

## Introduction

**Abstract.** This monograph presents a sample of pottery associated with the west corner (T3) of a sequence of Early Regional Development funerary enclosures excavated at site OMJPLP-141B, Salango, on the central coast of Ecuador. Salango lies just inside the Guangala region, but the pottery from 141B is strongly associated with Bahía II. Salango also lies within a ceramic sub-region centred on the Salaite site. To provide background for the study, a review is made of current knowledge of Guangala and Bahía II, their respective pottery traditions, and evidence for and thinking on their absolute and internal chronologies, and the biogeography of the area is summarised. The Late Formative (Period 1: Building Phases I-III) and Regional Development (Period 2: Building Phases V-VII) ceremonial structures as excavated at OMJPLP-141B-T3, and the transition between these periods (Phase IV), are outlined, with emphasis on the Early Regional Development funerary enclosures (Building Phases V) which provide the main body of material for the pottery study.

**Resumen.** Esta monografía trata de una muestra de cerámica asociada con la esquina oeste (T3) de una secuencia de recintos funerarios Desarrollo Regional Temprano excavados en el sitio OMJPLP-141B, Salango, en la costa central de Ecuador. Salango se encuentra justo dentro de la región Guangala, pero la cerámica de 141B está fuertemente asociada con Bahía II. Salango también se encuentra dentro de una subregión cerámica centrada en el sitio Salaite. Para fundamentar el estudio, se presenta una revisión del conocimiento actual sobre Guangala y Bahía II, sus respectivas tradiciones alfareras, y las evidencias e ideas sobre sus cronologías absolutas e internas, y se hace un resumen de la biogeografía del área. Se delinear las estructuras ceremoniales del Formativo Tardío (Período 1: Fases de Construcción I-III) y Desarrollo Regional (Período 2: Fases de Construcción V-VII) excavadas en OMJPLP-141B-T3, y la transición entre estos periodos (Fase IV), con énfasis en los recintos funerarios Desarrollo Regional Temprano (Fase de Construcción V) que proporcionan el cuerpo principal de material para el estudio de la cerámica.

### 1.1 Aims and Scope of the Study

OMJPLP-141 Salango is a multi-component site of the central coast of Ecuador with occupation from Valdivia through to late Manteño (Figure 1.1; Lunniss 2001; Norton et al. 1983). At its core is a sequence of ceremonial structures spanning the period 600 BC-AD 600 from Middle Engoroy to a middle stage of the Regional Development period. OMJPLP-141B-T3 (i.e., Trench 3 of Sector B of Site OMJPLP-141) encompassed the west corner of that sequence of buildings and was excavated under the direction of the author in the years 1983-6. Its stratigraphic sequence, architectural components, and secondary features have been reported in detail elsewhere, with discussion of pottery and other artefacts of the Middle and Late Engoroy phases (Lunniss 2001). The present study, in turn, offers a description and analysis of the ceramics from the succeeding Early Regional Development period (100 BC-AD 300).

Engoroy (Beckwith 1996; Bischof 1982; Bushnell 1951; Lunniss 2001; Paulsen 1982; Paulsen and McDougale 1974, 1981; Simmons 1970; Zeller and Bischof 1960) is the name given to the Late Formative period ceramic phase of the Ecuadorian coast from La Libertad to Puerto Cayo and Joá, and there is little problem in correlation of the Salango material of that period with the wider coastal sequence.

After Engoroy, the picture in the south of Manabí is more complicated. The Regional Development Guangala culture (100 BC-AD 800; Bischof 1982; Bushnell 1951; Estrada 1957, 1962; Masucci 1992; Paulsen 1970; Simmons 1970; Stothert 1993; Zeller and Bischof 1960) has been seen both to be largely based on Engoroy, and to follow Engoroy's general geographical distribution, having a northern boundary somewhere in the region of Puerto Cayo and Machalilla. Beyond this lay the zone of the two-part Bahía culture (Huerta 1940; Estrada 1957, 1962; Stirling and Stirling 1963). Bahía I was contemporary with Middle and Late Engoroy, Bahía II was coeval with Early and Middle Guangala, and Bahía II was followed by the Chirije culture (Estrada 1962:76-79), itself perhaps a northern extension of late Guangala.

Salango falls south of the originally proposed boundary between Guangala and Bahía II, but in the Early Regional Development period, ceramics from 141B-T3 bear a stronger relation to Bahía II than they do to Guangala. At the same time, while Early Guangala ceramics or styles are present as a secondary component in the 141B precinct, in the non-ceremonial area identified 50 m to the north at 141C (Kurc 1984), the pottery used there is reported as having been almost entirely of Guangala styles, with minimal Bahía II influence, such that it appears possible that in the Early Regional Development period functionally

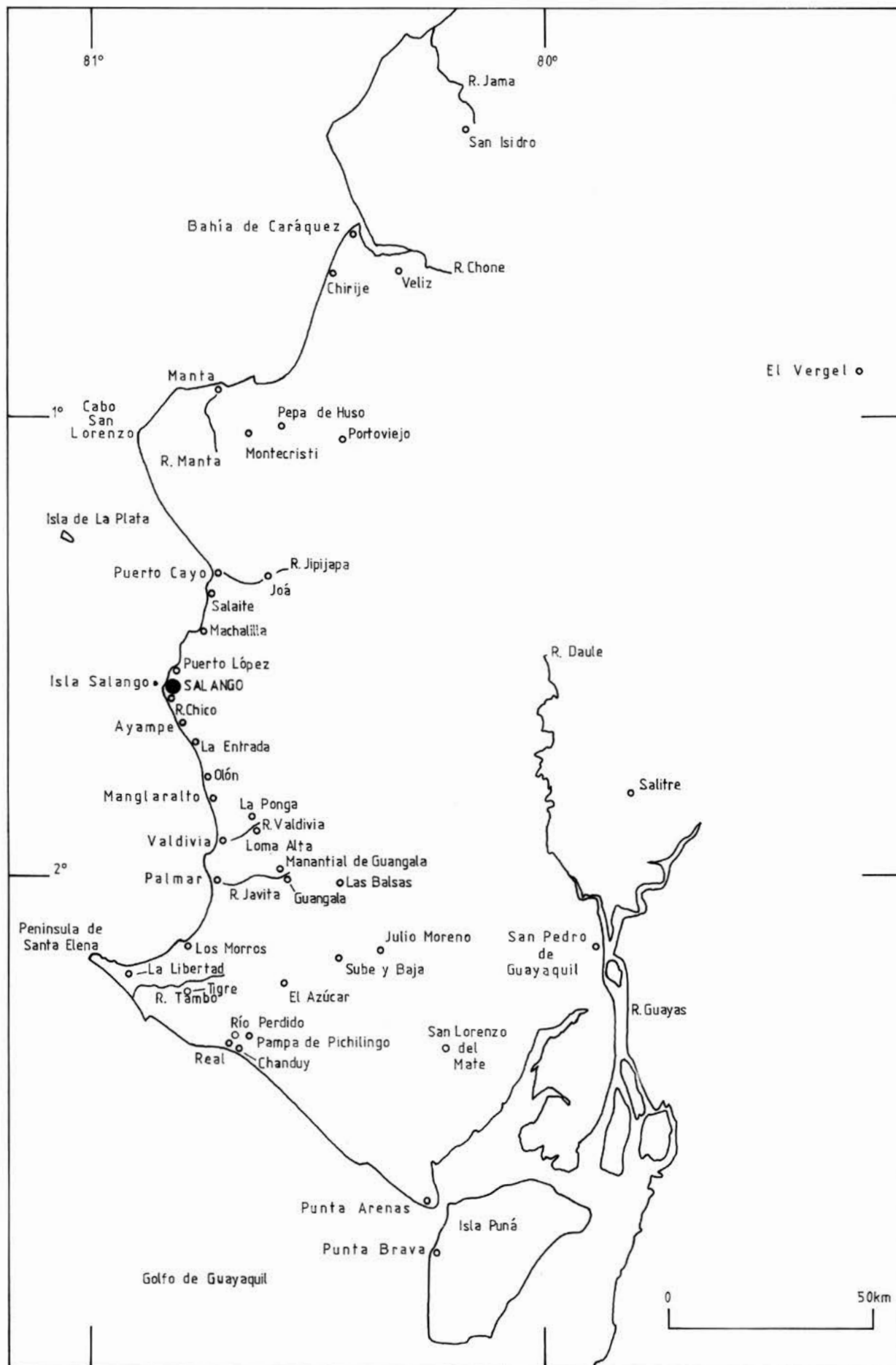


Figure 1.1. Map of coastal Ecuador with Salango and other sites mentioned.

distinct zones of Salango were occupied or managed by groups who each maintained a different set of social affiliations. And there are further questions of definition and terminology that need consideration, since Bahía II itself is little documented, and from what we do know, it seems likely that Bahía II in the south of Manabí employed certain ceramic forms not yet recovered from the Bahía II heartland of Manta and Bahía de Caráquez. Accordingly, this study is aimed in part towards a resolution of the problems of nomenclature and definition just indicated.

Presentation of the Early Regional Development pottery from OMJPLP-141B-T3 follows the principle that ceramic assemblages from individual sites need to be understood in terms of their own attributes and internal structure before it is possible to consider questions of regional identity and ceramic zones. Accordingly, I define the individual elements of the assemblage, trace their affinities with other assemblages, and from this develop a picture of the dynamic processes at work in the creation of the assemblage. Although the study is in the first place concerned with describing the Bahía II and Early Guangala period pottery from OMJPLP-141B-T3, it also assesses the transition at Salango from the Late Formative to Early Regional Development, looks at relations between Bahía II and Early Guangala, and examines the likelihood that a south Manabí Bahía II cultural sub-region can be identified based on ceramic variants. In short, the location of Salango at a point simultaneously of socio-cultural intersection and divergence, the highly formalised ritual function of the site, and the site's unusually well-defined and preserved stratigraphic context, all combine to allow a ceramic analysis that, in the context of coastal Ecuadorian studies, is novel for the complex content of the assemblage it examines, for the precision with which the assemblage can be examined, and for the contribution it makes to understanding of cultural process and interaction. In so doing, it also presents a summary comparative analysis of Early Guangala and Bahía II assemblages all the way from the Santa Elena Peninsula to Bahía de Caráquez

The rest of this Chapter 1 reviews previous research into the Early Regional Development on the central coast and examines current views on the ceramic and cultural chronology of that period. There follows a brief description of the environmental conditions of the central coast, and the chapter ends with a summary of the archaeological context of the ceramic sample to be described. For full treatment of the site, its setting, formation, and architectural and other components, the reader should refer to the earlier study (Lunniss 2001). Chapter 2, after an explanation of the selection of the sample and the methodology used in its analysis, presents a close description of the ceramics. Chapter 3 analyses the composition and structure of the assemblage and compares its elements to those of collections recovered from contemporary sites of the central coast. Chapter 4 follows with discussion of the broader cultural implications of the Salango sample along with consideration of the more elaborate vessel forms and iconography. Chapter 5 concludes with suggestions for further study.

## 1.2 Previous Research

Occupation of the central coast of Ecuador between 100 BC and AD 800 is understood in terms of two neighbouring cultures that met or overlapped in south Manabí. One, Guangala, was mainly limited to the Guayas coast north from Punta Arenas and seems to have had its greatest population densities in the southern Chongón Colonche hills and on the Santa Elena Peninsula.<sup>1</sup> Bahía II, the other, occupied coastal Manabí south from the Río Chone, and had its largest settlements at Manta and Bahía de Caráquez. Ceramic figurines and settlement and site types suggest that Bahía II was a well-developed chiefdom culture but Guangala, though sharing many traits with Bahía II, was less overtly hierarchical.

### 1.2.1 Guangala

It was Bushnell (1951) who first isolated, named and described the Guangala culture, presenting contextual data and an account of pottery and other artefact types recovered in the 1930's from two house mounds and associated burials at La Libertad, on the Santa Elena Peninsula of the Province of Guayas, and from household midden deposits at Guangala itself, inland up the valley of the Río Javita. Locating sites up the Tambo valley, he also noted the existence of extensive Guangala shell middens along the shore from Real to Puerto de Chanduy. Mistakenly, he placed Guangala earlier than Engoroy. Estrada (1957) later excavated a Guangala component at Olón, where he was able to show the correct sequence, with Guangala coming after Engoroy. Zeller and Bischof (Bischof 1982; Zeller and Bischof 1960) excavated Guangala midden deposits and graves at Palmar and cut into Guangala deposits at Olón and La Entrada. A University of Colombia survey of the Santa Elena Peninsula in 1964 (Lanning 1967) was followed by more detailed fieldwork in 1968, this being the basis for an analysis of the Guangala pottery sequence by Paulsen (1970). Paulsen (1970:30-33, 44-51) reported a total of thirty-six Guangala sites for the peninsula, its hinterland, and from as far north as Manglaralto and Loma Alta, and excavated two cuts at La Libertad, one at Palmar, and one at Tigre. Marcos excavated an Early Guangala lithic manufacturing site at La Pampa de Pichilingo (Marcos 1970) and recovered Early Guangala pottery from midden deposits at Los Morros (Marcos 1982). Stothert (1981) identified thirty-four Guangala sites in a survey of the Tambo valley. At one of these, she recovered evidence of household production of grinding stones (Stothert et al. 1998:223). She also excavated an Early Guangala cemetery and household contexts at Valdivia (Stothert 1993) and excavated a ceramic production site at Las Balsas (Stothert et al. 1998). Masucci (1992) investigated rural domestic settlement and economy at El Azúcar, identifying thirty-five sites through survey, and excavating two of them. Other work includes Ferdon's excavations at La Libertad (Ferdon 1941a, 1941b, 1942; Simmons 1970),

<sup>1</sup> In 2007, the Santa Elena Peninsula and coastal Guayas as far as the border with Manabí became the separate Province of Santa Elena.

and Disselhoff's excavations at La Libertad and Olón, at both of which sites he found Guangala graves (Disselhoff 1949). Estrada and Meggers and Evans excavated Guangala deposits and a Guangala grave during their investigations at Valdivia (Meggers et al. 1965:16, 17). Lippi identified a possible Guangala habitation site at Río Perdido (Lippi 1980) and recovered Guangala pottery at La Ponga (Lippi 1983:152–164). Jarrín cut through Guangala deposits at Sube y Baja and collected pottery from Guangala middens at other sites of the Guayas coast (Jarrín 1982:361, 364). And Zevallos (1982) excavated a Guangala cemetery in 1941 at El Manantial de Guangala.

Most research, then, has been conducted at sites around the main Guangala zone, between Valdivia and the south coast of the Santa Elena Peninsula. But Piana and Marotzke (1997:32–71) recovered Guangala ceramics from the Jambelí site of Punta Brava, on the west shore of Isla Puná. And to the east of the Cordillera Chongón Colonche, Early Guangala sites have been located along the Río Daule (Raymond et al. 1980), and in the northern Guayas Basin, Guangala ceramics have been identified at El Vergel (Guillaume-Gentil 1998:161, 162). Additionally, Estrada crossed into Manabí to collect Guangala material from shoreline sites up as far as Puerto Cayo and Machalilla, and thereby defined its northern limit (Estrada 1957:163; 1958:53, 54). More recent surveys (López, Acuña, and Castro 1997; López, Castro, et al. 1997) along the coastal valleys of south Manabí have located further widespread evidence of settlement.

At Salango, Site OMJPLP-140 included evidence of Guangala shell processing (Allan 1988), and at Site OMJPLP-141C Kurc (1984) found Guangala habitation deposits accompanied by human burials and identified three stages of occupation. Other Guangala domestic occupation is reported at three small sites in the Salango valley (Allan and Allan 1989). Immediately south from Salango, Site OMJPLP-170 at Río Chico has a Guangala domestic component with associated human burials (Oyola-Coeur 2000).

While social, economic, and political aspects of the Guangala culture have all been considered, definition of ceramics and ceramic chronology has continued to be a major concern. Bushnell (1951:31–79) recognised ten Guangala pottery types but made no attempt at an internal chronology. Noting especially its polypod bowls with anthropomorphically decorated legs and its anthropomorphic ocarinas, he suggested that an apparent regional variability in Guangala's painted ceramics (he found trichrome at La Libertad and bichrome at Guangala) should be compared directly with the complex pattern of social division observed among the native population at the time of the Spanish conquest (Bushnell 1951:22).

Zeller and Bischof (1960:21–30) found instead at Palmar that the bichrome and trichrome painted wares represented the second and third successive phases in a sequence of Guangala decorative paint techniques that began with

iridescent paint. They noted differences in fishhooks and spindle whorls that corresponded with the three ceramic phases, and identified Guangala as a coastal culture that spread inland up valleys such as those of the Río Javita and Río Valdivia. They saw Guangala as having evolved out of Engoroy and noted an overall unity to the Javita valley sequence from early Machalilla to late Guangala (Zeller and Bischof 1960:7).

Estrada (1957:53–58) recognised fourteen Guangala ceramic types, including four shared by the Guayas Basin, and two others that carried on from the earlier Olón (i.e., Engoroy) phase. He postulated improved agriculture and consequent greater wealth as stimuli to a surge of craft production (Estrada 1957:172), and noted that settlements consisted of small, dispersed groups of houses set on low mounds from 1 to 2 m tall, produced by rubbish discard, with primary burials, mostly unaccompanied by goods, set in graves beneath the houses (Estrada 1958:15).

Paulsen (1970:58–126) saw regional Guangala as having an internal chronology to be defined in terms of an eight-phase sequence, the phases being identified by modal differences through time in six basic vessel forms. The use of painted decoration in Phases 1 to 5, and its absence in Phases 6 to 8, suggested two broader periods. She saw climate change as a determining factor in culture change within the Guangala sequence (Paulsen:155–160). Specifically, she explained an apparent impoverishment of the ceramics from Phase 6 onwards as the product of social stress caused by drought and environmental recession.

Simmons (1970:65–71, 311–414) identified thirteen specifically Guangala types and thirty-two varieties for his sequence from La Libertad, breaking down some of the categories defined by Estrada. He also identified three varieties of an important type (Guangala Sombre) that carried over from Engoroy into Guangala (Simons 1970:263–289). But he was unable to identify any sub-phases for Guangala.

Bischof (1982:161), like Paulsen, saw Guangala as growing out of Engoroy but distinguished from it by a repertoire of new forms and decorative techniques. The gradual adoption of these new elements suggested to him a process of local evolution and absorption of ideas from outside, rather than the arrival of a different people. Marcos (1982:178–179), on the other hand, saw Guangala as a product of invasion that destabilised the existing Engoroy order and subsumed its ceramic styles.

Stohtert (1993:70–93; Stohtert et al. 1998), drawing on specialised reports on faunal remains from Valdivia (Wing and Scudder 1984), El Azúcar (Reitz 1990), and Las Balsas (Sánchez 1995), and on botanical remains from Valdivia (Pearsall 1984) and Las Balsas (Veintimilla 1995), identified Early Guangala as a culture with a mixed and diverse economy, according to local resources, whether marine, estuarine, or terrestrial, with craft specialisation and local exchange as well as agriculture, fishing, and

hunting. The population was dispersed amongst many small settlements occupied over short periods. Early Guangala rural sites are represented by extensive middens and associated graves, or by smaller and shallower rubbish scatters with no graves. These sites tended to occupy virgin land, which may reflect population expansion or changes in agricultural practice. Stothert noted a total absence of direct evidence for habitation structures, save perhaps at Río Perdido (Lippi 1980), and suggested that houses were raised on posts above the ground. She also noted that no ceremonial centres have yet been associated with the Guangala culture on the Guayas coast.

Masucci (1992) interpreted the El Azúcar Guangala ceramic sequence in terms of three, perhaps four successive complexes. Complex I correlated with Paulsen's Phases 1–3, Complexes II and III with Paulsen's Phases 3–6, and Complex IV, though not materially matched by pottery described by Paulsen, would be contemporary with her late Phases 6–8 (Masucci 1992:430–444). Her analysis identified sixteen vessel forms and sixteen types, themselves broken down into thirty-one varieties (Masucci 1992:154–375). She also pointed to the frequency of small rural settlements, and emphasised adaptation to a semi-arid landscape with variable resources (Masucci 1992:39–48), positing a wide system of exchange of essential foodstuffs linking coastal and inland populations (Masucci 1989), but suggested that crafts such as shell bead manufacture were home-based rather than fully-fledged craft specialisations (Masucci 1995).

### 1.2.2 *Bahía II*

Although Dorsey (1901) had recovered Bahía-type artefacts on Isla de la Plata in 1892, it was Huerta (1940) who first postulated the existence of a Bahía culture. This was based on ceramic vessel fragments and ceramic figurines informally collected from a cemetery at Bahía de Caráquez. Estrada (1957, 1962) later made more extensive descriptions and, following his own excavations at Manta and Bahía identified two stages, Bahía I and Bahía II.<sup>2</sup> Estrada's initial definition was based on four stratigraphic cuts at the Esteros site, Manta. He identified six Bahía anthropomorphic figurine types (Estrada 1957:61, 62), and eleven Bahía ceramic types, six of them shared with the Jama-Coaque culture (Estrada 1957:76–78). The principle characteristic pottery was an engraved polished ware and a three-colour polychrome ware, using black and red paint on a yellow background. But also important was the use of iridescent paint, and he pointed to its shared use as a link between Bahía and Guangala and the earlier Olón phase. He also noted the resemblance between Bahía three colour polychrome and the more refined version found among Guangala assemblages.

Estrada made just a few references to internal chronology. In Table 2 (Estrada 1957:22), over the Olón phase, he correlated Bahía I with Guangala as the Regional Development cultures of central Manabí and the Guayas coast respectively. In Table 13, he placed Guangala in south Manabí, and suggested an exclusive correlation with Bahía I, leaving Bahía II's south Manabí correlate unspecified. He indicated (Estrada 1957:62) that the La Plata figurine type was exclusively of Bahía I. Another comment relevant to discussion of chronological change refers to polypod bowl supports (Estrada 1957:159–161). He identified three leg types for Bahía. For Bahía I there were pointed conical legs, hollow or solid, and hollow cylindrical legs. For Bahía II, on the other hand, there was a hollow pointed leg, decorated with the features of a human face. This type he identified as a variant of the more elaborately decorated Guangala solid leg first shown by Bushnell (1951:Figs. 12, 13). There is little discussion beyond description of its artefact types, but Estrada referred the reader to Jijón y Caamaño (1997b:Figs. 23, 24) for plans of large Bahía culture ceremonial platforms and stone structures at Manta. He also indicated (Estrada 1957:61, 62) that Isla de la Plata was an important ceremonial centre, and that the Bahía people must have been competent navigators to be able to reach it.

For his last publication, Estrada had more excavated material from both Manta and Bahía de Caráquez to expand his view of the Bahía culture. In 1960, land clearance and levelling at Esteros, across the river to the east of Manta, saw the destruction of a Bahía settlement that Estrada was able to map (Estrada 1962:Fig. 116) and test with a single cut, denominated Estero A. Revising his analysis of material previously excavated in two other cuts, Estero 1 and Estero 3 (Estrada 1962:Fig.107), he identified the former as belonging to Bahía I, and the latter to Bahía II. At Estero A he found his distinction confirmed, with Bahía II material overlying that of Bahía I (Estrada 1962:60, Fig. 108). He also excavated cuts at five areas of Bahía de Caráquez, looking for correlations with the Esteros sequence and investigating further the cemetery that had produced the artefacts first described by Huerta. He noted that Bahía settlements extended along both banks of the Río Chone, but that material on the north side contained Jama-Coaque elements (Estrada 1962:22).

Ultimately, Estrada (1962:Table 3) identified Bahía I at the two Estero cuts 1 and A, at Balletine (Bahía de Caráquez), at Veliz cut B (up the Chone valley from Bahía de Caráquez), and at Pepa de Huso (on the north slopes of Cerro de Hojas, near Montecristi). For Bahía II he had the two Estero cuts 3 and A, and at Bahía de Caráquez the cuts C and Santos J. He had Bahía I and II both as Regional Development phases, alongside Guangala, spanning 500 BC to AD 500, the break between Bahía I and II occurring around the time of Christ (Estrada 1962:Tables 3, 10).

This is curious, as in an intervening publication, he had, albeit uncertainly, placed Bahía I as a Formative phase contemporary with Chorrera, with Bahía II belonging

<sup>2</sup> Jijón y Caamaño (1997a, 1997b), excavating at Manta in 1923, had recovered a small quantity of Bahía pottery, but he erroneously ascribed it to coastal variants of his highland Tuncahuan and Proto-Panzaleo II cultures (Estrada 1957:8).

to the Regional Development alongside Guangala and other cultures, the division between the two phases and periods lying at AD 1 (Estrada 1958:12–14). It also led to much confusion. By erroneously correlating, in the more important publications of 1957 and 1962, Bahía I with Guangala as contemporary ceramic phases of the Regional Development, Estrada also left himself little room for relating Guangala to Bahía II. Later investigators have since generally ignored Estrada’s equivocating distinction between Bahía’s two stages.

In his later publication, Estrada (1962:34–43) redefined Bahía ceramics in terms of thirteen major types and five minor types (Table 1.1) mostly shared by both stages, though one (Bahía Bruñido) was more common in Bahía II, and another (Bahía Incisa Línea Ancha) was limited to Bahía I. An elsewhere unmentioned and undefined type (Decorado en Uñas) appears in his stratigraphic charts (1962:Figs. 107, 108). In addition, he saw two Chorrera types (Iridiscente and Punteado en Zonas) as continuing into Bahía (1962:31, 32).<sup>3</sup> He also reassessed the figurines (1962:53–55), identifying nine types (including an imported Tipo Chone) of which one (Tipo Bahía) had an exclusive association with Bahía II.

Estrada (1962:69–76) saw Bahía as something very distinct from the Chorrera culture that had preceded it, being marked by the appearance of semi-urbanism and the mass-production of moulded figurines, these in turn implying an expanding population and the emergence of a theocratic caste capable of governing such a population. He was also (Estrada 1962:92–96) driven to postulate that several cultural elements, for which he was unable to find antecedents in the Americas, were the product of a trans-Pacific voyage by a small group of Asians. Bahía period Manta would have had two main population centres, one at Manta itself, the other at Esteros, across the Río Manta and about a kilometre to the east (Estrada 1962:Fig. 5). He noted that sherds were present in great quantity on top of the mounds at Esteros, but not on the low ground around them, and from this determined that the mounds were each the site for a large structure, mostly for collective habitation, though one platform, marked by a stone wall on its northeast side, may have been a temple. A series of depressions he interpreted as water storage facilities. Clay models indicated the form of temple buildings, and had priests seated at their entrances. Isla de la Plata was a major ceremonial site, perhaps used for rituals at the December solstice, prior to the rainy season, but only for the early Bahía period. Estrada reported blocks of solidified volcanic lava over the tops of the Estero mounds, and he excavated human skeletons which had been burnt and crushed. He saw this as combined evidence for a cataclysmic volcanic explosion that brought the Bahía II

**Table 1.1. Bahía Ceramic Types Defined by Estrada (1962).**

Major Types	Minor Types
Bahía Bruñido	Bahía Rojo y Negro
Bahía Calado	Bahía Pulido en Líneas
Bahía Grabado	Bahía Negro sobre Gris
Bahía Gris Pulido	Bahía Salpicado sobre Pulido
Bahía Inciso y Pintado Post-cocción	Vasijas antropomorfas o con adornos zoomorfos y antropomorfos
Bahía Inciso Línea Ancha	
Bahía Muecas al Reborde	
Bahía Negativo	
Bahía Ordinario	
Bahía Rojo Pulido	
Bahía Rojo sobre Amarillo Rojizo	
Bahía Tricolor	
Santos Grabado	

culture to an abrupt end, the disaster leaving the landscape uninhabitable until later reoccupation by people of the little documented Chirije culture.

Subsequent studies of Bahía sites were conducted at a midden at Tarqui (Stirling and Stirling 1963), between Manta itself and Esteros, and at a habitation zone of Chirije (Mejía 2005). The material published in both cases appears to be of Bahía I, trailing into Bahía II, but with no clear break or point of transition noted. Isla de la Plata (Carlucci 1966; Dorsey 1901; Marcos and Norton 1981) was a major Bahía sacred site that has produced much important material. Holm (1969:5) excavated a cemetery at Joá, which lay on the frontier of Bahía I and Late Engoroy interaction and possibly included Bahía II elements. Jarrín (1982:365) also collected pottery there. There was an extremely important Bahía cemetery at Salaite, 26 km. up the coast from Salango. Passing references to its tombs and magnificent artefacts are made in the literature (Bischof 1982:165; Lathrap et al. 1975:Fig. 79; Piana 1970; Marcos 2000:27), but there has never been even one scientific study of the site, and all the material from it has been collected by huaqueros. In 1979 Norton (Lunniss 2001; Norton et al. 1983) instigated excavation at Salango. The Bahía II ceremonial structures uncovered by excavations at Sector OMJPLP-141B, which provide the material described in this report, are discussed in a following section. Other limited occurrences of Bahía ceramics are reported for El Vergel (Guillaume-Gentil 1998:162), in the north Guayas Basin, and for Punta Brava (Piana and Marotzke 1997:32–71) on Isla Puná.

<sup>3</sup> It is notable, however, that in presentation of the Estero A sequence, Estrada (1962:Fig. 108) had both Bahía Bruñido and the undefined Decorado en Uñas type present only in Bahía II levels, while a total of six types (Muecas al Reborde, Tricolor, Negativo, Modelado, and Inciso sobre Ordinario, as well as Incisa en Línea Ancha), all present in Bahía I levels, are absent from Bahía II levels.

### 1.2.3 Guangala and Bahía II: Absolute Chronology

For the following summary (and Section 1.4 also), the published dates were calibrated using the OxCal Program v3.9 (Bronk Ramsey 1995, 2001). And to make them more compatible with the other results, the four dates from El Azúcar have been recalibrated, using the estimates of radiocarbon years before present given by Masucci (1992).

Paulsen (1970) was the first to provide radiocarbon dates and a preliminary internal chronology for the Guangala culture. She postulated eight phase divisions for a nine-hundred-year period spanning 100 BC to AD 800. Within that period, the phases were variously estimated at between 50 and 250 years long, and the break between her two larger stages (Phases 1–5 and Phases 6–8) was set at AD 600 (Paulsen 1970:125, 126). However, she had just three radiocarbon samples from Guangala contexts, belonging to Phases 1, 3, and 8 respectively (Paulsen 1970:56), and although there have been additional dates from other sites, most work and most subsequent radiocarbon dates relate to Early Guangala material, and the details of the middle and end sections remain uncertain.

Most Guangala dates (Table 1.2) fall into one or other of three main groups. Additionally, there are two charcoal samples from Early Guangala contexts at Salango (GX–9993) and Valdivia (Tx–4456) which appear to be residual from Machalilla and Middle to Late Engoroy contexts respectively. And a sample from Palmar (Hv–1295), cited by Bischof (1982:171) as coming from a Late Guangala context, possibly derived from material residual from an Early Guangala occupation.

In the first group, a sample from Palmar (L–1232V), which was the basis for the original estimate of 100 BC to AD 100 for Paulsen's Phase 1, has a calibrated age range of 200 BC to AD 70 at 68.2% probability. Two other samples (SMU–2462, GX–10633) from Early Guangala contexts at El Azúcar and Salango 141C coincide with this range estimate, extending the upper end to AD 130, and a fourth (Tx–4455) from Valdivia falls within the latter part of that range. The second group consists of four further dates from Early Guangala contexts with a combined span at 68.2% probability of AD 70–320. The earliest of these is from Palmar (Hv–1294), with a span at the same probability of AD 70–230. This is matched closely by three dates from Salango 141A Feature 16<sup>4</sup>, El Azúcar (SMU–2463), and another sample from Palmar (Hv–2976), which give results of AD 80–220, AD 80–250 and AD 80–320 respectively. There are then three dates from slightly later contexts. First, Paulsen's basis (L–1232T) for her Phase 3 estimate of AD 200–400 has a range at 68.2% probability of AD 130–410. Second, from El Azúcar, Masucci's latest date (SMU–2461) for her Complex 1 has a range of AD

230–390. Thirdly, Masucci's one sample (SMU–2460) for her Complex II (also the only date available to represent the period of Paulsen's Phases 4 – 6, which Masucci correlates with Complex II) has a range of AD 240–540. Finally, there is a date (L–1042H) given by Paulsen for a Phase 8 context at San Jacinto, with a range at 68.2% probability of AD 690–960.

With respect to Bahía chronology (Table 1.3), in the Manta-Bahía de Caráquez area there is no secure direct dating available. The five latest results from contexts, all Bahía I, at the Esteros site at Manta, and the single date from the Tarqui site, have age ranges at 68.2% probability that embrace the latter half of the first millennium BC and extend up to AD 100. Though they all overlap the main portion of the range of the first group of dates for Early Guangala contexts, they also have much earlier starting dates, allowing that Bahía II would have begun around the same time as Guangala. At Salango, Feature 28 at site 141A gave a radiocarbon date with a range at 68.2% probability of 90 BC to AD 60. This would set it firmly within Paulsen's range for Guangala Phase 1. The context has been identified as Bahía, and future analysis will help determine whether it is of Bahía I or II affiliation. For the end of Bahía II also there is only indirect dating available. In its heartland, Bahía II was followed by the Chirije culture (Estrada 1962:75). Estrada (1962:76–79) suggested that Chirije ceramic types included Bushnell's (1951:48) Frog Ware, which Paulsen (1970:89, 90, 94–97) has used as a marker for her Phase 5. If we use Paulsen's postulated range for Phase 5 of AD 500–600, Bahía II may have ended by sometime around the end of the fifth century.

In sum, the Guangala ceramic sequence probably extends from the first or second century BC to around AD 800. Whether it is best divided into two periods and eight phases (Paulsen 1970), or into three or perhaps four complexes (Masucci 1992), is unclear, and an alternative scheme may be required. Bahía II probably begins in the first century BC, and ends by perhaps AD 500, but there is no evidence yet for any sub-divisions for its ceramic history.

### 1.3 Salango and the Biogeography of the Central Coast

The central littoral of the Ecuadorian Pacific lowlands, from Jama in the north to the Gulf of Guayaquil in the south, is a region of tropical dry forest and scrub (Dodson and Gentry 1991; Josse 1996; Parker and Carr 1992). This forest, which is characterised especially by algarrobo (*Prosopis* sp.) extends further south as far as Lambayeque in Peru. The eastern limit of the littoral is formed by a series of low mountain ranges, from which westward running river valleys intersect the coastal strip. The Cordillera Chongón Colonche, with some peaks of over 800 m, reaches northwest from west of Guayaquil to the south of the Province of Manabí, before heading northeast to Portoviejo and, beyond that, to the slightly lower hills of the Jama range. These ranges separate the

<sup>4</sup> This and a second sample from Salango 141A, listed in Table 1.3, were dated at the Subdepartment of Quaternary Research, University of Cambridge, Cambridge, England in 1983. The laboratory sample numbers, however, were not returned.

**Table 1.2. Radiocarbon Dates from Guangala Contexts.**

Site and Context	Sample #	Material	RCYBP	Calendar Years at 68.2% Probability	Calendar Years at 95.4% Probability	Source	Guangala Phase/ Complex
Salango 141C Grave 13	GX-9993	Charcoal	3020 +/- 175	1440–1000 BC	1700–800 BC	Kurc 1984	Residual
Valdivia OGSEMA-172 Corte 12	Tx-4456	Charcoal	2370 +/- 60	760–380 BC	800–200 BC	Stoothert 1993: 66	Residual
Palmar 2 Level 3	Hv-1295	Not given	2145 +/- 70	360–50 BC	380 BC–AD 1	Bischof 1982: 162, 163, 172	Residual (given as Late)
Palmar OGSE-166E-1 Level D	L-1232V	Shell	2050 +/- 100	200 BC–AD 70	400 BC–AD 250	Paulsen 1970: 56	Phase 1
El Azucar * 47-X-C	SMU-2462	Charcoal	2030 +/- 120	200 BC–AD 130 (210 BC–AD 90)	400 BC–AD 250	Masucci 1992: 67, 419	Complex I
Salango 141C Grave 3	GX-10633	Human bone	2015 +/- 120	180 BC–AD 130	400 BC–AD 250	Kurc 1984	Early
Valdivia OGSEMA-172 Corte 12	Tx-4455	Charcoal	2030 +/- 60	110 BC–AD 60	200 BC–AD 130	Stoothert 1993: 66	Early
Palmar 1 Level 5	Hv-1294	Not given	1875 +/- -65	AD 70–230	AD 1–330	Bischof 1982: 162, 163, 171	Phase 1
Salango -141A Feature 16	Not available	Charcoal	1870 +/- 45	AD 80–220	AD 20–250	Norton et al. 1983: 61	Early
El Azucar * 47-X-B	SMU-2463	Charcoal	1850 +/- 70	AD 80–250 (AD 60–240)	AD 1–350	Masucci 1992: 67, 419	Complex I
Palmar 1 Level 5	Hv-2976	Not given	1830 +/- 80	AD 80–320	AD 20–400	Bischof 1982: 162, 163, 171	Phase 1
Palmar OGSE-166E-1 Level B2	L-1232T	Shell	1750 +/- 100	AD 130–410	AD 70–540	Paulsen 1970: 56	Phase 3
El Azucar* 47-X-B	SMU-2461	Charcoal	1750 +/- 60	AD 230–390 (AD 195–365)	AD 130–420	Masucci 1992: 67, 419	Complex 1
El Azucar* 47-X-A	SMU-2460	Charcoal	1670 +/- 60	AD 250–440 (AD 290–450)	AD 240–540	Masucci 1992: 67, 419	Complex II
San Jacinto OGSE-19b	L-1042H	Shell	1200 +/- 100	AD 690–960	AD 660–1020	Paulsen 1970: 56	Phase 8

\* The El Azúcar calibrated dates at 68.2% probability include both OxCal derived results and, in parentheses, those given by Masucci.



Table 1.3. Radiocarbon Dates from Bahía Contexts.

Site and Context	Sample #	Material	RCYBP	Calendar Years at 68.2% Probability	Calendar Years at 95.4% Probability	Source
Estero Cut 1 40–80 cm	W-834	Charcoal	2200 +/- 240	800 BC–AD 100	900 BC–AD 400	Meggers et al. 1965: 152, 153
Tarqui 250 cm	M-734	Charcoal	2170 +/- 200	500 BC–AD 100	800 BC–AD 250	Stirling and Stirling 1963
Estero Cut 1 280–320 cm	W-833	Charcoal	2150 +/- 240	550 BC–AD 150	800 BC–AD 400	Meggers et al. 1965: 152, 153
Estero Cut A 400–420 cm	M-1316	Not given	2120 +/- 120	360 BC–AD 10	450 BC–AD 150	Meggers et al. 1965: 153
Estero Cut A 400–420 cm	M-1319	Not given	2110 +/- 120	360 BC–AD 10	400 BC–AD 150	Meggers et al. 1965: 153
Estero Cut A 320–340 cm	M-1315	Not given	2050 +/- 120	350 BC–AD 80	400 BC–AD 250	Meggers et al. 1965: 153
Salango 141A Feature 28	Not available	Charcoal	2020 +/- 45	90 BC–AD 60	170 BC–AD 80	Norton et al. 1983: 61

coastal strip proper from the more humid interior lowlands of the Guayas Basin. Off the mainland of south Manabí there are several uninhabited islands, which range from barely exposed rocks, occasionally occupied as perches by sea birds, to Salango Island and La Plata Island (Dorsey 1901:253, 254; Wilkinson 1987:123–128), formations of over 100 m altitude that are vegetated with dry scrub.

The extreme regimes of the northern wet forests of Colombia and Panama and the southern deserts of Peru and Chile that bound the dry forest are products of the two converging oceanic currents that flow past them, i.e., the Panama Current and the Humboldt Current. And the conditions generated by convergence of the currents are what give rise to the complex vegetation patterns of the central Ecuadorian coast. Dry forest is the dominant vegetation regime, but the tops of the hills support fog (Parker and Carr 1992) or *garúa* forest (Josse 1996:16). This coastal *garúa* forest matches Andean foothill wet forest in many ways, such as to suggest that it was originally connected to it (Parker and Carr 1992:57). Unusually, the Cordillera Chongón Colonche permits such forest to grow close to and even directly adjacent the edge of the sea, since the hills reach the ocean itself between La Entrada and Ayampe, a point known as Cinco Cerros.

The Guangala and Bahía cultures thus occupied neighbouring sectors of a single, though graded and variable, ecological zone, the geographical boundary between them being formed by the interruption of the Cinco Cerros. And Salango at 1° 35' 30" S, 80° 50' 30" W (IGM Map CT MIV-3), about 12 km north of the Cinco Cerros, was situated more or less midway both between the Río Chone, northern limit of the Bahía zone, and Punta Arenas, the southern limit of the Guangala zone, and between their main population centres, 70 km away, at Manta and La Libertad respectively.

From Cinco Cerros northwards, the hills remain close to the shore as far as Puerto Cayo, delineating a small sub-region measuring some 40 km from north to south, with up to 20 km lying between the watershed and the sea. Much of this area of south Manabí, including its offshore islands and waters, has since 1979 been incorporated within the Machalilla National Park (Iturralde and Josse 2000; Fundación Natura 2002). Within this sub-region, differences in aspect, altitude, and distance from the sea, with concomitant differences in rainfall and soil, often result in rapid vegetation changes (Parker and Carr 1992:36). Moving from the shore to the ridge tops, there is a sequence of four distinct vegetation formations (Josse 2000) from dry scrub, which occupies the ground up to 150 m or 200 m, through dry forest, reaching 320 m, a transitional zone at 300 m to 400 m, and finally the *garúa* or cloud forest of the hill tops. Valley bottoms are sites for a fifth, riparian formation. Mangrove, now only vestigially preserved in minor lagoons, would have constituted a sixth, though one never as developed here as around the estuaries of the Ríos Guayas and Chone.

Furthermore, the vegetation changes as one moves north along the coast from Ayampe towards Puerto Cayo, tending to become drier, this being a result of variations in precipitation and insolation that are themselves a factor of aspect and the proximity of the hills to the sea. It is especially notable that the rise known as Bola de Oro, which separates the bays of Salango and Puerto López, acts as a barrier both to winter rains coming from the north, and summer *garúa* coming from the south. South of this rise, vegetation is much denser, increasingly so as one approaches the Cinco Cerros.

South Manabí is generally much wetter, and more heavily vegetated than La Libertad and the Peninsula of Santa Elena (Svenson 1946: 403–406, 417–420; Stothert and

Piperno 2000:52–56). It is also much wetter than Manta, although there is dense *garúa* forest on the plateau behind Cabo San Lorenzo (Saville 1910:13, 14), to the west of the port, and on the peaks of Montecristi, 12 km to the southeast (Dodson and Gentry 1991; Saville 1910:31). While precipitation on the shore itself may average only 300 mm a year, hill ridges in the Machalilla National Park can see more than 1500 mm in a year (Josse 1996:11, 12). Much of the precipitation falls as *garúa*, a low fog associated with the presence of the Humboldt Current between the months of June and October. 75% of precipitation, however, falls as rain during the months of January to April, when the Humboldt is temporarily displaced by the Panama Current.

The coast in general has suffered immense degradation, particularly in the past fifty years (Dodson and Gentry 1991; Josse 1996:15; Piperno and Pearsall 1998:183), but it still retains some remarkable characteristics. The large number of extant faunal species gives a good idea of the diverse supply of food and other materials that would have been available for earlier inhabitants of this region. Surveys of the Machalilla National Park, for example, have identified 234 species of bird, 69 of terrestrial mammals, 12 of marine mammals, and 24 of amphibians and reptiles, including three marine turtles (Albuja and Muñoz 2000). Béarez (1996a) registered 251 species of marine fish in the waters of the park. The rock-pools, sandy bottoms, and reefs along the continental shores and around the islands, especially Salango and La Plata, are also rich in life, supporting algae, sponges, anemones, corals, molluscs, crustaceans, and other macro-invertebrates (Iturralde 2000). It is especially noteworthy that the waters between the Salango Island and the mainland attracted rich shoals of several valuable fish species (Prieto et al. 1989: Chapter 3, p.39), and that the island was, until recently at least, an exceptional and important coastal migration site for tuna (Béarez and Lunniss 2003).

Archaeological evidence from coastal Guayas and south Manabí currently suggests that general climatic conditions around the time of Early Guangala and Bahía II were little different from those of today (Béarez 1996b:115; Stothert 1993:90), and earlier arguments (Lanning 1967, 1968; McDougale 1967; Paulsen 1970, 1976; Sarma 1974) that this was a time of significantly elevated rainfall have been shown to be faulty or poorly founded (Masucci 1992:13–17; Stothert 1995:152–154). But direct human impact on the landscape through forest clearance and the creation of elaborate agricultural systems was already well under way during the Late Formative over much of the Ecuadorian coastal lowlands (Piperno and Pearsall 1998:257, 258), and Early Guangala period settlement and agricultural expansion (Stothert 1993:91) will have had a continuing deleterious effect on native plant and animal populations. Nevertheless, both the forests and their creatures will have been greatly more abundant and widespread than we now find them. No less importantly, the more extensive woodland itself would have resulted both in more effective interception of *garúa* cloud (Becker 1999) and in higher systemic retention of water falling as rain, providing

better conditions for agricultural production than those experienced by contemporary *campesinos*.

#### **1.4 OMJPLP–141B–T3 Salango**

Site OMJPLP–141 lies beneath the fish factory of the Empresa Pesquera Polar, at the south end of the bay at Salango (Figure 1.2). It is an area of flat ground around 6 m above sea level, at the base of Punta Piedra Verde, identified as a Pre-Columbian site by Norton and Marcos during their investigation of the south Manabí coast in 1979 (Lunniss 2001; Marcos and Norton 1981; Norton et al. 1983), and probably also the source of material collected by Estrada (1957:19, 21, Table 1). Adjacent to OMJPLP–141 is OMJPLP–140, a pair of man-made terraces that run south along the shoreline (Allan 1988).

Sector B of OMJPLP–141, Salango, was opened for excavation in 1982. A small test pit, cut from the uppermost Manteño layers at the surface down to Valdivia cultural material at over 3.50 m below present ground level, revealed Regional Development period burials with elaborate ceramic grave goods. A series of other small cuts were dug close to the original test pit, before all were brought together as part of a single large unit, designated 141B. Surrounding the burials was a complex series of rectangular clay and wooden structures of ceremonial function, oriented to a main northeast-southwest axis. To expose the full extent of these structures, 141B was opened to a final size of 20 m by 22 m (Figure 1.3). From the end of 1983, excavation focused on the west corner of the structures, examining in detail their individual nature and collective sequence, their relation to the burials, and through associated pottery, their cultural affiliations (Figure 1.4). This west corner was Trench 3 (T3) of OMJPLP–141B. The edges of Trench 3 were placed at right angles to the structures to provide profile views of their northwest and southwest-facing sides. Excavation of Trench 3 was by the single context method (Harris 1979).

Analysis of data from OMJPLP–141B–T3 (Lunniss 2001) indicates that the first structure was associated with Middle Engoroy ceramics. A further seventeen structures followed, after which the site was perhaps abandoned until some moment in the Manteño period. The sequence of structures falls into two main parts, Periods 1 and 2 (Table 1.4). For Period 1, which is of the Late Formative, differences in configuration suggest that its seven structures be divided into Building Phases I, II and III, the last of which itself has an early (IIIE) and a late (IIIL) stage. Building Phases I, II, and IIIE are associated with Middle Engoroy ceramics, and Building Phase IIIL with Late Engoroy. Phase IV is a short episode without building. The eleven structures of Period 2, which are of Early and Middle Regional Development, are divided among the three stages of Building Phases V–VII. Building Phase V is associated with Bahía II and Early Guangala pottery, while Building Phases VI and VII are probably associated with Middle Guangala. The ceramic transition from Late

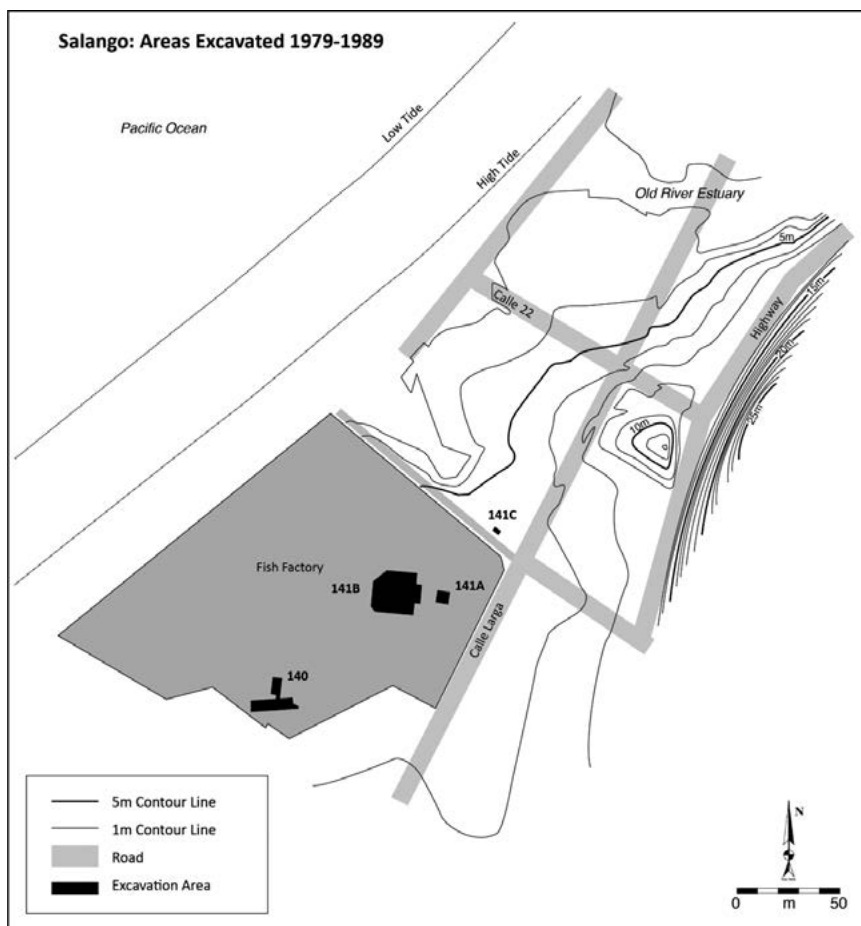


Figure 1.2. Map of the Salango site showing areas excavated 1979–1989.



Figure 1.3. View to the northeast of OMJPLP-141B.



**Figure 1.4. OMJPLP-141B-T3 before the excavation of the clay wall of Structure 11.**

Engoroy to Bahía II and Early Guangala correlates exactly with the transitional Building Phase IV.

Evidence from 141B-T3 for the structures of Period 1 Building Phases I-III consists principally of: a yellow clay floor with a rectangular wooden building set on top (Structure 1); a low platform of the same yellow clay, set directly over the floor of Structure 1, also with a rectangular wooden superstructure (Structure 2); an extended version of the Structure 2 platform with wooden superstructure, the outer edge of the platform being defined by a sunken clay wall and, beyond that, a clay floor (Structure 3); two clay walls set either side of the Structure 3 wall (Structures 4 and 5); and, set over them, two clay walls, entirely sunken so that only their tops were visible, with a thick clay exterior floor and with resurfacing of the clay of the interior area, now more or less at the same level as the exterior (Structures 6 and 7). Five human burials were associated with Structure 1. A further twenty-three belong to Phase III, when they lie over and to the south of the central platform, and are associated with fire pits and rubbish pits, these being particularly rich in pottery. Structured artefact depositions occur throughout Phases I-III, and late Phase III is especially notable for the deposition of stone figurines under one of its walls (Structure 7) and in small holes cut into the clay floor around the exterior. A ceremonial function is inferred from the elaborate and highly organised design of the buildings, their size, their careful maintenance, their association with

structured artefact depositions, and other features, such as careful burning of the clay floors and subsequent surfacing.

The transitional Phase IV, which saw capping of the late Phase III walls with a yellow clay floor, also included two Late Engoroy-type graves, these being associated with rubbish pits with a high pottery content<sup>5</sup>, and fire pits<sup>6</sup>.

In Period 2, Structures 8 to 14 of Building Phase V were successively superimposed low clay walls, two of them stepped, that defined a rectangular or square funerary enclosure with internal dimensions of 12 m or more. The walls themselves, though never more than 40 cm tall, had foundation trenches up to 50 cm deep. A front entrance lay to the northeast. At least one structure had a rear entrance to the southwest. Associated with and around the exterior edges of some of the walls were large wooden posts set in holes up to 2 m deep. The walls were each also associated with a surface of prepared clay that extended several metres away from the enclosure. The clay used for walls and exterior floors was either of natural yellow colour, or artificially rendered

<sup>5</sup> Two rubbish pits, Contexts 651 and 638, previously identified (Lunniss 2001:159-162) as elements of Phase V, have since been reassigned to Phase IV, meaning that Phase V saw no continuation of the practice of pottery and other rubbish disposal that was associated with funerary ritual in late Engoroy times.

<sup>6</sup> One of the Phase IV features, Context 920, earlier discussed in relation to fire-pits (Lunniss 2001:162-166), also appears to have served as a rubbish pit for pottery disposal.

Table 1.4. Sequence Divisions at Site OMJPLP-141B-T3 Salango.

Site 141B Period	Site 141B Building Phase	Site 141B Structure	Ceramic Phase	Cultural Period
2	VII	18	Middle Guangala	Middle Regional Development
	VI	17		
		16		
		15		
	V	14	Bahia II + Early Guangala	Early Regional Development
		13		
		12		
		11		
		10		
		9		
8				
IV				
1	IIIL	7	Late Engoroy	Late Formative
		6		
	IIIE	5	Middle Engoroy	
		4		
		3		
	II	2		
	I	1		

reddish brown. The outside of the funerary enclosure was kept mostly empty, but between one resurfacing of the area and the next, pottery sherds and other artefacts, as well as bone and shell, were allowed to accumulate.

The enclosure itself was hollow on the inside. That is, its initial level was that of the ground outside the walls. Human interments were set in circular pits. Mostly the burials were primary, seated, and probably wrapped in textiles, but some were secondary and placed either in urns or cloth bundles (Figures 1.5, 1.6). A total of around seventy burials, mostly oriented to the northeast and accompanied by three or more ceramic vessels as well as other goods, have been recovered from 141B. Eight came from Trench 3. As each new grave was dug and partly filled by its burial, soil that could not be put back in the pit was spread around it, and gradually the level of the interior rose until it filled the enclosure.

At this point, Phase VI (Structures 15–17) began. Building episodes here saw the top of the interior surfaced with clay, and the edges of the platform redefined with clay borders, set either in shallow trenches or added directly. Tall corner posts are associated with Structure 15. The one

structure (Structure 18) of Phase VII consisted of a single-coursed wall of stone set in a shallow trench around the edge of the top of the Phase VI platform. Exterior floors may have been associated with the Phase VI and Phase VII structures, but these levels were excavated before single context planning was begun, and the relevant site records have yet to be analysed.

Radiocarbon dates are available for bone samples taken from eight skeletons of the Phase V funerary assemblage at OMJPLP-141B (Table 1.5).<sup>7</sup> Two of them (GX-10635 and GX-10634) have age ranges at 68.2% probability of 170 BC–AD 220 and 40 BC–AD 390, and these coincide with the dates for Early Guangala and Masucci's Complex I. A third sample (GX-10632) has an earlier range of 380–50 BC, and a fourth (GX-10630) has a later range of AD 50–600, falling within the estimated ranges for Paulsen's Guangala Phases 1–6 and for Bahía II as a whole.

The other four results, all from T3, are not satisfactory. They all have large standard deviations, and only one

<sup>7</sup> A previous listing of these dates (Lunniss 2001: Table 24) included some inaccuracies which are here corrected.



**Figure 1.5. Secondary urn burial with grave goods and primary burial with grave goods in the west corner of Trench 3.**



**Figure 1.6. Secondary bundle burial with grave goods.**

**Table 1.5. Radiocarbon Dates from Phase V Graves, Site OMJPLP-141B.**

Context	Sample #	RCYBP	Calendar Years at 68.2% Probability	Calendar Years at 95.4% Probability
Grave 771	GX-13668	3770 +/- 800	3400-1200 BC	4300-200 BC
Grave 765	GX-13669	2660 +/- 480	1500-200 BC	2100 BC-AD 40
Grave 3624	GX-13672	2500 +/- 460	1300 BC-AD 1	1800 BC-AD 600
Grave 467	GX-13667	2530 +/- 340	1050-200 BC	1500 BC-AD 300
Entierro 88	GX-10632	2160 +/- 130	380-50 BC	550 BC-AD 150
Entierro 56	GX-10635	1980 +/- 135	170 BC-AD 220	400 BC-AD 350
Entierro 79	GX-10634	1855 +/- 165	40 BC-AD 390	250 BC-AD 550
Grave 662	GX-10630	1700 +/- 220	AD 50-600	200 BC-AD 800

of them (GX-13672) has a range at 68.2% probability that covers the estimated start of the Early Regional Development period, though two others come close. It is certain, however, that the bone sampled belonged to the skeletons; and the stratigraphy, burial structure, and grave goods all indicate that the skeletons were of the Early Regional Development. The discrepancy and imprecision of the results, therefore, reflect deterioration of the bone collagen during extended storage, in Salango, between excavation and testing. Samples of Engoroy material from the same site, and subjected to testing at the same time, only two to three years after excavation, produced similarly poor results (Lunniss 2001: 288) for that same reason.

Although the 141B results are not all as ideal as they could be, they allow that the Phase V funerary assemblage is broadly contemporary both with Early Guangala, whether Complex I as identified by Masucci (1992) or Phases 1-3 as identified by Paulsen (1970), and with Bahía II as tentatively described by Estrada (1957, 1962).