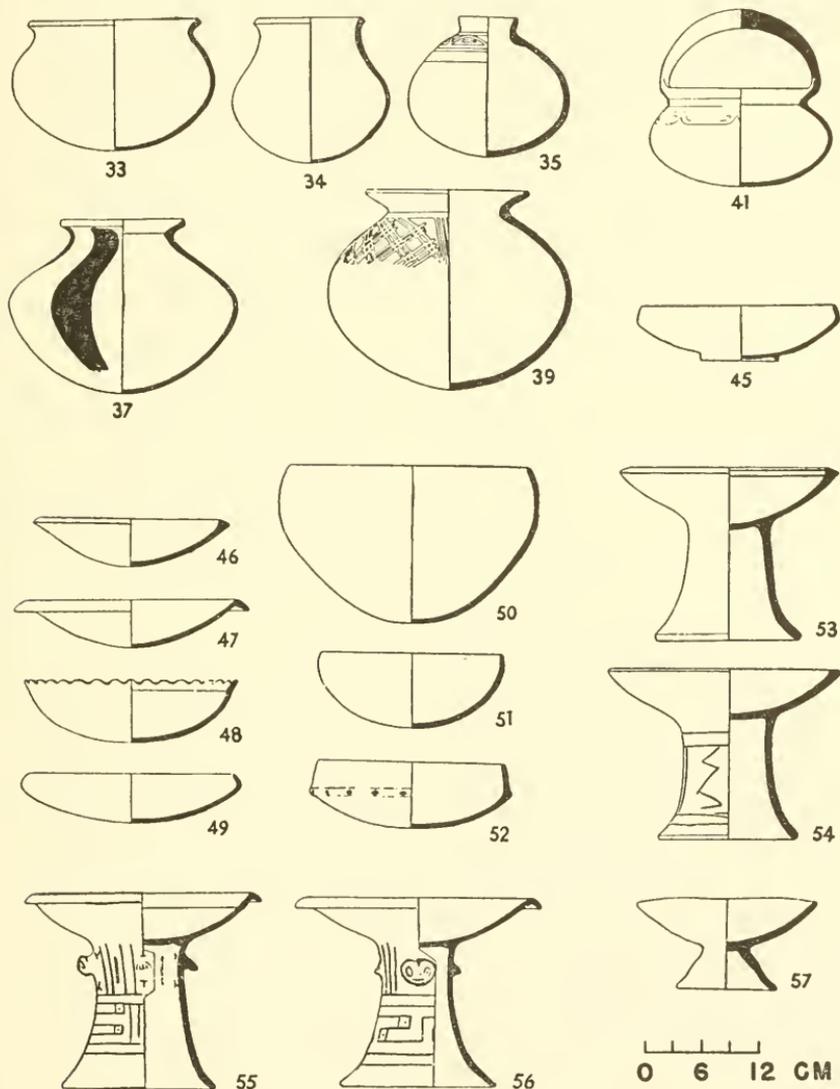


FIGURE 42.—Vessels of Jambelí shapes from the site of Garbanzal, Peru. Identifying numbers have been retained from the original figure (after Ishida et al., 1960, p. 120).

O-3. Bushnell (1951, p. 48) identifies this material with the Guangala culture also, and if he is correct it may be added to other evidence of trade relations with the Guangala Phase. The alternative is to attribute these few surface sherds to later visits by the Manteño, who are known to have occupied the Gulf of Guayaquil during the Integration Period (Estrada, 1957 a).

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TABLE 1.—Frequency of pottery types

Pottery types	Sites															
	G-84: Cut 1						G-86: Cut 1									
	0-10 cm.		10-20 cm.		20-30 cm.		30-40 cm.		0-30 cm.		30-40 cm.		40-60 cm.		60-80 cm.	
No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent	
Jambel Plain . . . . .	777	55.3	292	40.4	324	25.6	209	28.2	76	26.1	45	20.7	24	18.3	34	17.5
Ayalaan Plain . . . . .	306	21.7	239	33.0	467	37.0	256	34.5	128	44.0	111	50.7	59	44.9	95	49.0
Posoria Polished Plain . . . . .	—	—	11	1.5	90	7.2	41	5.5	3	1.1	13	6.0	16	12.2	16	8.3
Jambel Shell Scraped . . . . .	17	1.2	5	0.7	7	0.5	10	1.3	3	1.1	4	1.8	5	3.8	7	3.6
Jambel Polished Red . . . . .	75	5.3	44	6.1	85	6.7	60	8.1	33	11.3	15	7.0	9	7.0	16	8.3
Jambel White-on-Red . . . . .	31	2.3	23	3.1	50	3.9	27	3.7	21	7.2	12	5.5	9	7.0	10	5.1
Jambel Red Wash . . . . .	111	7.9	48	6.6	118	9.3	81	11.0	12	4.1	6	2.7	5	3.8	8	4.1
Jambel White Painted . . . . .	—	—	2	0.2	3	0.3	2	0.2	—	—	—	—	—	—	—	—
Jambel Red Banded . . . . .	22	1.6	15	2.1	27	2.1	9	1.2	14	4.8	11	5.1	3	2.3	7	3.6
Jambel Negative . . . . .	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Jambel White Wash . . . . .	13	0.9	10	1.4	18	1.4	2	0.2	—	—	—	—	—	—	—	—
Jambel Incised . . . . .	8	0.6	6	0.8	—	—	—	—	1	0.3	—	—	—	—	—	—
Jambel Punctate . . . . .	11	0.8	4	0.5	10	0.8	7	0.9	—	—	1	0.5	1	0.7	—	—
Unclassified . . . . .	—	—	—	—	—	—	3	0.4	—	—	—	—	—	—	1	0.5
Guangala Phase types . . . . .	34	2.4	25	3.4	65	5.2	32	4.3	—	—	—	—	—	—	—	—
Manteño Phase types . . . . .	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Totals . . . . .	1,407	100.0	724	100.0	1,264	100.0	742	100.0	291	100.0	218	100.0	131	100.0	194	100.0

See footnote at end of table.

TABLE 1.—Frequency of pottery types—Continued

Pottery types	Sites																			
	G-86: Cut 1												G-109		G-L-2		G-L-3		G-L-7	
	80-100 cm.		100-130 cm.		130-140 cm.		140-160 cm.		Surface											
	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent		
Jambeli Plain . . . . .	62	23.0	50	18.4	62	14.0	22	9.3	35	42.6	15	48.5	81	46.3	23	49.0				
Ayalan Plain . . . . .	142	52.5	163	60.0	272	61.5	120	51.0	26	31.8	9	29.2	78	44.6	14	29.8				
Posorja Polished Plain . . . . .	17	6.3	27	10.0	48	10.8	32	13.6	—	—	—	—	—	—	—	—				
Jambeli Shell Scraped . . . . .	19	7.0	10	3.7	16	3.6	12	5.1	5	6.1	3	9.6	10	5.7	3	6.4				
Jambeli Polished Red . . . . .	11	4.1	5	1.8	25	5.6	30	12.7	14	17.1	3	9.6	5	2.8	7	14.8				
Jambeli White-on-Red . . . . .	17	6.3	12	4.4	6	1.3	7	2.9	1	1.2	—	—	—	—	—	—				
Jambeli Red Wash . . . . .	—	—	—	—	5	1.1	—	—	—	—	—	—	—	—	—	—				
Jambeli White Painted . . . . .	—	—	—	—	2	0.4	—	—	—	—	—	—	—	—	—	—				
Jambeli Red Banded . . . . .	1	0.4	3	1.1	5	1.1	4	1.7	—	—	—	—	—	—	—	—				
Jambeli Negative . . . . .	—	—	—	—	1	0.2	6	2.5	—	—	—	—	—	—	—	—				
Jambeli White Wash . . . . .	—	—	1	0.3	—	—	—	—	—	—	—	—	—	—	—	—				
Jambeli Incised . . . . .	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—				
Jambeli Punctate . . . . .	—	—	—	—	2	0.4	3	1.2	1	1.2	1	3.1	1	0.6	—	—				
Unclassified . . . . .	1	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—				
Guangala Phase types . . . . .	—	—	1	0.3	—	—	—	—	—	—	—	—	—	—	—	—				
Manteño Phase types . . . . .	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—				
Totals . . . . .	270	100.0	272	100.0	444	100.0	236	100.0	82	100.0	31	100.0	175	100.0	47	100.0				

See footnote at end of table.

TABLE 1.—Frequency of pottery types—Continued

Pottery types	Sites																
	G-L-9		G-L-12		G-L-27		G-L-28		G-L-29		G-L-30		G-L-34		G-Mo-3		
	Surface		Surface		Surface		Surface		Surface		Surface		Surface		Surface		
No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent
Jambeli Plain . . . . .	2	-	1	-	27	46.5	30	46.1	10	-	852	47.7	32	48.5	115	47.6	
Ayalan Plain . . . . .	1	-	-	-	19	32.8	24	37.0	8	-	508	28.7	28	42.5	91	37.6	
Posorja Polished Plain . . . . .	-	-	-	-	-	-	-	-	-	-	3	0.2	-	-	-	-	-
Jambeli Shell Scraped . . . . .	-	-	1	1.7	1	1.7	4	6.2	-	-	52	2.9	1	1.5	10	4.1	
Jambeli Polished Red . . . . .	1	-	1	17.3	10	17.3	6	9.2	2	-	280	15.7	5	7.5	22	9.1	
Jambeli White-on-Red . . . . .	-	-	-	1.7	1	1.7	1	1.5	-	-	20	1.1	-	-	-	-	-
Jambeli Red Wash . . . . .	-	-	-	-	-	-	-	-	-	-	29	1.6	-	-	1	0.4	
Jambeli White Painted . . . . .	-	-	-	-	-	-	-	-	-	-	2	0.1	-	-	-	-	
Jambeli Red Banded . . . . .	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Jambeli Negative . . . . .	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Jambeli White Wash . . . . .	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Jambeli Incised . . . . .	-	-	-	-	-	-	-	-	1	-	2	0.1	-	-	3	1.2	
Jambeli Punctate . . . . .	-	-	-	-	-	-	-	-	-	-	2	0.1	-	-	-	-	
Unclassified . . . . .	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Guangala Phase types . . . . .	-	-	-	-	-	-	-	-	-	-	6	0.3	-	-	-	-	
Manteño Phase types . . . . .	-	-	-	-	-	-	-	-	-	-	27	1.5	-	-	-	-	
Totals . . . . .	4	-	3	-	58	100.0	65	100.0	21	-	1,783	100.0	66	100.0	242	100.0	

See footnote at end of table.

TABLE 1.—Frequency of pottery types—Continued

Pottery types	Sites															
	G-Mo-11		G-Mo-15		G-Mo-17		O-3		O-5		0-20 cm.		20-40 cm.		40-60 cm.	
	Surface		Surface		Surface		Surface		Surface		No.	Percent	No.	Percent	No.	Percent
Jambelf Plain . . . . .	31	59.6	1	—	41	47.7	716	35.6	649	68.5	320	78.9	507	66.6	295	54.0
Ayatan Plain . . . . .	17	32.8	—	—	33	38.4	716	35.6	119	12.6	48	11.8	121	15.9	103	18.9
Posorja Polished Plain . . . . .	—	—	—	—	—	—	4	0.2	—	—	—	—	—	—	—	—
Jambelf Shell Scraped . . . . .	1	1.9	—	—	3	3.4	151	7.6	11	1.2	—	—	4	0.5	17	3.1
Jambelf Polished Red . . . . .	2	3.8	—	—	7	8.1	150	7.5	71	7.5	30	7.0	77	10.1	46	8.5
Jambelf White-on-Red . . . . .	—	—	—	—	—	—	99	4.8	47	4.9	5	1.2	28	3.6	36	6.8
Jambelf Red Wash . . . . .	1	1.9	—	—	—	—	81	4.0	30	3.1	—	—	6	0.8	18	3.3
Jambelf White Painted . . . . .	—	—	—	—	—	—	20	1.0	3	0.3	2	0.5	—	—	11	2.0
Jambelf Red Banded . . . . .	—	—	—	—	—	—	37	1.8	1	0.1	—	—	—	—	1	0.2
Jambelf Negative . . . . .	—	—	—	—	—	—	4	0.2	4	0.4	—	—	5	0.6	12	2.2
Jambelf White Wash . . . . .	—	—	—	—	—	—	13	0.6	2	0.2	1	0.2	—	—	3	0.5
Jambelf Incised . . . . .	—	—	—	—	—	—	6	0.3	11	1.2	1	0.2	10	1.3	—	—
Jambelf Punctate . . . . .	—	—	—	—	—	—	3	0.1	—	—	1	0.2	—	—	—	—
Unclassified . . . . .	—	—	—	—	—	—	7	0.3	—	—	—	—	5	0.6	3	0.5
Guangala Phase types . . . . .	—	—	—	—	—	—	7	0.3	—	—	—	—	—	—	—	—
Manteño Phase types . . . . .	—	—	—	—	—	—	2	0.1	—	—	—	—	—	—	—	—
Totals . . . . .	52	100.0	1	—	86	100.0	2,016	100.0	948	100.0	408	100.0	763	100.0	545	100.0

See footnote at end of table.

TABLE 1.—Frequency of pottery types—Continued

Pottery types	Sites														Totals No.		
	O-5: Cut 1		O-5		O-6		P-2: No. 1		P-8		P-9		P-12			P-13	
	60-80 cm.		Test		Surface		Surface		Surface		Surface		Surface			Surface	
	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent		No.	Percent
Jambeli Plain . . . . .	271	49.4	75	37.9	117	29.2	57	48.7	18	10.8	9	3.6	168	53.1	13	4.1	6,488
Ayalan Plain . . . . .	128	23.4	56	28.3	108	27.0	52	44.4	59	35.3	130	52.0	57	18.0	13	4.1	4,924
Posorja Polished Plain . . . . .	—	—	—	—	3	0.7	—	—	43	25.7	68	27.2	23	7.2	—	—	458
Jambeli Shell Scraped . . . . .	28	5.0	3	1.5	6	1.5	2	1.7	1	0.6	6	2.4	8	2.5	—	—	446
Jambeli Polished Red . . . . .	26	4.7	20	10.1	31	7.7	5	4.2	22	13.2	21	8.4	47	15.0	1	0.3	1,320
Jambeli White-on-Red . . . . .	60	11.7	21	10.6	37	9.2	—	—	10	6.0	2	0.8	6	2.0	—	—	599
Jambeli Red Wash . . . . .	14	2.4	9	4.6	61	15.2	—	—	—	—	3	1.2	—	—	—	—	641
Jambeli White Painted . . . . .	15	2.5	2	1.0	6	1.5	—	—	2	1.2	—	—	—	—	—	—	74
Jambeli Red Banded . . . . .	—	—	1	0.5	2	0.5	—	—	5	3.0	6	2.4	5	1.6	—	—	183
Jambeli Negative . . . . .	5	0.8	2	1.0	—	—	—	—	—	—	1	0.4	2	0.6	—	—	45
Jambeli White Wash . . . . .	—	—	5	2.5	—	—	—	—	2	1.2	2	0.8	—	—	—	—	71
Jambeli Incised . . . . .	—	—	3	1.5	18	4.5	1	1.0	—	—	—	—	—	—	—	—	80
Jambeli Punctate . . . . .	—	—	—	—	6	1.5	—	—	—	—	—	—	—	—	—	—	52
Unclassified . . . . .	1	0.1	1	0.5	6	1.5	—	—	5	3.0	1	0.4	—	—	—	—	33
Guangala Phase types . . . . .	—	—	—	—	6	1.5	—	—	—	—	—	—	—	—	—	—	170
Manteño Phase types . . . . .	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	29
Totals . . . . .	548	100.0	198	100.0	401	100.0	117	100.0	167	100.0	250	100.0	316	100.0	27	—	115,613

<sup>1</sup> Total for Guangala and Manteño Phases: 199. Total for Jambeli Phase: 15,414.

TABLE 2.—Type and frequency of sherds of Guangala Phase pottery types

Guangala Phase pottery types	Jambeti Phase sites														Totals			
	G-8j: Cut 1						G-8i: Cut 1.						G-L-80		O-8		No.	Percent
	0-10 cm.		10-30 cm.		30-50 cm.		50-10 cm.		100-150 cm.		Surface		Surface		Surface			
	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent		
Barcelona Painted Dark Line . . . . .	6	0.4	14	1.9	22	1.7	12	1.6	-	-	6	0.3	-	-	60	-		
Guangala Polished Red . . . . .	14	1.0	1	0.1	9	0.7	3	0.4	-	-	-	-	-	-	24	-		
Guangala Burnished Line . . . . .	3	0.2	-	-	2	0.2	3	0.4	-	-	-	-	-	-	8	-		
Guangala Finger Painted . . . . .	-	-	6	0.8	23	1.8	5	0.7	-	-	-	-	-	-	34	-		
Chorrera Iridescent . . . . .	1	0.1	-	-	3	0.3	3	0.4	-	-	-	-	7	0.3	14	-		
Incised . . . . .	-	-	-	-	1	0.1	-	-	-	-	-	-	-	-	1	-		
Plain . . . . .	10	0.7	4	0.6	5	0.4	9	1.2	1	0.3	-	-	-	-	29	-		
Totals <sup>1</sup> . . . . .	34	2.4	25	3.4	65	5.2	32	4.3	1	0.3	6	0.3	7	0.3	170	-		

<sup>1</sup> See Guangala Phase column in Appendix Table 1.

TABLE 3.—Frequency of rim shapes

Sites and levels arranged in seriated order 1	Rim shapes															
	1		2		3		4		5		6		7		8	
	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent
O-5: Cut 1:																
0-20 cm.	11	24.0	-	-	-	-	13	28.2	-	-	-	-	1	2.2	-	-
20-40 cm.	39	41.1	-	-	-	22	23.2	1	1.0	2	2.1	1	1.0	-	-	-
40-60 cm.	38	49.3	-	-	-	6	7.8	-	-	-	-	4	5.2	-	-	-
P-12	7	-	1	-	4	-	-	-	-	-	-	-	1	-	-	-
G-84: Cut 1:																
0-10 cm.	21	12.3	1	0.6	8	4.7	4	2.3	-	-	3	1.7	-	-	18	10.5
O-5: Cut 1:																
60-80 cm.	22	45.1	1	2.0	-	-	6	12.3	-	-	1	2.0	2	4.0	-	-
G-Mo-11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G-L-30	38	19.0	7	3.5	10	5.0	3	1.5	-	-	2	1.0	-	-	17	8.5
G-L-7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G-L-2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G-L-27	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
O-5: Test	13	25.5	4	7.8	-	-	10	19.7	-	-	-	-	1	1.9	-	-
G-109	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G-84: Cut 1:																
10-20 cm.	9	11.8	1	1.3	2	2.6	1	1.3	-	-	3	3.9	1	1.3	6	7.9
G-Mo-3	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G-Mo-17	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G-L-28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P-2: No. 1.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G-L-3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
O-6	31	16.7	14	7.6	2	1.1	20	11.0	10	5.5	4	2.2	4	2.2	-	-
O-3	79	17.1	15	3.2	3	0.6	89	19.4	36	7.8	23	4.9	17	3.7	-	-
G-84: Cut 1:																
20-30 cm.	35	21.6	3	1.9	8	4.9	2	1.2	4	2.4	3	1.9	1	0.6	10	6.2
30-40 cm.	26	33.7	1	1.3	5	6.5	1	1.3	-	-	2	2.6	1	1.3	8	10.4



TABLE 3.—Frequency of rim shapes—Continued

Sites and levels arranged in seriated order 1	Rim Shapes												Totals	
	9		10		11		12		13		Unclassified		No.	Percent
	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent
O-5: Cut 1:														
0-20 cm.	4	8.6	-	-	11	24.0	-	-	-	-	6	13.0	46	100.0
20-40 cm.	11	11.6	-	-	10	10.5	-	-	-	-	9	9.5	95	100.0
40-60 cm.	18	23.4	1	1.3	8	10.4	-	-	-	-	2	2.6	77	100.0
P-12: . . . . .	3	-	-	-	-	-	-	-	-	-	-	-	16	-
G-84: Cut 1:														
0-10 cm.	103	60.2	4	2.3	-	-	-	-	2	1.3	7	4.1	171	100.0
O-5: Cut 1:														
60-80 cm.	10	20.4	1	2.0	1	2.0	-	-	-	-	5	10.2	49	100.0
G-Mo-11 . . . . .	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G-L-30 . . . . .	114	57.0	-	-	2	1.0	-	-	1	0.5	6	3.0	200	100.0
G-L-7 . . . . .	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G-L-2 . . . . .	2	-	-	-	-	-	-	-	-	-	1	-	3	-
G-L-27 . . . . .	3	-	-	-	-	-	-	-	-	-	-	-	4	-
O-5: Test . . . . .	13	25.5	-	-	5	9.8	-	-	-	-	5	9.8	51	100.0
G-109 . . . . .	2	-	1	-	-	-	-	-	-	-	3	-	6	-
G-84: Cut 1:														
10-20 cm.	47	62.0	-	-	1	1.3	-	-	1	1.3	4	5.3	76	100.0
G-Mo-3 . . . . .	1	-	3	-	-	-	-	-	-	-	-	-	5	-
G-Mo-17 . . . . .	2	-	-	-	-	-	-	-	-	-	-	-	3	-
G-L-28 . . . . .	3	-	-	-	-	-	-	-	-	-	-	-	3	-
P-2: No. 1 . . . . .	3	-	-	-	-	-	-	-	-	-	3	-	6	-
G-L-3 . . . . .	1	-	-	-	-	-	-	-	-	-	-	-	1	-
O-6 . . . . .	36	19.5	2	1.1	33	17.9	5	2.7	11	6.0	12	6.5	184	100.0
O-3 . . . . .	134	29.1	-	-	37	8.1	5	1.0	-	-	24	5.1	462	100.0
G-84: Cut 1:														
20-30 cm.	80	49.5	6	3.7	-	-	1	1.3	1	0.6	9	5.5	162	100.0
30-40 cm.	24	31.2	3	3.9	-	-	-	-	-	-	5	6.5	77	100.0



TABLE 4.—*Frequency of base forms, unusual vessel appendages, figurines, and bark beaters at sites of the Jambeli Phase*

Sites in order of seriated sequence (See fig. 39)	Categories included						
	Annular base	Hollow polypod base	Solid polypod base	Lug	Spout	Figurine	Bark beater
O-5: Cut 1:							
0-20 cm. . . . .	1	—	—	—	—	1	—
20-40 cm. . . . .	—	—	—	—	—	—	—
40-60 cm. . . . .	1	—	—	—	—	1	—
P-12 . . . . .	3	—	—	—	—	—	—
G-84: Cut 1:							
0-10 cm. . . . .	—	1	—	—	—	—	—
O-5: Cut 1							
60-80 cm. . . . .	1	—	—	—	—	—	—
G-Mo-11 . . . . .	—	—	—	—	—	—	—
G-L-30 . . . . .	—	4	—	—	1	—	1
G-L-7 . . . . .	—	—	—	—	—	—	—
G-L-2 . . . . .	—	—	—	—	—	—	—
G-L-27 . . . . .	—	—	—	—	—	—	—
O-5: Test . . . . .	1	—	—	—	1	—	—
G-109 . . . . .	—	—	—	—	—	—	—
G-84: Cut 1:							
10-20 cm. . . . .	—	2	—	—	1	—	—
G-Mo-3 . . . . .	—	—	—	—	—	—	—
G-Mo-17 . . . . .	—	—	—	—	—	—	—
G-L-28 . . . . .	—	—	—	—	—	—	—
P-2: No. 1 . . . . .	—	—	—	—	—	—	—
G-L-3 . . . . .	—	—	—	—	—	—	—
O-6 . . . . .	5	—	—	3	1	7	—
O-3 . . . . .	12	—	—	1	—	4	—
G-84: Cut 1:							
20-30 cm. . . . .	2	2	—	—	—	—	—
30-40 cm. . . . .	—	—	—	—	—	—	—
G-86: Cut 1:							
0-20 cm. . . . .	—	1	—	—	—	—	—
20-40 cm. . . . .	—	—	—	—	—	—	—
40-60 cm. . . . .	1	—	—	—	—	—	—
60-80 cm. . . . .	2	1	—	—	—	—	1
80-100 cm. . . . .	—	—	1	—	—	—	—
100-120 cm. . . . .	2	—	—	—	1 (?)	—	—
120-140 cm. . . . .	3	—	—	—	—	—	—
140-160 cm. . . . .	3	—	—	—	—	—	—
P-8 . . . . .	—	—	—	—	—	—	—
P-9 . . . . .	2	—	—	—	—	—	—
Totals . . . . .	39	11	1	4	5	13	2



Jambeli sites in Lagarto Salitre: *a*, site on the margin of the *salitre*, showing present environment; *b*, closeup of refuse deposit showing concentration of shells.



Jambelí sites on the margin of Lagarto Salitre: *a*, testing refuse deposit; *b*, G-L-7.



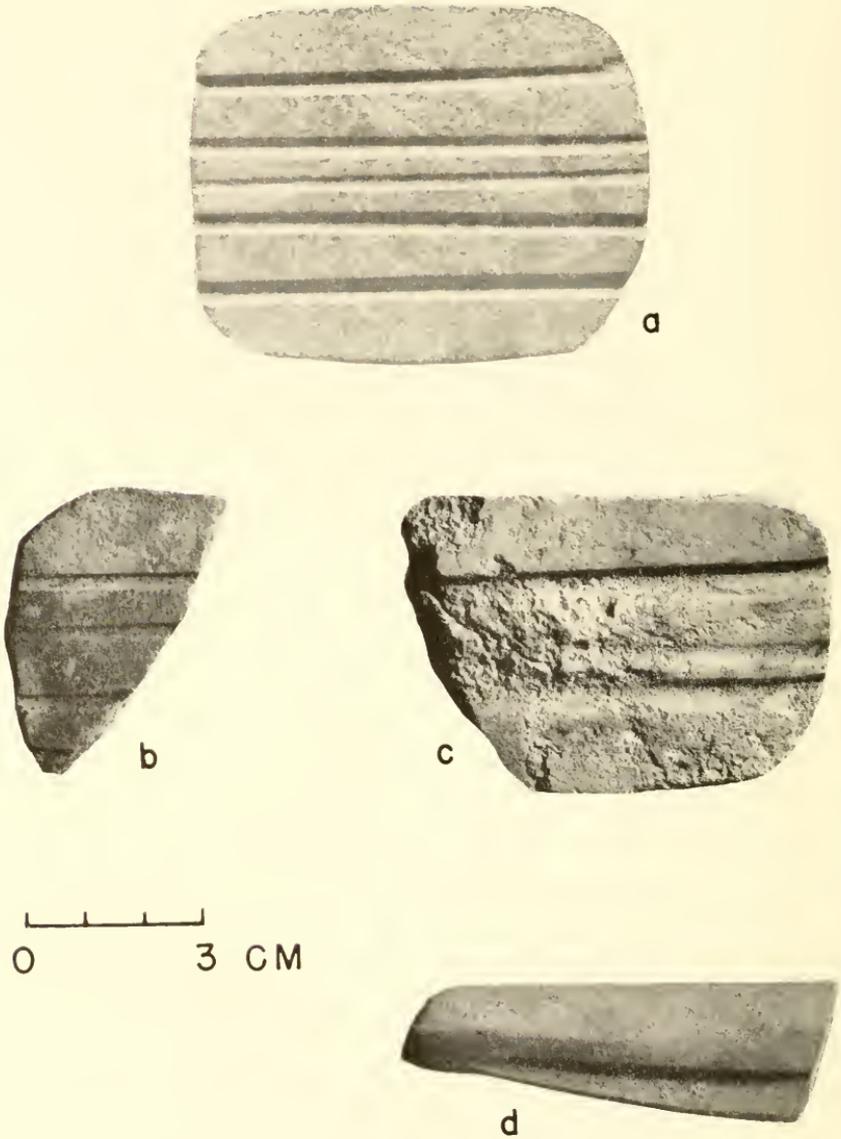
Jambelí sites: *a*, testing site G-Mo-15 in the center of Morro Salitre; *b*, excavating a test pit in G-86, Mound 1.



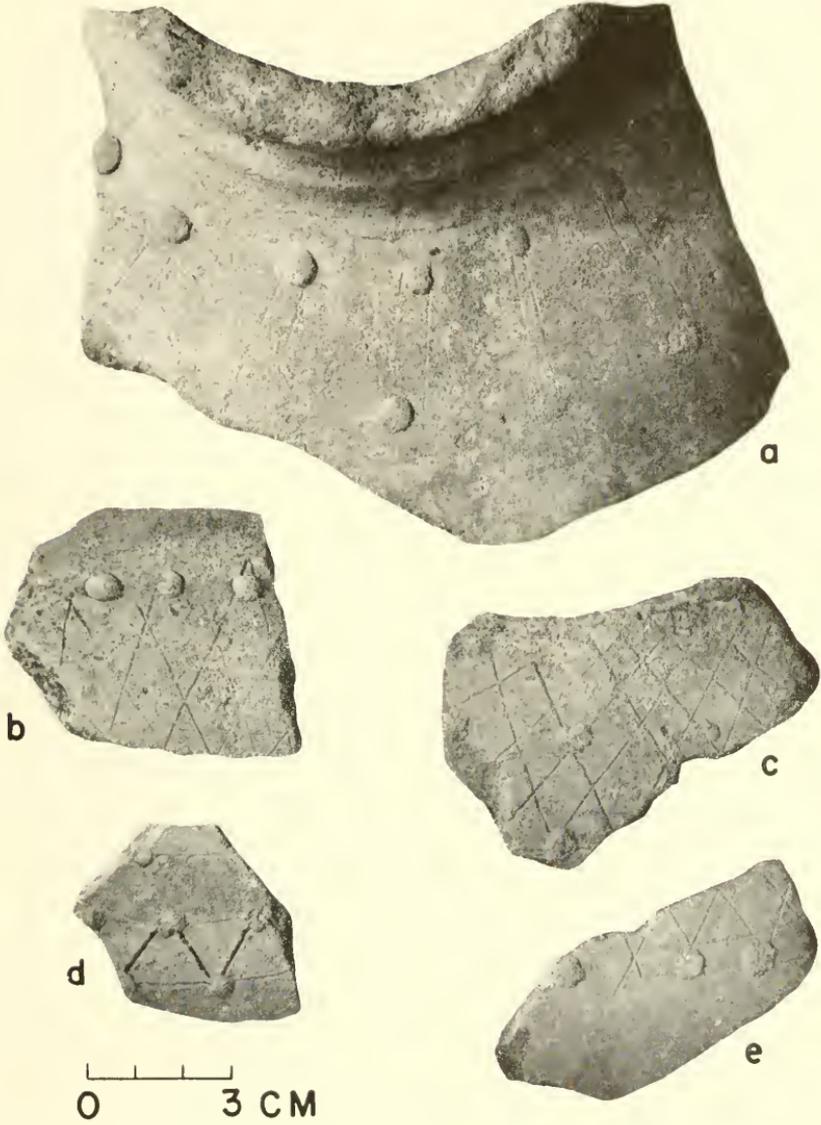
Jambelí sites in El Oro province: *a*, O-5: Embarcadero as seen from the water; *b*, O-6: Las Huacas, showing eroded bank and modern occupation of the site.



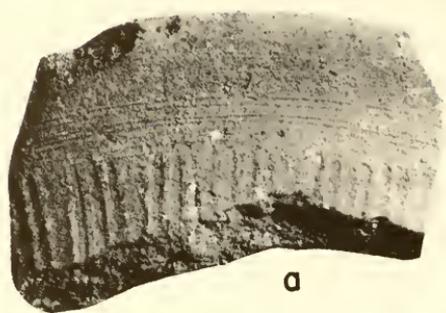
Views of P-2: Campo Alegre, occupying the slopes surrounding the *salitre*.



Stone artifacts of the Jambelí Phase: *a*, bark beater from M-7: Esteros, a site of the Bahía Phase; *b*, bark beater fragment from G-86, Cut 1, Level 60-80 cm.; *c*, bark beater from G-L-30, surface; *d*, saw or knife of sandstone from G-L-30.



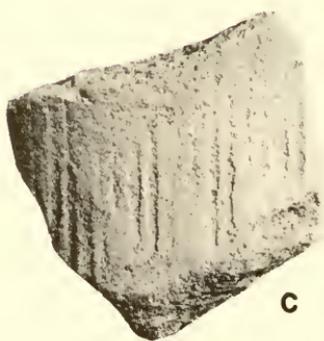
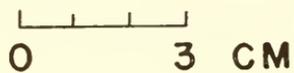
Sherds of Jambeli Incised, variety combining incision with applique nubbins.



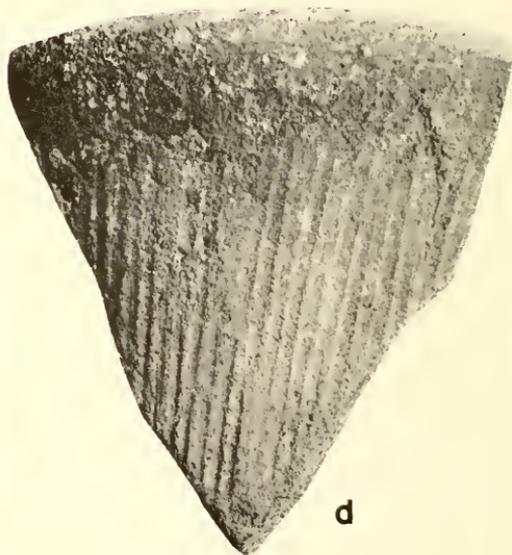
**a**



**b**



**c**

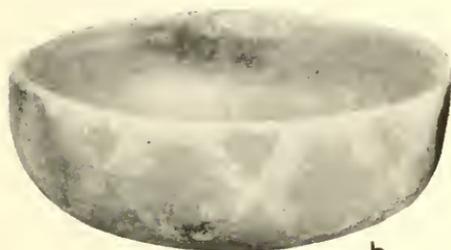


**d**

Sherds of Jambeli Shell Scraped.



a



b



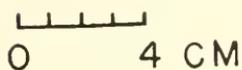
c



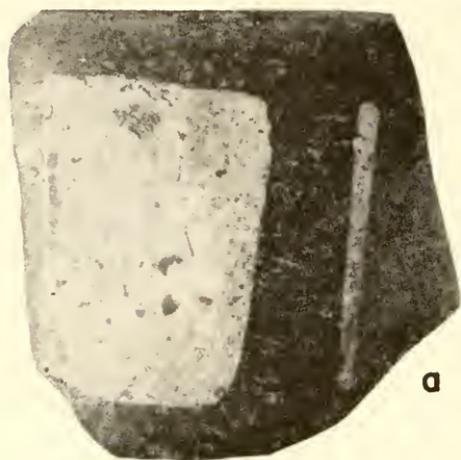
d



e



Vessels of Jambelí White-on-Red.



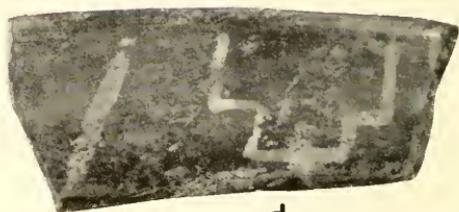
**a**



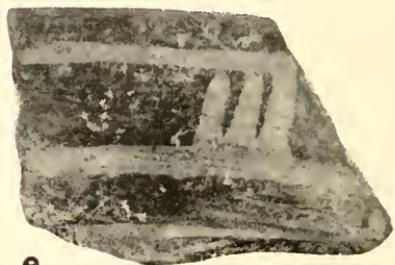
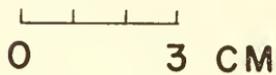
**b**



**c**



**d**

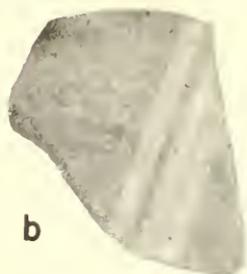


**e**

Sherds of Jambeli White-on-Red.



**a**



**b**



**c**



**d**



**e**



**f**

SCALE a-e 0 3 CM

SCALE f 0 3 CM

Sherds and miniature vessel of Jambeli White Painted.



a



b



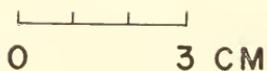
c



d



e



Sherds of Guangala White-on-Red, of the Guangala Phase.