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METAL ARTIFACTS FROM SOUTH COASTAL GUATEMALA

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The sites of Carolina and Gomera are located in the township of La Gomera, department of Escuintla. These lands are now used for sugar cane plantations and cattle breeding. During the excavations carried out by the South Coast Regional Archaeological Project (Pipil Project) in that zone, a number of copper artifacts were found, located in the central area and in apparent elite residential contexts (Figure 1).

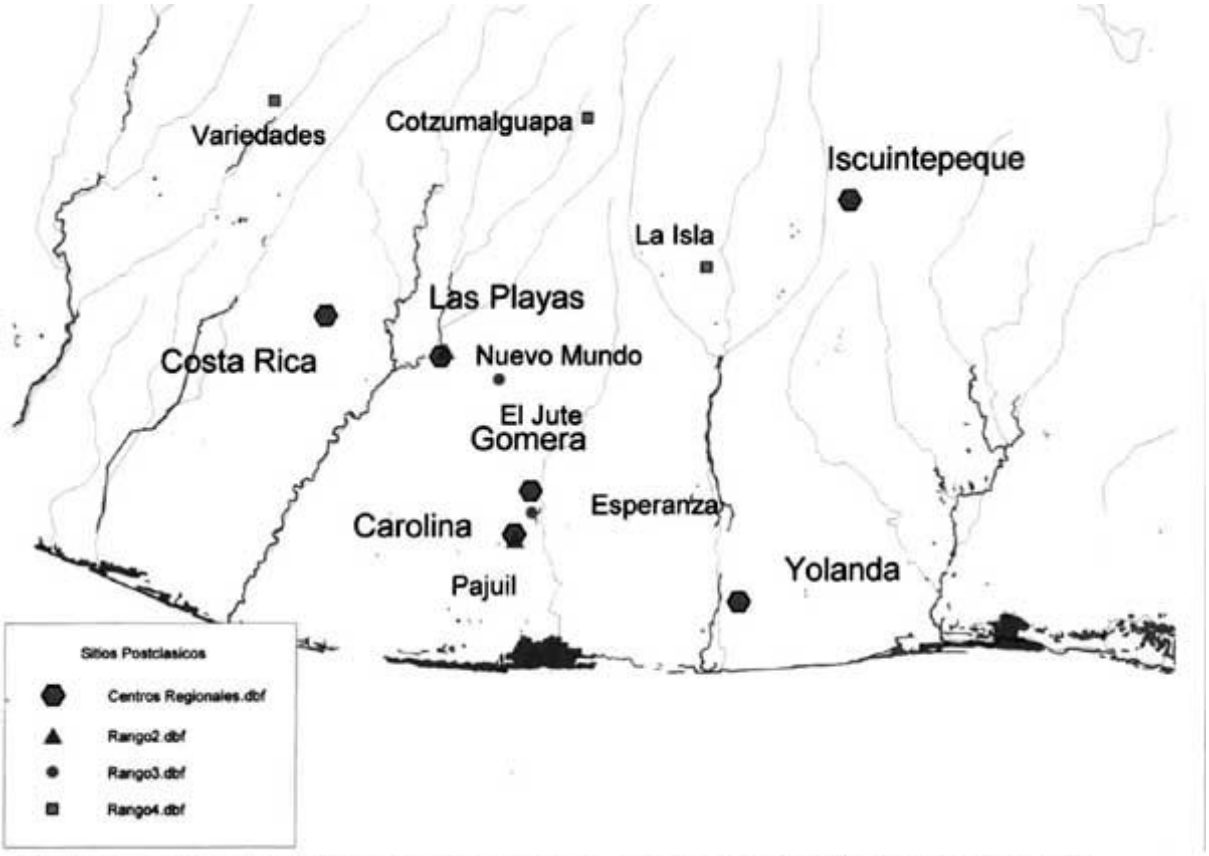

Figure 1. Map of Postclassic sites in Escuintla (provided by Frederick Bove, Pipil Project).

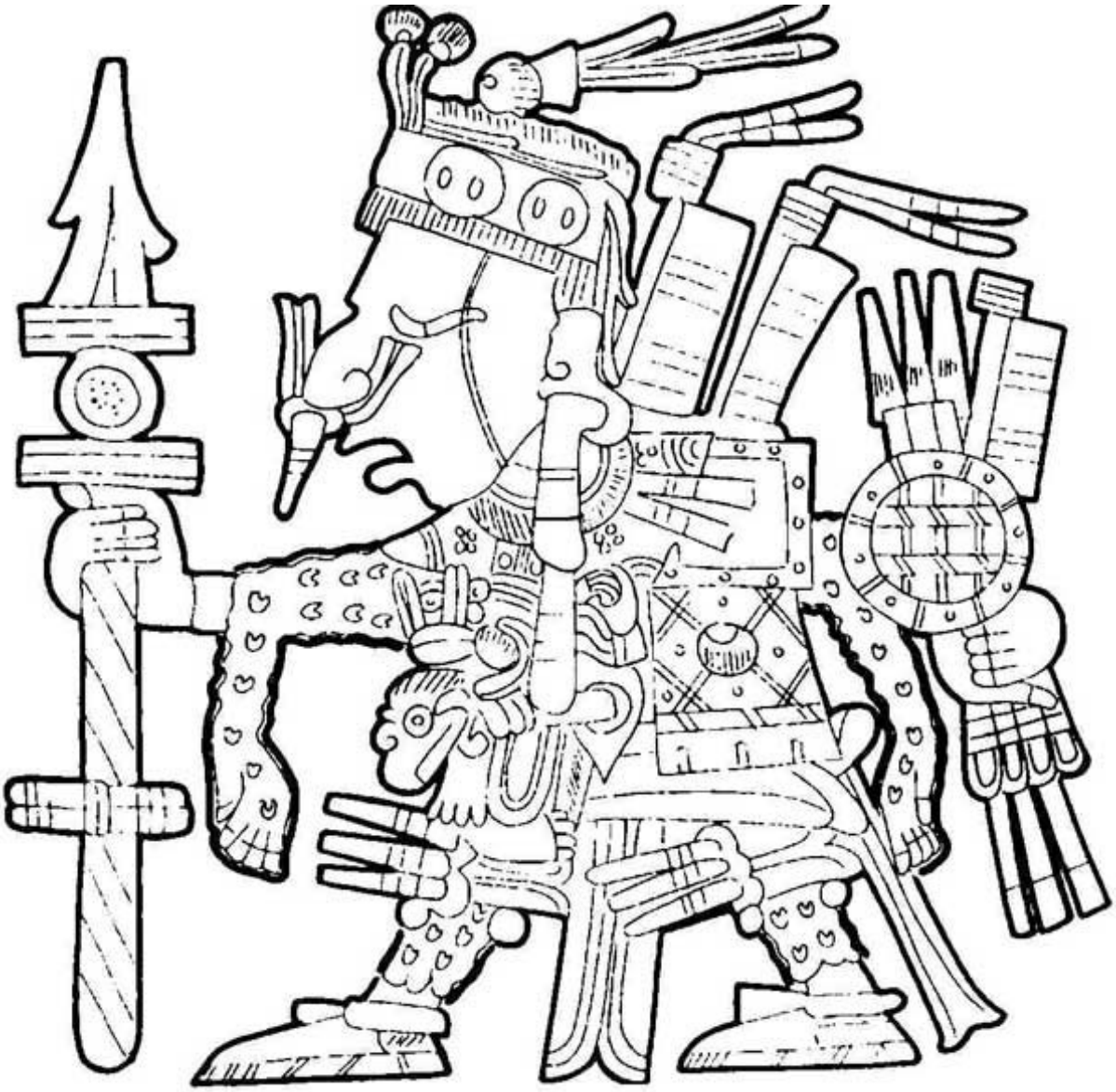

Figure 2. Representation of Xipe Totec (taken from the *Diccionario de Mitología y Religión de Mesoamérica*, 2002).

HISTORIC BACKGROUNDS

The Postclassic period begins around 900 AD, and extends to 1520 AD. It is characterized by struggles between the different cultural groups that populated Mesoamerica, by constant migrations, and the militarization of society. A large number of cities within this time frame present some type of defensive system as a consequence of the different conflicts between populations. The political, economical and religious power was concentrated on the ruler, who in turn had the support of a dominant class integrated by the nobility. In the religious aspect, human sacrifices became more frequent in relation with the gods and mostly with warfare. The trade networks were intensified and could reach farther away through terrestrial and maritime routes.

The Postclassic period is frequently subdivided in two parts: the Early Postclassic (900 to 1250 AD), and the Late Postclassic (1250 AD and up to the Spanish arrival). During the Early Postclassic period, the emergence and decay of the Toltec center of Tula took place, while Chichen Itza –in Yucatan- exerted its dominance on the region and then fell, just like Tula did. At El Salvador, the site of Cihuatán was at its peak. In the Late Postclassic, Mayapan emerged, also in Yucatan, while Central Mexico was witness to the emergence, dominance and expansion of the Mexica. Characteristic of the Postclassic were certain varieties of Plumbate ceramics, copper and gold objects, alabaster vessels, and turquoise-decorated artifacts.

COPPER

It is the chemical element corresponding to atomic number 29 in the Periodical Table of the Elements. It is an abundant material in the earth's crust. It is found native, or more often, in the form of sulphide. It is of a red brown color, bright and malleable, and is an excellent heat and electricity conductor. It forms alloys such as brass and bronze, and is used in the electric industry, as well as in the manufacture of wire, coins, and a variety of utensils. Several processes are linked with metals in general, the main ones being metallurgy and gold and silver works. Metallurgy is the art of working minerals and extracting the metals they contain, to make them ready for being elaborated. Gold and silver work, as opposed to metallurgy, is the art of carving artistic objects made of gold, silver, and other precious metals, or alloys thereof.

Around the X century appeared the first works connected with metallurgy in the Pacific Coast, in the modern states of Oaxaca, Guerrero and Michoacan (Romero Galván 2000:119). We know of the existence of several metal pieces, such as axes, lancets, needles, rattles, ear flares and bracelets. Around the time of contact with the conquerors, copper rattles and iron projectile points became more frequent (Lee 1969:201).

The metals known in Mesoamerica were: gold, silver, copper, tin, mercury and lead, the latter one being the lesser worked one. The alloys that the Mesoamerican groups mastered were gold and silver; gold and copper; copper and silver; copper and lead, and the most important one, gold, silver and copper, known with the name of tombac (Echavarría 1992:155).

It is possible that two classes of copper were available: a soft one, and another one with a hard consistency. The first was considered the purest one, and was used for the elaboration of vases and vessels. The second or hard copper contained tin and was destined to the manufacture of axes, chisels, hoes and other instruments for warfare and agricultural works (Bargalló 1955:27). Copper, in any of its variants, could include gold, silver, lead, antimony, bismuth and arsenic, in the form of impurities that ascertained their degree of purity.

In Guatemala, the departments with copper mines are Chiquimula, Zacapa (where it was probably exploited), and Huehuetenango. It is possible that copper, as well as

other metals, were obtained through the technique of torrefaction, a process that consisted in heating the rock walls and springing water onto the hot surface to produce a fracture (Torres and Franco 1996:92). The copper used in the manufacture of objects, together with gold and silver, were probably of a native origin. The metals, in general, could be melted right where they were collected, or either transported to the workshops in vessels (Torres and Franco 1996:92).

Together with the techniques used for obtaining metals, we must refer to those used to work them. There are approximately ten to twelve techniques for the elaboration of metals and their decoration, such as, among others: the alternate cycles of hammering and annealing, the repoussé of sheets, the lost-wax casting of sheets and beads, lost-wax casting with core, cold molding, fusion welding, the joining of golden sheets and nails, and several gilding techniques used in the ornamentation of all these pieces (Echavarría 1992: 156-162). Of the techniques we just mentioned, those used in Mesoamerica were melting, hammering, lost-wax casting, a mixed technique of melting and hammering, coloration, and several types of gilding (Torres and Franco 1996: 101-102).

For the study of metal artifacts, Aguilar Piedra (1946) created the first typology of metallic artifacts, later retaken by Pendergast (1962), who included data on objects found in his investigations and their geographic distribution. Finally, Bray (1977) expanded that classification by adding the artifacts recovered in the Maya area, and those that were not classified by Pendergast (1962) and Aguilar Piedra (1946:75).

COPPER ARTIFACTS IN GUATEMALA AND MESOAMERICA

By the end of the Late Classic period (VIII and IX centuries), metal objects already existed in Mesoamerica, one such example being the figurine fragments of Copan's Stela H, and an object of melted gold found at Palenque (Szaszdi Nagy 1984:73). During the excavations conducted by the French Mission at Nebaj, they were able to recover objects of copper, gold and tombac. Copper rattles dating to the Early and Late Postclassic periods were rescued, together with a pair of tweezers, a ring and a comb (Becquelin and Gervais 1988:195). During the archaeological rescue conducted in the Chixoy river basin, at Cauinal, a rattle was found inside a funerary urn located in Ceremonial Group A (Ichon 1981:34).

In Zaculeu, 30 metal objects of the Early and Late Postclassic periods were found in funerary contexts. They consisted of ear flares, rattles, rings and pendants of local origin as well as several imported ones in metals such as gold, tombac and copper. In Tajumulco there were rattles, rings and gold and copper discs (Iglesias and Ciudad 1999:283). At Mixco Viejo, a copper axe was recovered, as well as a necklace made with little golden bells of the XIII century (Murdy 1999:323). For the Terminal Classic in Quirigua, several objects manufactured with copper alloys and introduced by foreigners from the Lowlands were found (Joyce 1999: 391, 394).

In Chiapa de Corzo, there were findings of copper artifacts that included one axe, one narrow chisel, spheric, undecorated rattles, rattles worked simulating wires, plain and elongated little bells, and one bracelet or ring of golden copper. It all dates to the

Late Classic period (Lee 1969:201). In the Upper Grijalva river basin a copper needle was found at the site Los Encuentros, as well as several copper rings and rattles (Lee and Bryant 1996:61). In Tenam Puente six copper rings were recovered (one of them with the representation of a deity showing the *Ik* symbol in its mouth), and a copper pendant in the form of a turtle.

In Central Mexico and in the Cenote of Sacrifice at Chichen Itza, rattles, rings, needles and copper awls were found. Two burials at Tzintzuntzan contained golden copper rattles, bracelets, needles and pins ending in one or two rattles, together with several other artifacts (Marquina 1964:258).

CAROLINA AND GOMERA

At the sites of Carolina and Gomera there was a discovery that involved a number of copper artifacts in the vicinities of the central areas of the sites, and in an apparent elite residential context (Figure 1). In total, there were 18 artifacts that included rings, needles, rattles, fish-hooks and others which could not be identified. Most copper artifacts found during the excavations belong to the site of Carolina, with 15 artifacts recovered in this place.

Operation C2 produced two rings, two rattles, two needles and one hook, totalling seven artifacts (Figure 3). This operation was developed in a segment presently used for crops, at the immediate northwest of the central area of Carolina. In Operation C13, 10 artifacts were recovered, seven of which were found close to fragments of green obsidian ear flares (Figure 4). Probably, one of the artifacts is iron-made (V. Genovez, personal communication 2004), as there is a clear difference between this and the other objects. The rest consist of five needles and three indeterminate fragments. The operation was conducted in a small segment of modern grass immediately north and northeast of the central area of the site. Northeast of the central area of Carolina and during Operation C18, one rattle and one ring were recovered (Figure 5). The ring is wire-bound and the rattle is simple, with no decoration and a round shape.

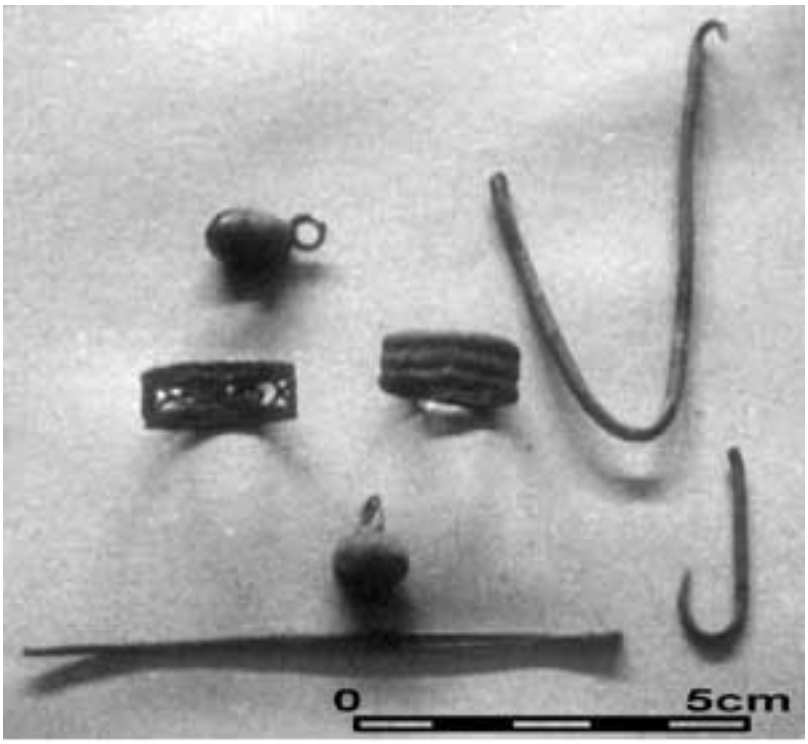

Figure 3. Objects found in Operation C2, consisting of two rings, two needles, two rattles and one hook. Pipil Project.

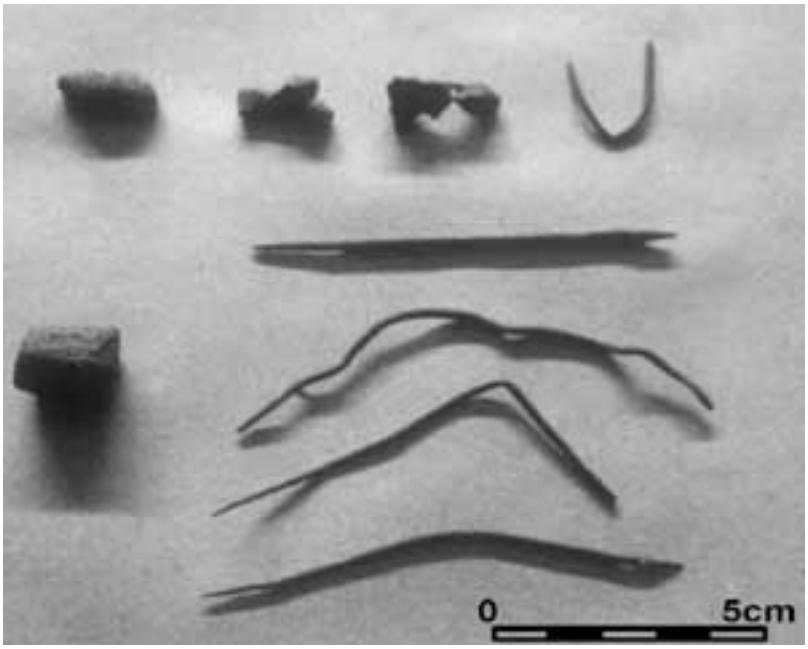

Figure 4. Artifacts found in Operation C13, consisting of five needles and four indeterminate fragments. Pipil Project.

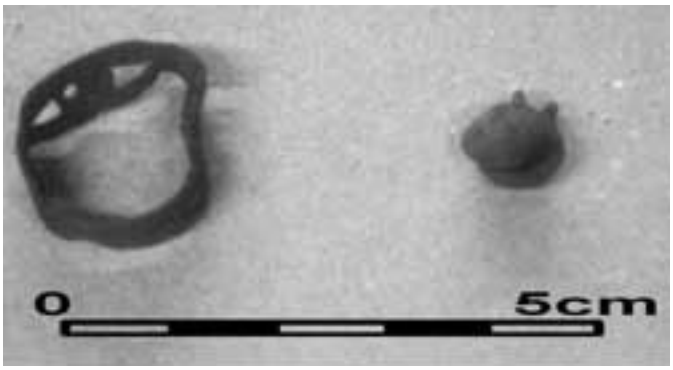

Figure 5. Objects found in Operation C18, consisting of one ring and one rattle. Pipil Project.

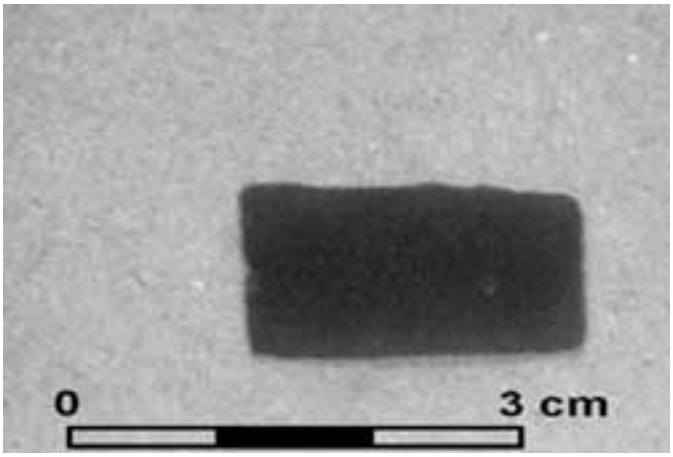

Figure 6. Sheet recovered in Operation L66. Pipil Project.

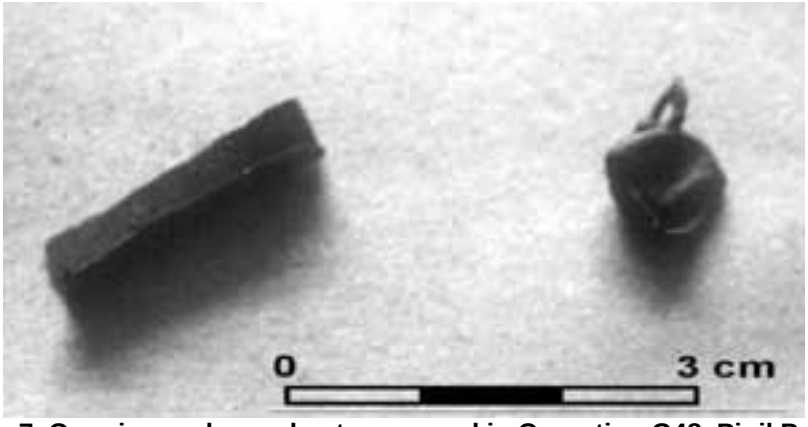

Figure 7. One ring and one sheet recovered in Operation G48. Pipil Project.

In Gomera, objects were recovered in Operations L66 and G48. In L66 we found a metal sheet, very thin and rectangular in shape (Figure 6). In G48 we rescued a rattle and a sheet, folded alongside in its half (Figure 7). All these objects have been dated to the Late Postclassic period, as they were found in association with diagnostic ceramic of this period in the central coast of Escuintla: they correspond to the types Remanso, Sumatán, Chontel, Pajuli, Prado, with just a few of the Micaceous type.

CONCLUSIONS

The rattles found in the different operations conducted at both sites showed similarities with samples found in other Mesoamerican sites, specifically in Western and Central Mexico. Some of them present no decoration whatsoever, but they do show the hoop where they hanged from. One of those found in Carolina still has the rattle, and it still sounds when shaken. An additional artifact recovered in the excavations at this site shows a decoration which resembles a wire.

When comparing the hook that was recovered in Operation C2 with examples from South America and Western Mexico, the similarity among the three may be clearly observed, thus confirming their dating to the Postclassic period. The needles recovered in Carolina and Gomera are consistent with those found in other sites of Mesoamerica and possibly of South America as well. They are large needles, somewhat thick, whose orifice was obtained by bending one of its points. Of the three rings recovered, two were made using bound wire. These greatly resemble one that was reported for the site of Tenam Puente by Lee and Bryant (1996). The third is a one-piece ring, decorated with two parallel and circular grooves. The sheets from the sites of Carolina and Gomera have a resemblance with others found in Mexico and South America. The shapes are rectangular and are approximately one millimeter thick, or less.

The fragments of C13 that could not be identified do not feature any definite shape; therefore it may be inferred that they are residues or either raw material ready to be worked. Probably all these artifacts were not locally manufactured but instead, imported from Central or Western Mexico, as for the moment there is no evidence of the presence of any goldsmith/silversmith workshop in the South Coast of Guatemala. The only site that we know of with a metal workshop is El Manchón, located in the Sierra Madre of southern Guerrero, 1400 m above sea level. What these findings make evident are the extended trade routes and the links maintained with other areas of Mesoamerica, South America, North America, and the Antilles.

Metal work was concentrated in specific areas of Mesoamerica, where different techniques for the procurement and manufacture of metal artifacts were adopted and developed. For what it seems, Guatemala did not have a metallurgy like that of Western or Central Mexico; however, it has samples that feature great artistic and technical skills. In the case of the South Coast, there are just a few records of findings of metal artifacts, and some of them do not have a context that may allow us to associate it directly with the study area. Hopefully, future investigations will produce more information to widen our current degree of knowledge, and to help us to learn more about the inhabitants of the Central Coast of Escuintla.

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Figure 1 Map showing the Postclassic sites in Escuintla (provided by Federico Bove. Pipil Project).

Figure 2 Representation of Xipe Totec (taken from *Diccionario de Mitología y Religión de Mesoamérica,* 2002).

Figure 3 Objects found in Operation C2, consisting of two rings, two needles, two rattles, and one fish-hook. Pipil Project.

Figure 4 Artifacts found in Operation C13, consisting of five needles and four indeterminate fragments. Pipil Project.

Figure 5 Objects corresponding to Operation C18, consisting of one ring and on rattle. Pipil Project.

Figure 6 Sheet recovered in Operation L66. Pipil Project

Figure 7 One ring and one sheet recovered in Operation G48. Pipil Project