

ARTICLE

# Community, Place, and Identity in Middle Formative Coastal Ecuador: Human Burials at Salango, a Machalilla Phase Fishing Village

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## Abstract

Thirty-one individuals buried at Salango, a Machalilla phase fishing village, constitute the only significant Middle Formative funerary assemblage so far recovered for the coast of Ecuador. Our description and discussion of the burials in the context of the nature, location, and history of the settlement and a comparison with preceding coastal Valdivia and contemporary highland Cotacollao funerary practices show that, although they represent a new general tradition, Machalilla burial rituals at Salango reflected specific social conditions and concern with community identity. In particular, the elaborate burial of an adult female not only points to the continuing authority of women in coastal Ecuadorian Formative communities but also expresses the spiritual and economic importance of the sea for Machalilla phase Salango.

## Resumen

Treinta y un individuos enterrados en la aldea de pescadores de la fase Machalilla en Salango constituyen el único conjunto funerario significativo del Formativo Medio recuperado hasta ahora para la costa ecuatoriana. La descripción y discusión de los entierros a la luz de la naturaleza, ubicación, e historia del asentamiento, y luego la comparación con las prácticas funerarias precedentes de Valdivia en la costa y las contemporáneas de Cotacollao en las tierras altas andinas, muestran que, si bien representaban una nueva tradición general, los rituales funerarios Machalilla de Salango reflejaban condiciones sociales específicas y una preocupación por la identidad comunitaria. En particular, el elaborado entierro de una mujer adulta no solo señala la continua autoridad de las mujeres en las comunidades costeras del Formativo ecuatoriano, sino que también expresa la importancia espiritual y económica del mar para Salango en su fase Machalilla.

**Keywords:** human burials; sea fishers; sea turtles; Machalilla phase; Ecuador; Salango

**Palabras clave:** entierros humanos; pescadores; tortugas marinas; fase Machalilla; Ecuador; Salango

Up until 1982, just three burials had been identified for the coastal Ecuadorian Middle Formative Machalilla phase. At La Cabuya, a Machalilla site, two poorly preserved skeletons were found buried in a flexed position, each with fronto-vertico-occipital modification of the skull (Figure 1; Meggers et al. 1965:110–111, 146). A skull from the Valdivia site at San Pablo with similar modification was judged also to be from the Machalilla phase (Munizaga 1965:228–229). At that time, no Valdivia burials had been found with evidence for this type of cranial flattening, and except for one possible non-definitive example from Real Alto, the evidence still suggests that such modification began with Machalilla (Munizaga 1976; Ubelaker 2003:282, 283).

In 1982, another 31 buried individuals were registered during excavation of a Machalilla sea-fishing settlement at Salango (Norton et al. 1983). The Salango data are a major contribution to knowledge of the burial practices of Middle Formative coastal Ecuador. Because they were discovered in the context

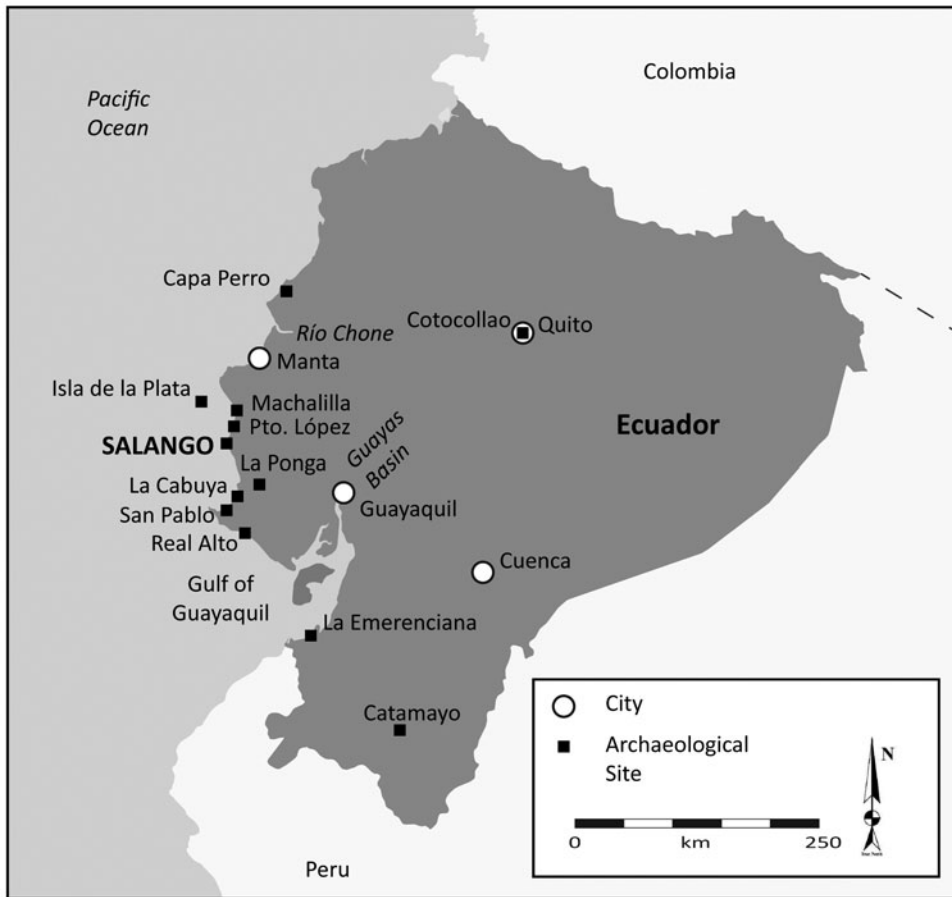


Figure 1. Map of Ecuador showing sites mentioned in the text (illustration by Luke Dalla Bona).

of a fishing village, they also provide an opportunity to discuss community identity through examination of some of the conditions in which the individuals lived and died (Yaeger and Canuto 2000:5–6). Accordingly, we contextualize the burials with descriptions of the nature of the site and evidence for life at Machalilla phase Salango and its relation to the wider world. We consider funerary assemblage composition and distribution, as well as burial configurations, including that of one adult female whom we interpret, based on mortuary treatment and grave goods, as a sea-turtle shaman. We also highlight differences from earlier Valdivia burial practices and similarities with those of contemporary Cotocollao. The Salango burials are then evaluated as an expression of the relation of the local community with the sea on whose shore it was situated.

### Machalilla Phase Salango

The Ecuadorian Middle Formative Machalilla phase (Lippi 1983; Meggers et al. 1965; Zeidler 2008) is dated to 1450–800 cal BC (Zeidler 2003). Settlements extended 200 km along the central coast from the Río Chone down to the Gulf of Guayaquil, with occasional outlier sites in both directions. Much of this land was hilly and covered in tropical dry forest, with cloud forest at the peaks and scrub and mangrove in the lower reaches and around the river estuaries.

Although Machalilla was initially distinguished from Early Formative Valdivia by changes in pottery vessels and figurines (Lippi 1983; Meggers et al. 1965), there were also shifts in settlement pattern and, it was inferred, in social structure (Raymond 2003; Schwartz and Raymond 1996; Zeidler 2008). No mainland ceremonial centers have yet been identified, but the offshore Isla de La Plata was visited

as an oceanic sanctuary (McEwan and Lunniss 2022). Subsistence was based on sea fishing, shellfish collection, and mixed agriculture with an intensification of maize production; however, hunting and collecting forest fruits and other products such as honey were also practiced (Béarez et al. 2012; Lippi et al. 1984; Pearsall 2003; Stahl 2003; van der Merwe et al. 1993). Interaction with the Ecuadorian Andes is suggested by the similarity of Machalilla ceramics with those of Cotacollao and Catamayo (Guffroy 2004; Villalba 1988; Zeidler 2008). Thus, Machalilla was an expression of novel cultural traits that were shared across the larger part of the central coast but also reached to the central and southern highlands 300 km or more away. At Salango, meanwhile, more local aspects of identity arose through specific relationships with place.

Salango lies at the midpoint of the Machalilla coastline. Its history as a sea-fishing site begins around 4000 cal BC with Late Archaic and then Valdivia occupations (Lunniss et al. 2021; Norton et al. 1983). Archaeological remains are concentrated at the south end of a sheltered sandy bay that harbored abundant and diverse fish species (Béarez 1996; Béarez et al. 2012). Three sea-turtle species nest at Salango and nearby (Miranda 2019), and there are many invertebrate species (Ministerio del Ambiente del Ecuador 2007), including the bivalves *Pinctada mazatlanica*, used for making fishhooks (Béarez et al. 2012), and *Spondylus crassisquama*, a symbol of marine sacred essence then of growing importance in the Andean world (Carter 2011; Lunniss 2022; Moore 2017).

The Machalilla phase villages at nearby Puerto López and the eponymous Machalilla site occupied raised marine terraces overlooking the beach and sea (Meggers et al. 1965; Prümers et al. 2022). At Salango, however, the area chosen was at the foot of the headland, close to and just above the high-tide line. Artifact-rich deposits extend across 1 ha, with further stratified remains over another 2 ha to the north and south.

Evidence for the Machalilla village came in 1982 from excavation of a 6 × 6 m cut at OMJPLP-141A (Figure 2). At 2–3 m below ground level, 75 cm of black sandy layers with large quantities of fish bone, charcoal, pottery, shellfish hooks, and other artifacts overlay 25 cm of lighter-colored, less organic deposits (Béarez et al. 2012; Norton et al. 1983). Thin layers of yellow clay and postholes suggest the presence of houses or more ephemeral structures, and other features include rubbish pits and fire pits. The main set of 30 Machalilla individuals was found in this sector, along with complete, large chicha (maize beer) production or storage jars that were buried nearby. Kitchen jars and decorated fine ware bowls, jars, and stirrup spout bottles were also represented, along with occasional fragments of solid pottery figurines and larger hollow figurines (Figure 3). In the same year a 2 × 1 m cut at OMJPLP-141B, 20 m to the west (Norton et al. 1983), exposed another Machalilla burial, and in 1983 similar black sandy deposits and possible house floors were found at OMJPLP-141C, 50 m to the north of 141A and 141B, along with two possible Machalilla phase burials (Norton et al. 1983). Finally, in a 2014 watching brief, cultural deposits with fishbone and Machalilla pottery and figurine fragments were found along Calle Larga from a point 150 m south of 141A to Calle 22, which is 150 m north of 141A and close to the old river estuary that marked the northern edge of the settlement (Lunniss 2016).

That Salango was a fishing village with a focus on pelagic tuna is indicated by abundant fish remains and fishing equipment (Béarez et al. 2012), stable isotope analysis of the human skeletal material (van der Merwe et al. 1993:77), and fishing net designs on pottery vessels (as discussed later). Other lines of evidence illuminate the social and ritual context.

First, the figurine fragments reference two spheres of ritual practice across the Machalilla landscape. The simpler solid and sometimes red-painted figures (Lathrap et al. 1975; Lippi 1983; Meggers et al. 1965) are comparable with solid Valdivia figurines perhaps used as instruments of life-cycle and curing rituals (Stahl 1986; Stothert 2003; Zeidler 2000). The hollow painted figurines—in fact, anthropomorphized bottles—share details with the solid figures such as ear piercing and ornamentation with bands of red paint; however, they present a new form of imagery that indicates both a new perception of human identity and a new type of ritual performance (Lathrap et al. 1975; Lippi 1983; Stothert 2007). There is yet no direct evidence to suggest why, when, or where rituals took place involving either type of figurine, although one ear from a hollow figure was found buried on top of a large chicha jar. It can be suggested, however, that the simpler and smaller solid figures were used for personal or

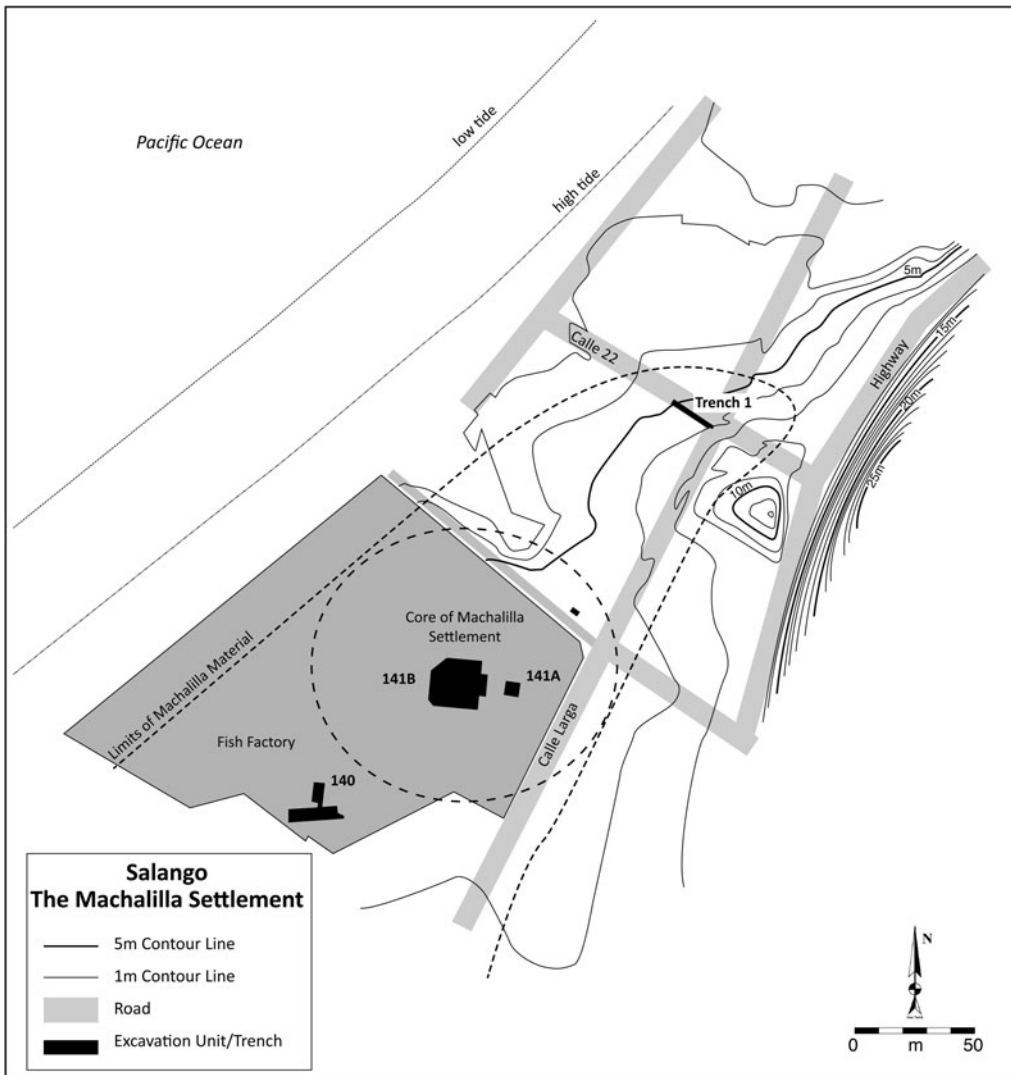


Figure 2. Map of the Machalilla site at Salango (illustration by Luke Dalla Bona).

household ceremonies and the larger, more elaborate hollow figures for more public or community-oriented performance.

Second, stable isotope analysis indicated that the predominantly marine diet also included maize, likely obtained via reciprocal relations with agriculturalists in exchange for the fish and shellfish harvested at Salango (van der Merwe et al. 1993:77). The large jars buried near the human interments suggest that this maize was at least in part consumed as chicha, that chicha was drunk in commensal events, and that chicha and chicha consumption were associated with celebration of the dead (Stothert 2003). That the jars were found complete and generally upright suggests that they may have contained chicha when buried.

The jars are of two classes. First are vessels with undecorated bodies that measure from 260 mm tall and 330 mm wide to 380 mm tall and 456 mm wide; their volumes range from 14 L to 30 L. These are associated with the end of the burial sequence and were found singly, paired, and once in a group of four (Figure 4). They correspond to globular jar forms as suggested for Cabuya Plain by Meggers and colleagues (1965:121, Figure 75.5). A larger form with an embellished neck and the entire exterior decorated with a banded design in red paint on a buff background stands 600 mm tall and 580 mm



Figure 3. Face fragment of a large hollow Machalilla figurine from Salango Sector 141A.

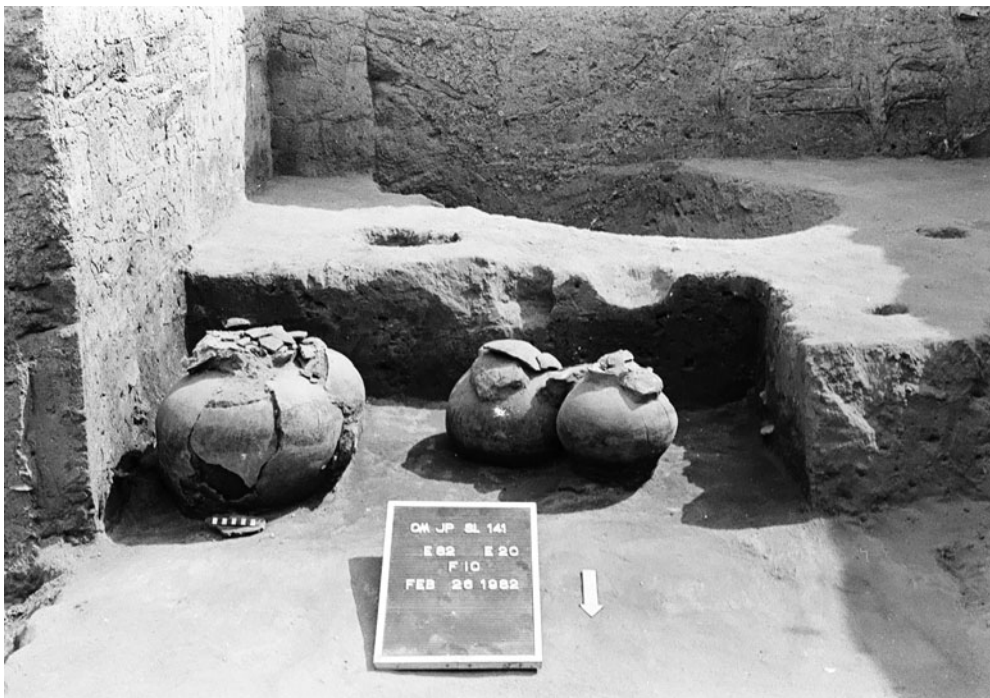


Figure 4. Four large chicha jars buried intact adjacent to area of the Machalilla burials at Salango Sector 141A.

wide, with a capacity of around 100 L (Figure 5). Perhaps used from an early stage of midden development, these jars match Meggers and coworkers' Machalilla Red Banded type: although the form is previously undescribed, the treatment of the neck is a variant of the "step-like projection" below the neck of Form 12 for that type (Meggers et al. 1965:134–136, Plates 149–151). The reticulated



**Figure 5.** Massive Machalilla chicha jar decorated with fishing net design from Salango Sector 141A.

design of the large chicha jar shown represents a fishing net, and even though the jar expresses the mutually necessary values of maize agriculture and sea fishing, the design itself prioritizes the latter.

Both classes are larger than Valdivia jars (DeBoer 2003) and indicate significant changes in ceramic technology and the socioeconomic aspects of chicha brewing and consumption. At the contemporary central and southern highland sites of Cotocollao and Catamayo there were storage vessels of similar size to the smaller large jars at Salango (DeBoer 2003). Salango thus reflects a more widespread change in pottery technology and feasting customs. But the larger jars are of a different order of magnitude and, with their careful design and decoration, were surely designed for chicha consumption that was both large in scale and formalized in character. Notably, they match in volume the *chomo ani*—ceremonial chicha jars—of historic Shipibo of the Peruvian Upper Amazon (DeBoer 2003), whose *chomo anitama*, quotidian storage jars, match in volume the undecorated smaller large jars at Salango.

Third, there were nine exotic pottery sherds of a polished black or dark-brown fine ware, with broad, deep incised, and punctate designs on the exterior alone or on both the interior and exterior, sometimes infilled with white pigment (Figure 6; Norton et al. 1983:49, Figure 12). Scattered throughout the burial sequence but not found in any grave, these vessel sherds, as well as part of a roller stamp, are unlike anything yet described for pottery complexes of the Ecuadorian coast, highlands, or eastern lowlands. They are, however, matched by two sherds each from Machalilla and Cabuya that were explained as deriving from contact with a “Kotosh-like complex” of the Peruvian highlands (Meggers et al. 1965:141, 173–174, Plates 158 g–i, 191). Obsidian flakes, also found at La Ponga (Lippi 1983:179–182), are another inbound element of exchange reaching Salango and derived from highland sources near Quito, which is 300 km away (Burger et al. 1994).

In brief, life at Machalilla phase Salango extended beyond utilitarian concerns and fishing. At feasts chicha was served from decorated jars of unprecedented magnificence and drunk from bowls of



Figure 6. Fragment of exotic incised ware from Salango Sector 141A.

equally novel elegance. Household and public ceremonies centering on anthropomorphic figurines linked the community to the wider world of Machalilla settlement and ritual. And Salango, looking across the ocean to an island sanctuary that marked the northwest horizon, was itself the destiny of rare and precious items brought from distant communities in probable exchange for *Spondylus* and other products of the sea.

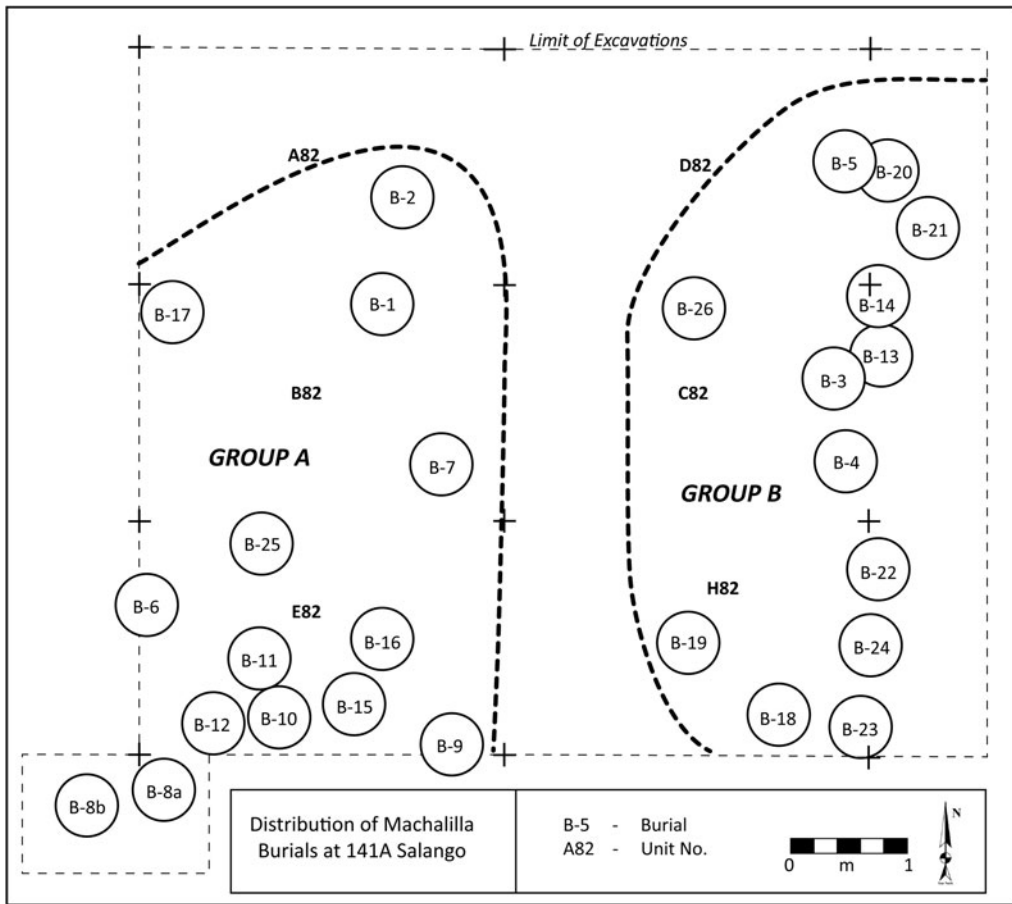
### The Machalilla Burials at Salango

OMJPLP-141A was divided into six units of  $2 \times 3$  m each; three of these units on the east side were later extended, as was the southwest corner, to allow recovery of burials reaching beyond the original excavation area (Figure 7). Twenty-seven burials were registered, including three double interments, all set in oval or circular pit graves distinguishable for their darker fills. The burials present as two sets, Group A (14 burials / 16 individuals) and Group B (13 burials / 14 individuals), separated by an unused area a meter wide that ran north-south between them. The skeletons were often poorly preserved, but with one certain and one possible exception, all individuals appear to have been buried as fully articulated corpses. There was also a single burial at OMJPLP-141B, 20 m to the west. In total, then, 31 Machalilla individuals were identified during excavation at 141A and 141B. Determinations for age and biological sex (for adults) were made by Ubelaker in Quito in 1984 following procedures described by Gilbert and McKern (1973), McKern and Stewart (1957), Phenice (1969), Steele (1976), Stewart (1958), and Ubelaker (1978). Methods and theories used were limited to those available at the time of analysis. These determinations indicated 12 infants up to 4 years old, 12 adult females of 15–50 years, and 7 adult males of 30–50 years. Full details are presented in Table 1.

### Relative and Absolute Chronology

At 141B, Burial 30 lay within the midden matrix. At 141A, Burials 1–24 were associated with the later stage of midden formation. Burial 25 may belong to the early stage of the midden and Burial 26 may predate the midden, but both match the configurations of the others. Thus, although there appears to have been increased interment in the later stage, the burials can be treated as elements of a single continuous tradition.

Further evidence for relative sequencing is provided by the direct superpositioning of graves, indirect stratigraphy, and measured levels below the ground surface (Figure 8). The longest sequence so far



**Figure 7.** Plan of Salango Sector 141A showing distribution of Machalilla human burials among suggested Groups A and B. The circled numbers indicate the center points of the graves (illustration by Luke Dalla Bona).

identifiable includes five individual burials or sets of burials running from Burials 26 to 6 via Burial 25, Burials 15 and 16, and then Burials 8a, 8b, 9, 10, 11, and 12. The remaining burials all fall within other sequences of four successive individual burials or sets of burials, where in each case again the earliest two burials are Burials 26 and 25. These strings were, however, doubtlessly integrated within a longer actual sequence.

This ordering is supported by 13 dates obtained from bone and charcoal samples assayed in 1983 by the University of Cambridge Sub-Department of Quaternary Research and calibrated using the OxCal v4.4 program (Bronk Ramsey 2009) and the SHCal20 southern hemisphere calibration curve developed by Hogg and others (2020; see Table 2). Seven samples were taken from seven tombs, all associated with the upper 50 cm of the midden. At  $2\sigma$ , they suggest a range of 1496–922 cal BC. Another sample taken from the lowermost level of the midden, probably predating Burial 25, gave a date range of 1506–1266 cal BC. Two samples from levels beneath the midden but roughly contemporary with Burial 26 gave ranges of 1534–1281 cal BC and 1496–1226 cal BC. Combined, these results date the Machalilla occupation and burials to 1534–922 cal BC. Three samples with an overall span of 1743–1286 cal BC, taken from layers beneath those associated with the graves, suggest occupation reaching back into the Late Valdivia (Zeidler 2003).

### *Burial Distribution, Population Composition, and Burial Configurations*

Although the total number and distribution of the Machalilla burial population at Salango are unknown, 141A and 141B show that the original assemblage extended at least 26 m in an east–west



**Table 1.** Machalilla Phase Human Burials at Salango, Sectors OMJPLP-141A and 141B.

| Burial # | Sector - Group Unit-Level | Inds <sup>a</sup> | Age Group | Sex | Age (Years) | Burial Type                               | Or <sup>b</sup> | Burial Accompaniments   | Observations  |
|----------|---------------------------|-------------------|-----------|-----|-------------|---|-----------------|---|---|
| 1        | 141A - A B82-5a           | 1                 | I         |     | 1.5         | Flexed on side (R)                        | W               |   | Elbows by sides, hands in front of body   |
| 2        | 141A - A A82-5            | 1                 | Ad        | M   | 40–50       | Flexed and seated                         | W               |   | Left arm bent with hand raised to the head; feet well forward of the body   |
| 3        | 141A - B C82-5a           | 2                 | I; I      |     | 1; Neonate  | Flexed on side (L);<br>Flexed on side (L) | SW; S           | Large pottery sherd over body of 1-year-old                                     | Two infants side by side  |
| 4        | 141A - B C82-5a           | 1                 | Ad        | F   | 30–35       | Flexed on back                            | NE              |   | Legs twisted (perhaps collapsed) to right; arms bent, hands joined over chest; head raised and looking down length of body  |
| 5        | 141A - B D82-5c           | 1                 | Ad        | F   | 35–40       | Flexed on back                            | SW              | 1 broken shell hook in fill   | Legs drawn tightly over the body; right arm under the legs; left arm bent over left shoulder; head looking down body  |
| 6        | 141A - A E82-20           | 2                 | Ad; I     | F   | 25–30; 0.7  | Flexed and seated;<br>On back of adult    | NE              |   | Adult female carrying infant on her back  |
| 7        | 141A - A B82-5c           | 1                 | Ad        | M   | 23–28       | Flexed on side (L)                        | SW              | <i>P. mazatlanica</i> over feet, three sherds by feet. <i>Spondylus</i> in fill | Legs less tightly flexed than in other cases and back almost straight, suggesting body had not been tied up in a bundle; left arm bent so that left hand lay just in front of face; right arm bent in front of face so that hand lay by top of head |
| 8a       | 141A - A E82-21           | 1                 | Ad        | M   | 30–35       | Flexed on side (L)                        | W               |   | Head tucked tight down over throat; to left of and just in front of Burial 8b   |
| 8b       | 141A - A E82-21           | 1                 | Ad        | F   | 18–20       | Flexed on back                            | W               |   | Legs tightly bent and drawn up over body; arms bent tightly against sides of chest; head to the west and folded down onto chest; to right of and just behind Burial 8a  |
| 9        | 141A - A E82-21           | 1                 | I         |     | 1.2         | Flexed on side (L)                        | NW              |   | Burial posture not certain  |
| 10       | 141A - A E82-21           | 1                 | Ad        | F   | 45–50       | Flexed on side (R)                        | SSW             |   | Legs missing but likely originally flexed; lay close to and back to back with Burial 11   |

(Continued)

**Table 1.** Machalilla Phase Human Burials at Salango, Sectors OMJPLP-141A and 141B. (Continued)

| Burial # | Sector - Group Unit-Level | Inds <sup>a</sup> | Age Group | Sex | Age (Years) | Burial Type        | Or <sup>b</sup> | Burial Accompaniments  | Observations  |
|----------|---------------------------|-------------------|-----------|-----|-------------|--------------------|-----------------|--|---|
| 11       | 141A - A<br>E82-21        | 1                 | Ad        | F   | 33-38       | Flexed on side (R) | NE              | Shell hook near arms and chest   | Arms bent with hands in front of chest; other adult bones also present  |
| 12       | 141A - A<br>E82-21        | 1                 | I         |     | 2.0         | Lying flat on back | S               |  | Set at feet of Burial 11; adult bones also present  |
| 13       | 141A - B<br>C82-6         | 1                 | Ad        | F   | 35-40       | Packet             | W               | Pottery model of sea turtle carapace, two stones, and three <i>P. mazatlanica</i> valves with body; Exotic pottery sherd in fill | Corpse dismembered and beheaded; torso, with legs and arms beneath and to either side, then wrapped in bundle, and set in grave with pelvis to east and neck to west; head set over south center edge of main packet. West (neck) end of bundle protected by ceramic representation of sea turtle carapace set up on long side. In area of head, a round stone (10 cm diameter) with two valves of mother-o-pearl ( <i>P. mazatlanica</i> ), one above and other below stone, each facing upward: the upper valve covers the head, with stone and a second valve a little to south. Third valve of same species, also facing upward, lay over neck end of bundle; second stone reported |
| 14       | 141A - B<br>C82-6         | 1                 | Ad        | F   | 30-35       | Flexed on side (R) | SE              |  | Legs half-flexed, hands together between legs, head bent down over chest; backed next to and perhaps simultaneous with Burial 13  |
| 15       | 141A - A<br>E82-22        | 1                 | Ad        | F   | 24-28       | Flexed on back     | SSE             | 1 <i>P. mazatlanica</i> face up by left arm  | Arms bent at sides and hands by face  |
| 16       | 141A - A<br>E82-22        | 1                 | Ad        | F   | 35-40       | Flexed and seated  | NNW             |  | Arms by sides, elbows bent, and hands raised  |
| 17       | 141A - A<br>B82-7         | 1                 | Ad        | M   | 26-31       | Flexed on back     | NNW             |  | Arms bent and hands to either side of face; legs tucked over body and leaning to the right  |
| 18       | 141A - B<br>H82-17        | 1                 | Ad        | M   | 40-45       | Flexed and seated  | N               |  |   |

(Continued)

**Table 1.** Machalilla Phase Human Burials at Salango, Sectors OMJPLP-141A and 141B. (Continued)

| Burial # | Sector - Group Unit-Level | Inds <sup>a</sup> | Age Group | Sex | Age (Years) | Burial Type                | Or <sup>b</sup> | Burial Accompaniments  | Observations   |
|----------|---------------------------|-------------------|-----------|-----|-------------|----------------------------|-----------------|--|--|
| 19       | 141A - B H82-18b          | 1                 | I         |     | Neonate     | Lying flat on back         | S               |  | Elements also present of one infant of 1.0 years and of at least four adults, all between 25 and 40 years, two of them males and two of undetermined sex, including one complete cranial vault with occipital flattening |
| 20       | 141A - B D82-7            | 1                 | I         |     | 4           | Flexed on side (L)         | S               |  | Elbows bent, hands by chin; close to but facing away from Burial 21  |
| 21       | 141A- B D82-8             | 1                 | I         |     | 1           | Flexed on side (L)         | N               |  | Arms lightly bent and hands by knees; close to but facing away from Burial 20.   |
| 22       | 141A- B H82-7             | 1                 | I         |     | 0.6         | Lying flat on back         | E               |  | Head possibly removed from neck and set over body  |
| 23       | 141A - B H82-8            | 1                 | Ad        | F   | 20-25       | Flexed on side (R)         | SE              | 1 shell hook by left hip, 1 other in fill                                |  |
| 24       | 141A - B H82-7            | 1                 | Ad        | F   | 15-16       | Flexed and seated          | SW              | Rounded flat stone (8 cm) in upper fill                                  |  |
| 25       | 141A - A E82-24           | 2                 | Ad; I     | M   | 30-35; 1    | Flexed and seated Vertical | S; ?            | Shell by left pelvis of adult; broken pottery vessel over head of infant | Adult male with infant in front and separate   |
| 26       | 141A - B C82-18           | 1                 | I         |     | 4           | Flexed on side (L)         | W               |  | Deepest burial, with base at 3.90 m below modern surface   |
| 30       | 141B Cateo 82-14          | 1                 | Ad        | M   | 30-35       | Flexed and seated          | NE              | Rounded stone behind right hip; shell hook in fill                       | Right hand on lap, left hand raised to head; right mandible of another adult also present  |

<sup>a</sup> Inds = Number of buried individuals.

<sup>b</sup> Or = Orientation.

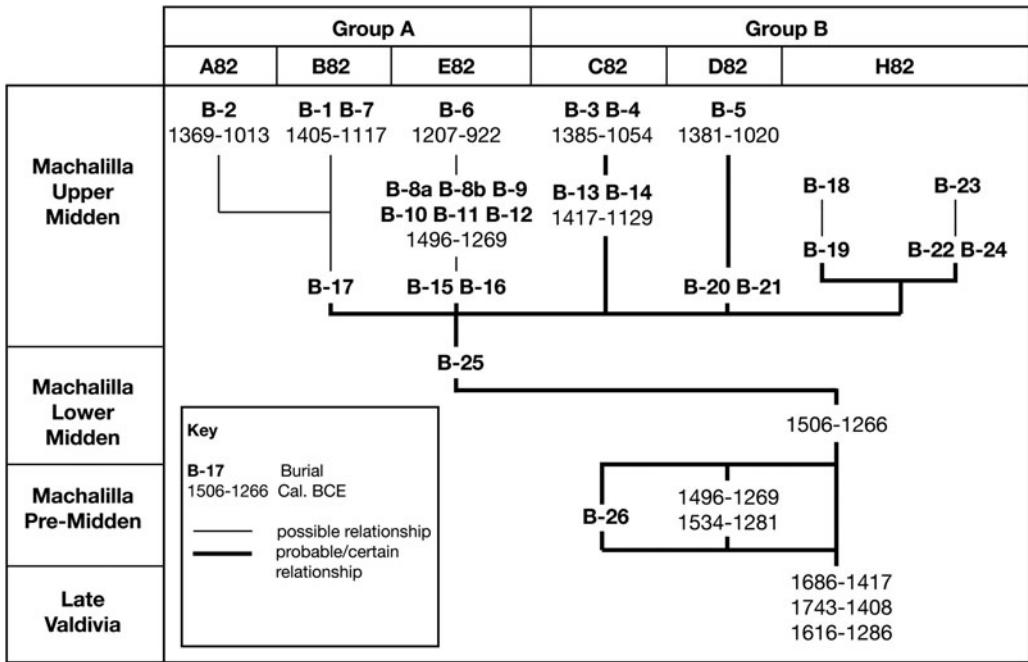


Figure 8. Sequence diagram of the human burials and radiocarbon dates from Salango Sector 141A (illustration by Luke Dalla Bona).

Table 2. Radiocarbon Dates for Salango, Sector OMJPLP141A.

| Lab # | Material | Context          | Uncalibrated RCYBP | 2σ (cal BC) | Observations                       |
|-------|----------|------------------|--------------------|-------------|------------------------------------|
| 18    | Charcoal | H82-Level 27     | 3310 ± 70          | 1743-1408   | Layer under main Machalilla midden |
| 17    | Charcoal | H82-Level 26     | 3300 ± 55          | 1686-1417   | Layer under main Machalilla midden |
| 15    | Charcoal | H82-Level 28     | 3225 ± 60          | 1616-1286   | Layer under main Machalilla midden |
| 13    | Charcoal | CD82-Level 17/18 | 3200 ± 50          | 1534-1281   | Level of deepest burial            |
| 16    | Charcoal | H82-Level 24     | 3185 ± 50          | 1506-1266   | Layer predating Burial 25          |
| 6     | Bone     | Burial 10/11     | 3165 ± 40          | 1496-1269   | Machalilla burial                  |
| 14    | Charcoal | D82-Level 18     | 3150 ± 50          | 1496-1226   | Level of deepest burial            |
| 8     | Bone     | Burial 13        | 3080 ± 40          | 1417-1129   | Machalilla burial                  |
| 5     | Bone     | Burial 7         | 3050 ± 40          | 1405-1117   | Machalilla burial                  |
| 2     | Bone     | Burial 4         | 3025 ± 40          | 1385-1054   | Machalilla burial                  |
| 3     | Bone     | Burial 5         | 3010 ± 40          | 1381-1020   | Machalilla burial                  |
| 1     | Bone     | Burial 2         | 2990 ± 40          | 1369-1013   | Machalilla burial                  |
| 4     | Bone     | Burial 6         | 2910 ± 40          | 1207-922    | Machalilla burial                  |

Note: Official laboratory numbers were never given, and the numbers used here are those provisionally assigned when the samples were submitted.

direction, and 141C showed that it possibly reached 50 m to the north. The distribution pattern at 141A, with the graves forming two groups, then suggests that there may have been several separate groups, with at least one other represented by the single grave at 141B and yet another perhaps at 141C.

How the burials were situated with respect to the overall settlement design is also uncertain, but present evidence suggests that they were clustered at and around the central area of the site currently occupied by the modern fish factory. In early Machalilla times, this was a residential area with perhaps an occasional human burial conducted there, such as Burials 26 and 25, but later this area was chosen more expressly for the placement of the dead.

The distribution pattern at 141A has further implications. Of the two groups of graves identified there, Group A included five infants, six adult females, and five adult males, and Group B included seven infants, six adult females, and one adult male (Supplemental Table 1). Though neither group has been completely recovered, the joint presence of adult females, adult males, and children; the stratigraphy; and the radiocarbon dates suggest these separate groups may represent family or kinship units spread over several generations. Alternatively, the two main burial groups may have referenced spatial settlement division or moieties such as suggested for the Valdivia community at Real Alto (Zeidler 1998; Zeidler and McEwan 2021), though at Salango there is no other suggestion of a dualistic structure.

Two infants were buried with adults, one in front of an adult male (Burial 25) and the other on the back of an adult female (Burial 6). In one instance, two infants were buried side by side (Burial 3). Other burials seem also to have been intentionally sited next to each other, whether back to back and headed in opposite directions (Burials 10 and 11, 20 and 21) or in some other relation of proximity (Burials 13 and 14, 11 and 12, 8a and 8b): these burials suggest another level of conscious relational organization within each group.

Burials were of complete articulated bodies, except for Burial 13 (discussed later) and perhaps Burial 22, where bodies were placed in a variety of positions (Table 3). Among burials with complete bodies, adults could be flexed and seated ( $n = 7$ ), flexed on the left or right side ( $n = 6$ ), or fully flexed on their backs ( $n = 5$ ). The one exclusive tendency that is suggested relates to adults who were laid on their side: all females so positioned ( $n = 4$ ) were on their right sides, and the two males were on their left sides (Béarez et al. 2012: Figure 5). Except for the two infants associated in double burials with individual adults, infants were found on their backs or semi-flexed on one or the other side. There is no evidence for any preferred orientation, either for adults collectively, men, women, or children.

In addition to the offerings of Burial 13, certain objects found close to buried individuals or in their tombs would also have been grave goods. *Pinctada mazatlanica* pearl shells were set by the arm of Burial 15, by the feet of Burial 7, and by the hip of Burial 25, with a *Spondylus* valve and three sherds by the feet of Burial 7. An exotic sherd with Burial 13; shellfish hooks with Burials 5, 11, 23, and 30; and stones with Burials 24 and 30 may also have been intentionally placed with the bodies. One of the

**Table 3.** Positions according to Age and Sex of Machalilla Individuals Buried at Salango, Sectors OMJLP-141A and 141B.

| Position             | Infants<br>(0–4) |       | Adult<br>Females<br>(15–50) |       | Adult Males<br>(30–50) |       | Total Adults<br>(15–50) |       | Total<br>Individuals |       |
|----------------------|------------------|-------|-----------------------------|-------|------------------------|-------|-------------------------|-------|----------------------|-------|
|                      | <i>n</i>         | %     | <i>n</i>                    | %     | <i>n</i>               | %     | <i>n</i>                | %     | <i>n</i>             | %     |
| Seated flexed        | 0                | 0.00  | 3                           | 25.00 | 4                      | 57.14 | 7                       | 36.84 | 7                    | 22.58 |
| On back flexed       | 0                | 0.00  | 4                           | 33.33 | 1                      | 14.29 | 5                       | 26.32 | 5                    | 16.13 |
| On back unflexed     | 3                | 25.00 | 0                           | 0.00  | 0                      | 0.00  | 0                       | 0.00  | 3                    | 9.68  |
| On right side flexed | 2                | 16.67 | 4                           | 33.33 | 0                      | 0.00  | 4                       | 21.05 | 6                    | 19.35 |
| On left side flexed  | 5                | 41.67 | 0                           | 0.00  | 2                      | 28.57 | 2                       | 10.52 | 7                    | 22.58 |
| On back of adult     | 1                | 8.33  | 0                           | 0.00  | 0                      | 0.00  | 0                       | 0.00  | 1                    | 3.23  |
| Upright              | 1                | 8.33  | 0                           | 0.00  | 0                      | 0.00  | 0                       | 0.00  | 1                    | 3.23  |
| Packet               | 0                | 0.00  | 1                           | 8.33  | 0                      | 0.00  | 1                       | 5.26  | 1                    | 3.23  |
| Total                | 12               | —     | 12                          | —     | 7                      | —     | 19                      | —     | 31                   | —     |

infants of Burial 3 and the infant of Burial 25 were both covered in some way by pottery. Thus, although pottery sherds and stones, as well as shellfish hooks, were present, an association with complete shells, also present in Burial 13, is especially indicated.

Extraneous human bones were associated with four burials. Infant Burial 19, 40 cm from the nearest neighboring tomb, was accompanied by the remains of one other infant and four adults. These included a complete male cranial vault with occipital flattening, and although the modification is not as extensive as that of the skulls at La Cabuya and San Pablo (Munizaga 1965:228–229), it adds to the evidence for Machalilla phase cranial modification. The adult male Burial 30, also isolated, was accompanied by an adult right mandible. Accidental contamination can be ruled out because neither of these two graves touched any other previous burial. Thus, the bones were derived from graves situated elsewhere, though why or how the bones were selected and removed from their original locations is unclear. These two cases suggest that the addition of adult bones to Burials 10 and 11 was also intentional.

### *Burial 13: Female Authority and the Spirit World*

In Group B, Burial 13 was an adult female of 35–40 years who, before interment, was dismembered and beheaded. The torso, with legs and arms beneath and to either side, was then wrapped in a bundle and set in the grave with the pelvis to the east and the neck to the west. The head was found over the center of the south edge of the main packet. Evidence for dismemberment, rather than secondary burial, is that the torso, legs, and arms were each found with their respective elements still articulated, indicating that the flesh was present at the time of burial. At the west (neck) end of the bundle, there was a large ceramic bowl set on one of its long sides, leaning over and so containing or protecting the bones (Figure 9). There was also a round stone (10 cm diameter) with two valves of *P. mazatlanica* above and below, each facing upward—with the upper valve covering the head while the stone and second valve lay a little farther to the south. A third *P. mazatlanica* valve, also facing upward, lay over the neck end of the bundle, a second stone was reported, and there was an exotic sherd in the fill.

Treatment of the corpse and the overall burial configuration differ from those of all other Machalilla burials at Salango and identify the individual as having been of considerable importance. Such importance has antecedents in the high social, ritual, or spiritual status indicated by the treatment and siting of females found buried in Middle and Late Valdivia contexts (Marcos 1988:163–165; Staller 2001; Zeidler 2000; Zeidler and McEwan 2021). Disarticulation of the corpse was also an earlier feature of Middle Valdivia ritual at Real Alto, but that involved young adult males whose interments were elements of an extended ritual associated with the primary burial of a high-status female (Marcos 1988:163–165; Zeidler 2000). Burial 13 thus echoes an earlier tradition of female authority but repurposes dismemberment, indicating that it was significant here in terms of the authoritative identity and function of the individual so treated. In this context, disarticulation of the corpse and the protecting presence of the pottery vessel, both unique and both requiring explanation, provide intersecting lines of evidence to suggest that this individual was a shaman.

First, dismemberment is central to ideas about the ritualized death and rebirth of shamans (Eliade 1964:33–66; Sullivan 1988:400; Wallis 2016:741). We suggest that the Burial 13 individual, having been a shaman in life, was dismembered at death before being repackaged for rebirth as a shaman in the afterlife. Contemporary Mapuche reconstruct the memory of deceased Mapuche *machi* following social disremembering, rather than repackaging of the corpse after physical dismembering; via this unique process, the identity of the dead *machi* is reconstituted so as to incorporate the ancestral qualities of earlier deceased *machi* (Bacigalupo 2016:198–225). Shamanic practice and community relations with shamans undergo constant change and reinvention, often leading to specific situations that have no other direct parallel (Vitebsky 2000), and Burial 13 is perhaps another such case.

The ceramic bowl adds to the argument. Unprecedented among Machalilla pottery collections, it was found complete and with no signs of use or predepositional damage: the bowl was of ordinary brown ware, lightly wiped but undecorated. It had an oval shape measuring 43 × 38 cm and was 16 cm deep (Figure 10). What would normally be described as the base was rounded, and there was

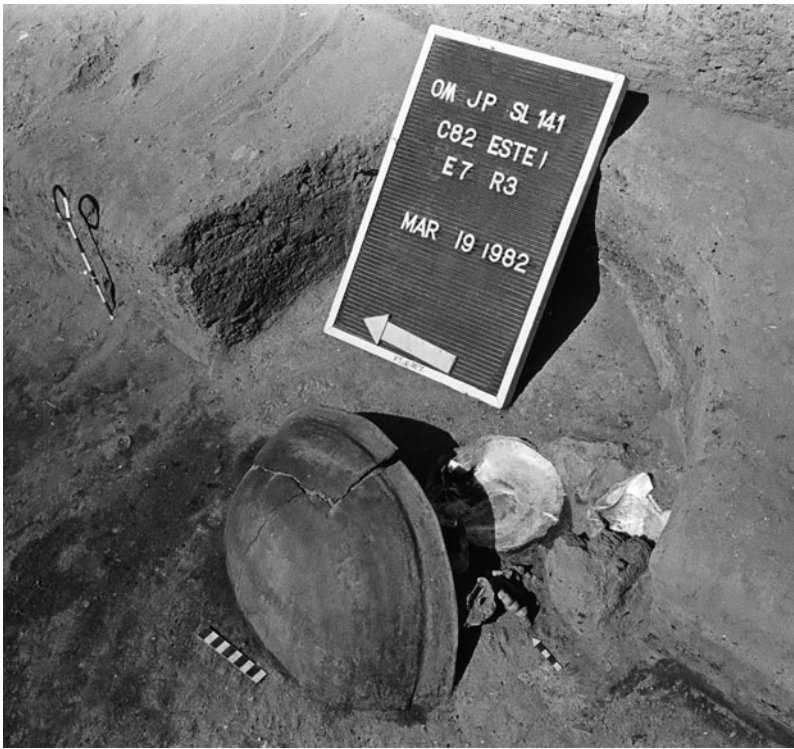
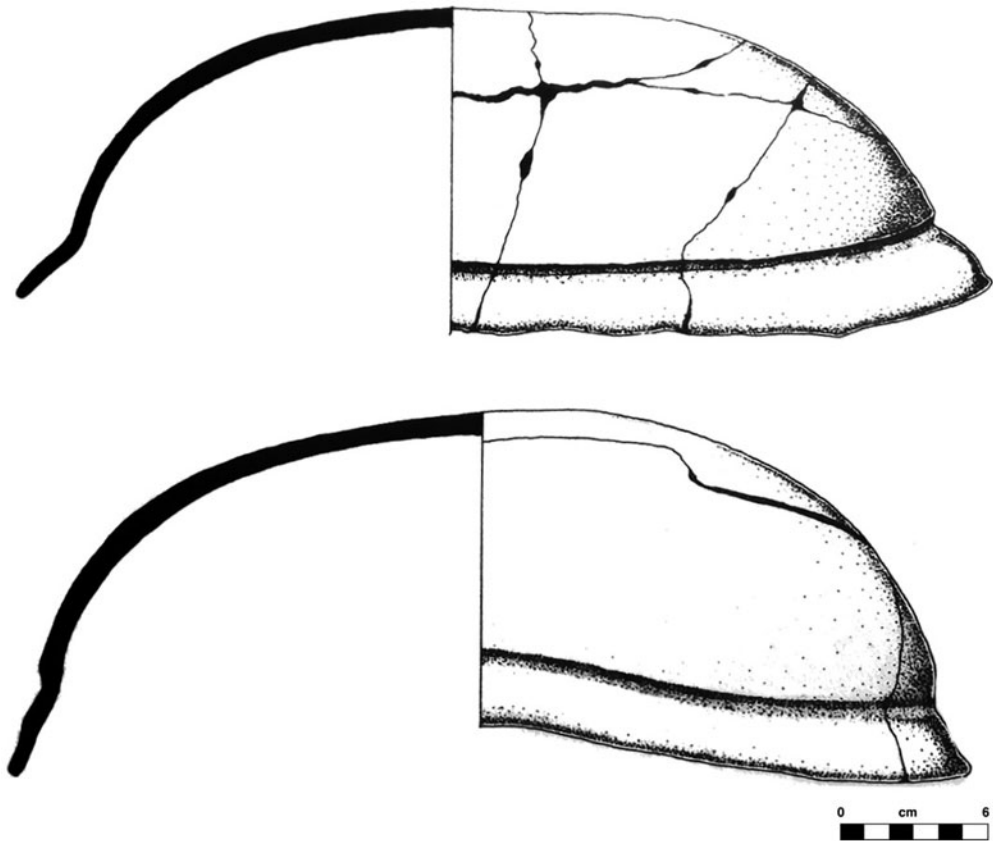


Figure 9. View of the pottery vessel protecting Burial 13.

a shallow rounded groove around the exterior that separated the slightly flaring rim from the main body. The ends were shallower with respect to the “base” than the sides, and although the vessel displayed general irregularities, the change of curvature of the rim at the two ends seems more probably intentional than accidental.

As a container of liquids or solids, it would have been awkward and unstable, and although such a normal vessel function is possible, the depositional context combined with morphology points in another direction. First, the slight disorder of Burial 13 suggests that the bowl may have been originally on top of the overall arrangement of bones, shells, and stones; it may have later slipped to one side and the skull, stones, and shells slipped to the other. In any event, the bowl appears to have been so placed as to contain and protect the body. Second, given its undamaged condition at the time of burial and its unusual form, the bowl is likely to have been made specifically to accompany the individual in the tomb. Third, the vessel’s oval form matches that of the shells of sea turtles. Not only does the treatment of the ends mimic that of the elevated head and tail ends of turtle shells in general but the rim also echoes the narrow flange that runs round the edge of the shell of the green sea turtle (*Chelonia mydas*)—the most common of the species that still visit beaches at and near the Salango site. Given the presence and likely human interaction with these creatures at Salango, it can be suggested that the bowl was made and used as a representation of a green sea-turtle shell.

A Terminal Valdivia young adult female buried at the Capaperro site in the Jama Valley was accompanied by shamanic paraphernalia that included an ocelot (*Felis pardalis*) skull likely once attached to a cape made of an entire skin; it was concluded that this would have represented the feline aspect of the young shaman’s being that was invoked for purposes of communication with the world of the spirits (Zeidler et al. 1998). Similarly, we suggest that given its imitation of the form of a sea-turtle shell, the pottery vessel of Burial 13 referenced a sea-turtle spirit that was the woman’s alter ego and that this woman was a shaman who had embodied, on behalf of the community, a sense of shared identity between the Machalilla people of Salango and the sea turtles who came to that place. The burial of



**Figure 10.** Drawing of the pottery vessel placed as protective covering for Burial 13, showing side (*top*) and end (*bottom*) views (illustration by Luke Dalla Bona after Norton and colleagues 1983:Figure 11).

her reconfigured remains, under the vessel, would thus have confirmed her own identity as a sea-turtle spirit in the afterlife.

Human interaction with sea turtles on the Ecuadorian coast is evidenced by Cheloniidae remains from Valdivia onward (Stahl 2003). More significantly, each of two burials dating to 1000–600 BC at Playa Vicente Mena in Chile is reported to have been covered by a real sea-turtle carapace (Frazier 2003), and a black ware bowl from Ancón in Peru, dating to the Initial period (2000–600 BC), carried a complex, dualistic, incised image of a supernatural sea turtle (Burger 1992:Figure 47). These separate and roughly contemporary instances echo central aspects of the ceramic vessel at Salango: its function as protection for the dead individual and its reference to the spiritual realm that she embodied. They thus show that there was a widespread, if rarely documented, impulse to integrate human society with the spirits of these creatures of the sea, and they provide support for our interpretation.

The stones and shells are of another order. The set comprised by the one stone with shells above and below recalls two Valdivia offerings in this same area of Salango, where *P. mazatlanica* valves enclosed *Strombus peruvianus* and *galeatus* conches (Norton et al. 1983). Now, it was a stone, perhaps a hand-grinding stone, rather than a conch, that was associated with the pearl shells, thus making possible reference to the maize that was consumed by these fishing folks.

### Comparisons with Valdivia

Very young children represent 38.71% of the Machalilla phase assemblage at Salango (Supplemental Table 1), a proportion almost double that registered for Valdivia times at Real Alto, where children aged up to 4.9 years comprised just 21.00% of the sum assemblage (Ubelaker 2003). The 5.0–



14.9-year age range, however, which represented 16.00% of the Real Alto assemblage, was absent at Salango. This perhaps reflects sample bias rather than some selection procedure or a zero-mortality rate for that age group. But if we look at Salango's mortality figures in two main age groups of 0–19.9-year-olds and 20.0–50.0-year-olds (Supplemental Table 2), at 45.16% and 54.84% respectively, they are similar to those for comparable age groups at Real Alto: 46.00% and 54.00%. In other words, despite the absence of the 5.0–14.9 age group, the Machalilla burials at Salango indicate a general population structure like that for Valdivia times at the one settlement for which there are substantial and systematic data. Likewise, although surviving offerings at Salango reflect the site's proximity to and dependence on the sea, their limited number compares with that of Valdivia burials at Real Alto (Zeidler et al. 1998).

Machalilla phase burial configurations at Salango, however, as well as their location and grouping, are notably different from those typically recorded for Valdivia. In the better-studied Valdivia Phase III at Real Alto, there was a close relation between human burials and residential structures: adults and subadults generally lay buried in a flexed position in shallow graves next to the wall trenches of houses, whereas infants were laid directly in the trenches and unborn babies were buried enclosed in upturned cooking jars set in the trenches (Marcos 1988:161–162; Zeidler et al. 1998). Moreover, the burials in trenches were foundation offerings made prior to the placement of the wall posts. At Machalilla phase Salango, in contrast, the flexed burial on the side, the format identified for the two Machalilla burials at La Cabuya (Meggers et al. 1965:110), was just one of three main possibilities for adults: adults and infants were buried in similar formats and in adjacent sites or even together, and burials were apparently sited as discrete groups. Thus, in contrast with the general practice at Real Alto, the Machalilla burials at Salango not only seem to emphasize the complete extended family as a social construct but also ignore any discrimination by age. At the same time, there does not appear to have been any concern with associating the interments directly with actual residential structures.

When we compare Burial 13 with the burials of the high-status female at Real Alto, differences emerge in the expression of social relations at the community level. The female at Salango was among a group of individuals, undistinguished by any evident architectural setting, that included seven infants, one adult male, and five other adult females all treated in standard ways without discrimination. In addition, this was just one of at least two similar groups likely composed of kin relations. The Middle Valdivia female at Real Alto, however, although accompanied by a total of 19 individuals potentially representative of a kin group, was interred in a stone-lined grave at the entrance to a structure on top of a specially constructed mortuary facility that projected into the center of the main village plaza (Marcos 1988:163–165; Zeidler 2000; Zeidler and McEwan 2021). The other individuals—8 males and 11 juveniles—were all differentially treated and distributed with respect to the principal burial and the structure itself, according to age and in ways that diverge notably from standard practice elsewhere at the site.

Thus, whereas at Salango the role and identity of the female are indicated simply by her own post-mortem treatment and grave accompaniments, at Real Alto the female's elevated status was emphasized both by placement in a special crypt at the entrance to a highly visible and formalized mortuary facility and by the unusual treatment of the dead who accompanied her—pointing to an elevated rank, whether achieved and ascribed, for the family as a whole (Zeidler and McEwan 2021). By comparison, inclusion of the Salango shaman within the burial area of a possible family or lineage group suggests a community structure that avoided overt expression of social ranking.

### **Machalilla Phase Salango and Cotocollao**

In view of their differences from Valdivia practice, it is notable that the Machalilla burials at Salango are more directly comparable for siting, distribution, and position with those excavated at the highland Cotocollao site (Ubelaker 1988; Villalba 1988:75–109, Appendix I:Tables 1 and 2). In both the early (1500–1000 BC) and especially in the late (1000–500 BC) phase, the dead were buried together at Cotocollao in dedicated funerary zones with no discrimination as to age and in such a way as to suggest that families and descent groups used their own areas repeatedly over long periods of time. Furthermore, the bodies were generally flexed on the right or left side or else were flexed and seated,

and four adult male crania of the late phase presented occipital flattening. All this evidence supports the idea that Cotocollao and Machalilla were linked by sociocultural ties and significant aspects of ideology.

## Discussion

Complete ceramic vessels, vessel fragments, figurine fragments, and radiocarbon dates recovered from the sea-fishing village at Salango show that this was one of the many shoreline and inland communities of coastal Ecuador that shared Machalilla phase material culture and ritual. Similarities in ceramic forms, cranial modification, and patterns of human burial also show that Salango shared certain cultural and ritual customs with highland communities such as Cotocollao and Catamayo. Meanwhile, obsidian flakes point to inward exchange from the highlands, as do exotic pottery sherds with respect to more distant areas yet to be identified. And in the reverse direction, Salango was probably already involved in the slowly increasing supply of *Spondylus crassisquama* to the Ecuadorian highlands and Peruvian coast (Carter 2011; Moore 2017; Zeidler 2008).

The large sample of burials at Salango provides valuable evidence for burial configurations probably shared by Machalilla groups in general. However, burial distribution, stratigraphic data, radiocarbon dates, population composition, and burial offerings suggest that funerary practice was also shaped by local concerns with community and kinship and by correspondingly specific ideas about identity, place, and origins. The siting of the burials in an area of earlier residence reaching back thousands of years would have meant that the Machalilla dead were sent back to join the spirits of an unimaginably deep past. The burial population was likely distributed in family and lineage-based groups, although other subsets may have been referenced, and within the two groups documented, there was an emphasis on togetherness. None of the graves appear to have damaged any earlier burials, which implies that care was taken in remembering old burial locations or in digging new graves so as not to disturb the old. In this context, the deliberate inclusion of additional human bones points to a ritual valuation of the bones and their use to establish an association between the primary burial incumbents and other individuals previously buried elsewhere.

Ideas about identity, place, and origins are most explicitly synthesized in the burial of the female individual here identified as a shaman. For longer than anyone could remember, the beach at Salango had been a nesting site for the sea turtles that yearly hauled themselves out of the surf to excavate holes in the sand and lay their eggs before returning to the ocean. The fishing settlement and the site of its human burials were linked with this annual cycle that culminated in the emergence of the hatched baby turtles prior to their entry into the ocean: the interment of the female, according to our interpretation, would have represented not simply the death and rebirth of a woman embodying a generic mythical sea turtle but also that of a spirit central to the being of the place and to the promise of community regeneration. We could even speculate that the grouping of kin relations within separate burial zones was understood to imitate the grouping of eggs in each sea-turtle nest. In any case, the settlement and the burial ground were both set by the sandy beach that was the meeting place of land and ocean, and community identity would have been experienced in terms of that point of union. Identification with the sea was further expressed through the burial offerings of shells and shell artifacts and, more emphatically, through the fishing net design of the large jars.

## Conclusions

Salango represents the only significantly sized sample of Machalilla human burials yet excavated and adds considerably to our knowledge of Machalilla burial practices. In addition, the context of the burial sample allows examination of the nature and identity of the community represented by the dead. Limited evidence from elsewhere in the Machalilla region and comparison with contemporary highland burials at Cotocollao suggest that Salango is representative of Machalilla funerary ritual in general. Whether the apparent avoidance of social ranking exhibited by the assemblage is typical of Machalilla or is simply a reflection of the structure of Salango's own small fishing community is less certain, although it conforms with the absence of ranking in settlement patterns so far observed. Most notably,

however, Salango offers insights into a specific case of community identity founded on attachment to the sea. It was linked to and informed by the wider world, but in the celebration of death, it was informed by the particular conditions of its existence. This should not be surprising. But Salango highlights once more not only the economic importance of the sea but also its sacred values, an aspect of coastal Ecuadorian Formative archaeology that remains underdiscussed in the literature.

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Supplemental Table 1. Age Range and Biological Sex Value Statistics for Machalilla Burials at Salango.

Supplemental Table 2. Age Ranges 0–19.9 and 20.0–50.00 Years for Machalilla Burials at Salango.

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