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Investigating Classic Maya Ritual Economies: Figurines from Motul de San José, Guatemala



Research Year: 2005

Culture: Maya

Chronology: Classic

Location: Petén, Guatemala

Site: Motul de San José

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Introduction

This project investigates the political economy of clay figurines at the Classic Maya site of Motul de San José, Petén, Guatemala. Excavations and laboratory research during the 2005-06 field season was conducted in order to recover direct and indirect evidence of figurine production and distribution as well as fully document the figurines excavated from Motul de San José and its neighboring centers. Field research focused on 1) locating figurine production (e.g. kilns or firing areas, figurine molds, wasters) through a magnetometer survey and subsequent excavations and 2) recovering figurines from commoner residences to broaden the scope of the figurine database. Laboratory research included iconographic and technical analyses, such as visual paste identifications, production technique assessments, and Instrumental Neutron Activation Analysis (INAA) sampling. FAMSI funds were used for laboratory research involved with the photographic documentation and scientific illustration of the figurines.

Motul de San José is the capital of a Late Classic polity located on the northwestern shore of Lake Petén Itzá ([Figure 1](#)). It is often referred to as the Ik' site identified by the Ik' emblem glyph (Foias 2000, 2003; Marcus 1976; Reents-Budet, *et al.* 1994:172-179; Rice 2004:144-145; Schele and Mathews 1998:185-187). The Proyecto Arqueológico Motul de San José directed by Dr. Antonia Foias of Williams College has conducted investigations at Motul de San José and its satellite sites since 1998 (Emery 2003; Foias 2003; Moriarty 2003). These satellite sites include the settlements of Akte, Buenavista, Chäkokot, Chachaklum, and Trinidad de Nosotros, which are all located within an 8 km radius of Motul de San José.

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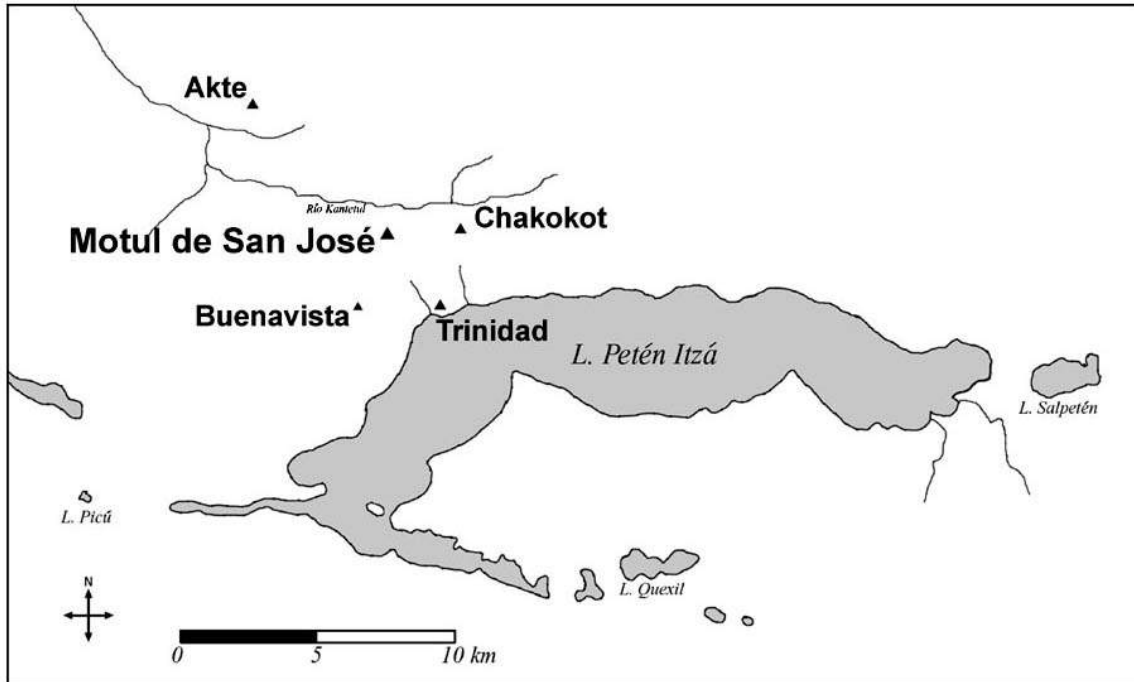


Figure 1. Regional map of Motul de San José.

Fieldwork

Field research was conducted at the sites of Motul de San José and Chäkokot, a small farming community located 2 km east of the capital center (Moriarty 2002a; Moriarty, *et al.* 2001; Webb, *et al.* 2005). Three loci were targeted at Motul de San José, Operations 2A&46, 39, and 42 (Figure 2). Operations MSJ2A and 46 were located adjacent to each other on the northern edge of the site's Main Acropolis. Previous research in this area recovered ceramic vessel and figurine production debris including large deposits of ash, burnt clay, a miniature paint pot whose interior contained red specular hematite, a figurine mold fragment, a ceramic burnisher, and a polychrome waster vase (Castellanos 2000; Emery and Higginbotham 1998; Foias 2003:22; Guffey, *et al.* 2000). Operations 39 and 42 are two household groups located in the northern periphery of the site. Previous test pitting of the two groups (Halperin, *et al.* 2001) revealed high frequencies of figurines, a possible but inconclusive indicator of figurine production (Becker 2003; Lucero 1992). Investigations during the 2005 field season were designed to gather further evidence of ceramic production in Operation 2A and test the possibility of figurine production at Operations 39 and 42. Two household groups, Operations 44E and 44C, from the site of Chäkokot were also targeted to broaden the sample of figurines from commoner households. Together, the five investigated areas (MSJ2A&46, MSJ39, MSJ42, CHT44C, and CHT44E) lie on a continuum of social status affiliations based on associated architectural size. Operation MSJ2A&46's associated architecture was the largest and represents the highest status (elite and possibly royal) while MSJ42, CHT44C, and CHT44E possessed the smallest-size architecture, and occupied by the common populace. The household group associated with MSJ39 fits somewhere in the middle of the two groups.

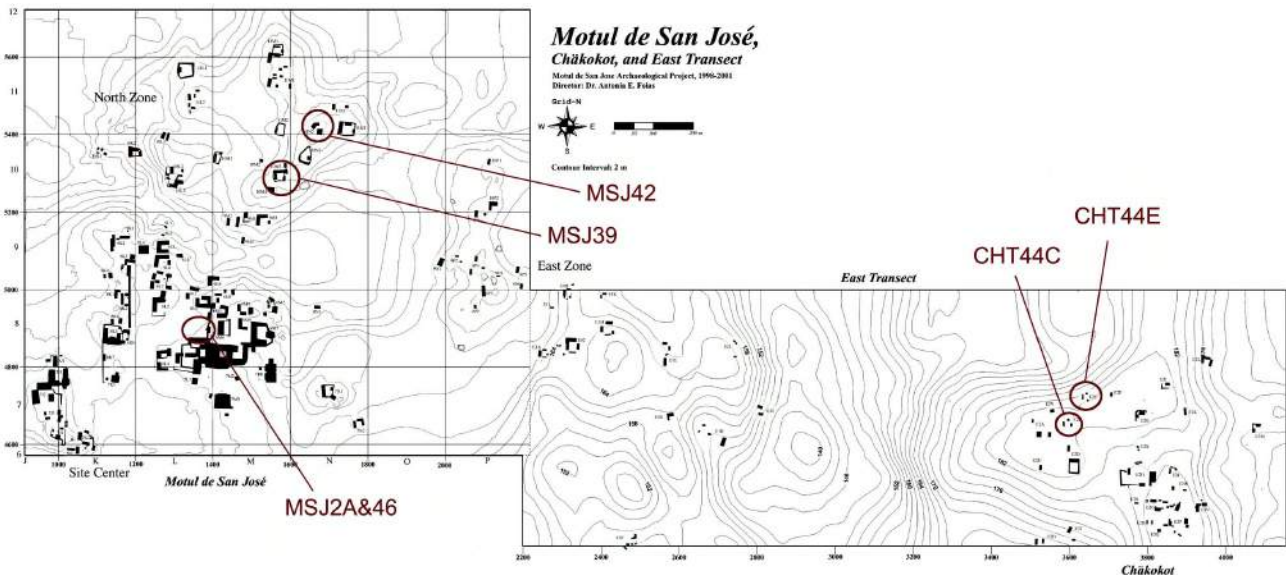


Figure 2. Map of Motul de San José and Chäkokot with locations of excavation operations from the 2005 field season (adapted from Moriarty 2003:Fig.3).

Magnetometer Survey and Methods

A geophysical survey using a proton precession magnetometer (Geometrics G-856) was conducted at Motul de San José in order to recover direct evidence of figurine or ceramic vessel production (Halperin and Salguero 2006). Magnetometers measure the total magnetic field of the earth. The magnetic intensity of thermally altered features containing magnetite differs from the same materials that were not exposed to heat. Thus, features and objects such as hearths, kilns, and ceramics (burnt clay) can produce distinct magnetic readings when compared with their surrounding soils. In addition, variations in the magnetic susceptibility of other archaeological phenomena, such as buried walls, ditches, and human occupation areas can be detected by magnetometers (Breiner 1973; Burger 1992:443; Clark 1990:64-65; Scollar, *et al.* 1990:8-9).

The magnetic survey in each designated loci was conducted in a 40 × 40 m grid. The grids were established using a 50 m tape measure and Brunton compass and were aligned along a magnetic north-south axis. Baselines and grid markers (at 5 m intervals) were designated using wooden stakes. The magnetometer survey was conducted following the survey lines, and readings were taken at 1 m intervals ([0N,0E], [1N,0E], [2N,0E], [3N,0E])...([0N,1E], [1N,1E], [2N,1E], [3N,1E]...etc.). Base station readings were taken at the beginning of the survey and after every one hour of survey time in order to correct for diurnal fluctuations. Each base station reading was taken three times and averaged. During survey, the instrument was placed 1.3 m (1 m rod length) above the ground surface and tuned to 41,000 gammas. This lower position was more favorable than a 2 m setting because signals tend to broaden and weaken below a depth of 1 m below the ground surface (Clark 1990:78). Readings were downloaded to a laptop computer at the field camp and magnetic anomalies

were plotted using ArcView 3.2. Subsequent excavations targeted both areas with and without anomalous readings.

Magnetometer and Excavation Results

Three areas of Motul de San José (Op.2A/46, 39, and 42) were targeted for geophysical survey. The last two, Op. 39 and 42, are still in the process of analysis and will not be discussed fully here. Preliminary analysis of these two survey grids, however, reveals high variations (averaging 13nT and 49nT respectively) in the consecutive base station readings. This variability may be due to magnetic storms, high magnetic gradients from underlying rocks, or instrument malfunctions (Breiner 1973:12). According to Breiner (1973:11), successive readings should not vary over 10nT.

The geophysical survey of Operation 2A was, however, more successful in that little variation was detected in the consecutive base station readings (average variation was on the order of 2nT). Anomalous readings were clustered primarily in the northern and eastern side of the grid ([Figure 3](#)). Eight excavation units were placed in areas of anomalous readings. One of these units (2A-40) was not only placed in an area of magnetic anomaly but also directly next to the earlier 1998 and 2000 field season units (2A-3 and 2A-5) that recovered pottery production debris.

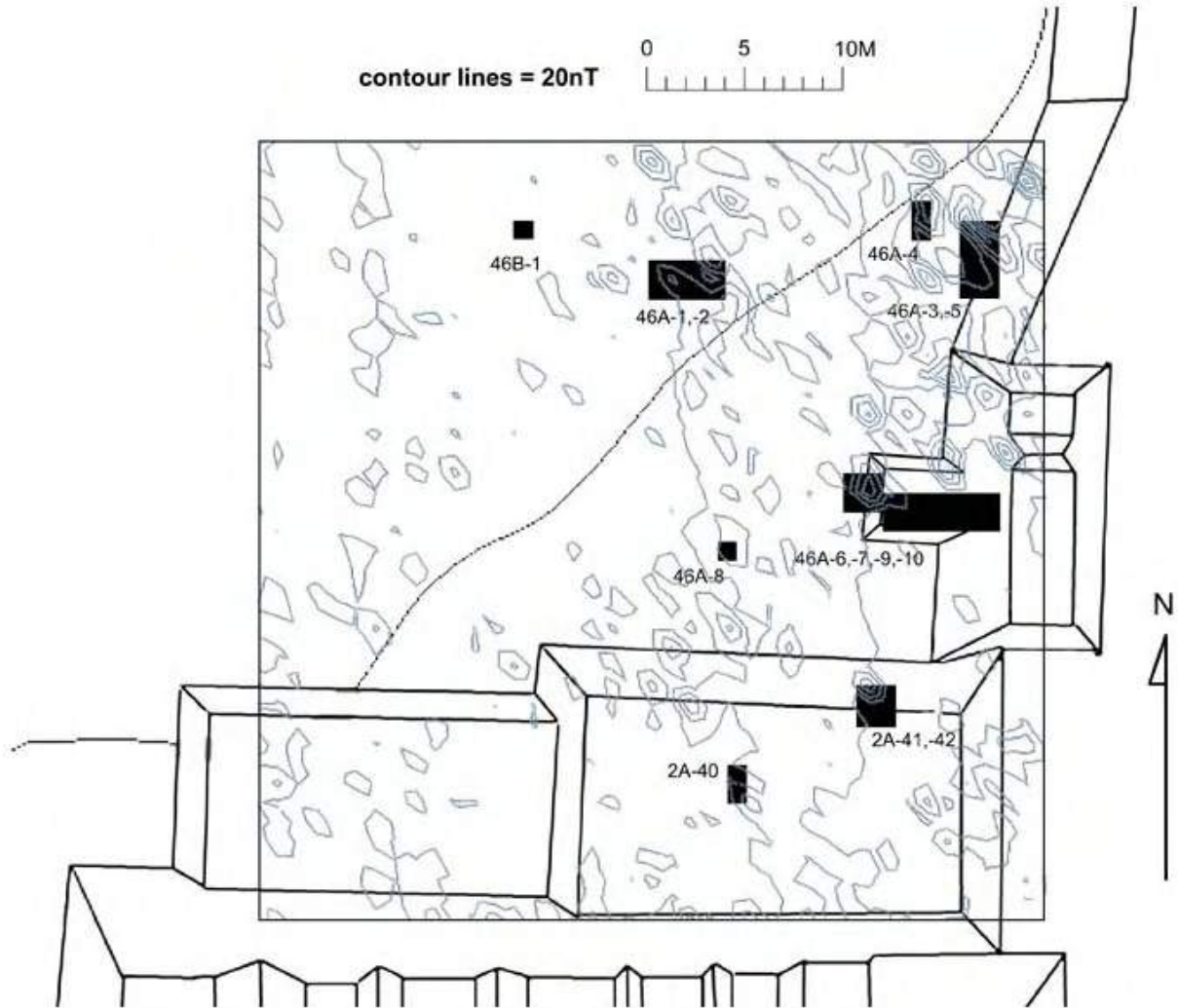


Figure 3. Magnetometer survey results and locations of Op. 2A and 46 excavation units.

All of the excavation units targeting magnetic anomalies contained middens or archaeological features (see [Figure 4](#); and [Table 1](#), shown below). Some of the units, such as, units 46A-1, 46A-4, 2A-40, and 2A-41 & 2A-42 contained very high-density middens. As mentioned earlier, the intensity of the magnetic signal tends to broaden and weaken proportionately with the depth of the archaeological feature. Thus, middens located below 1.0 m, such as the enormous midden from unit 2A-40, would have a weaker signature than if it was closer to the ground surface, such as the one from unit 46A-4, which began at 0.25 m below the ground surface. The middens contained a diversity of artifacts including chert, unworked bone, bone tools, worked shell, groundstone, obsidian, ceramic figurines, and ceramic sherds, the majority of which dated to the Tepeu 2 ceramic phase of the Late Classic period.

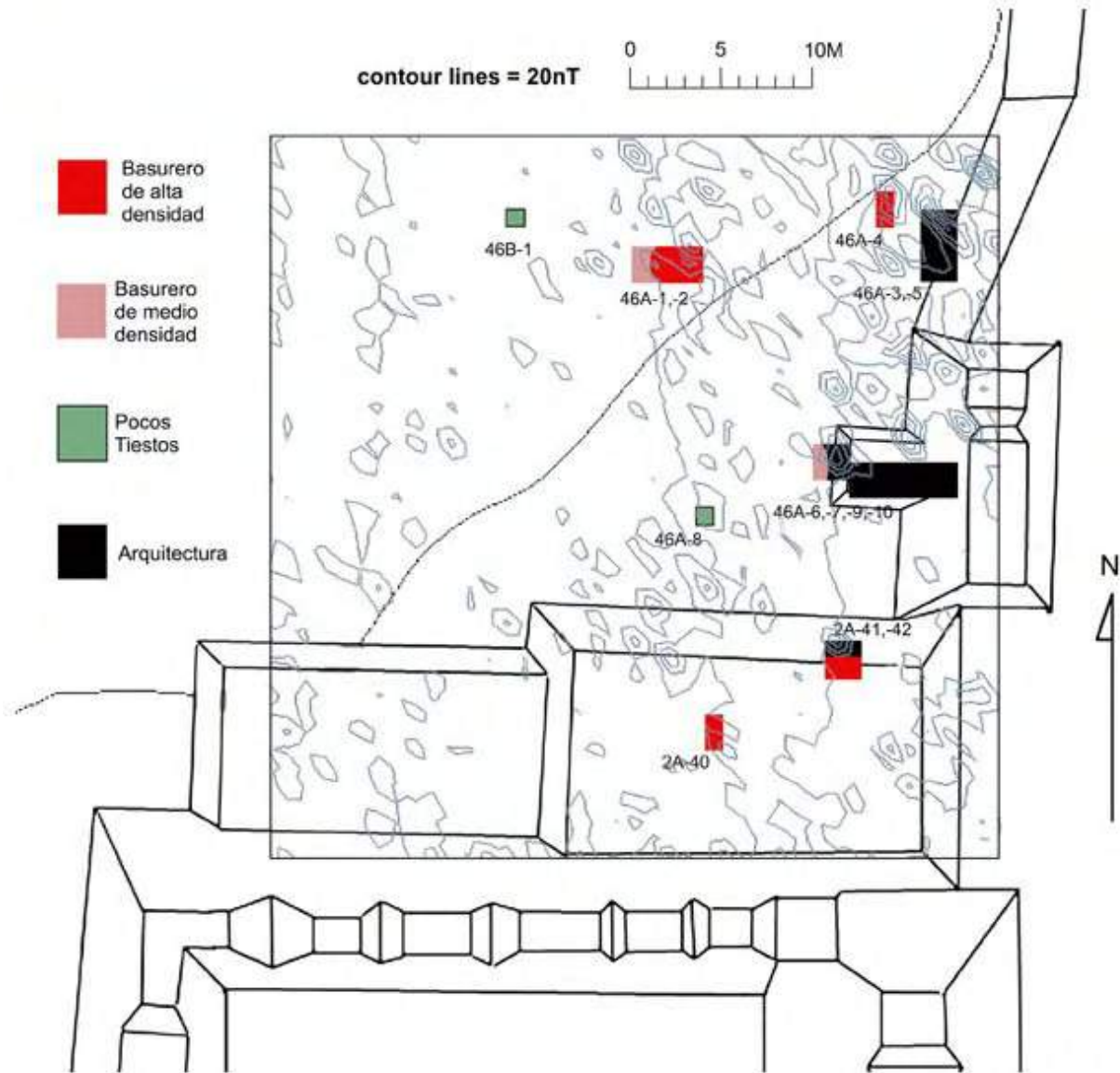


Figure 4. Magnetometer survey and locations of middens from Op. 2A and 46 excavation units.

Table 1. Midden densities, architectural features, and ceramic sherd data from Op. 2A and 46 excavation units

Unit	Features Recovered	Ratio of Ceramic Weight to Excavated Volume	Ceramic Sherd Count	Ceramic Weight (g)
2A-40	high-density midden	11.64	5345	163029.1
2A-41	high-density midden	15.30	1095	31062.4
2A-42	high-density midden	13.64	1236	27111.6
46A-1	mid-density midden	4.18	1128	21758.6
46A-2	low-density midden & burial	1.46	508	4432.7
46A-3	low-density midden & masonry wall	2.23	495	7613.4
46A-4	high-density midden	15.20	2771	49718.4
46A-6	low-density midden & masonry wall	1.64	600	12410.2
46A-8	plaza fill; few artifacts	3.92	200	2900.7
46B-1	plaza fill; few artifacts	4.15	420	3436.0

Other units revealed archaeological features, such as a buried platform (2A-41 & 2A-42), large buried walls (46A-6, 46A-3 & 46A-5), and a secondary burial (46A-2). Many of these units contained both architectural features and middens of varying size. It is unclear to what extent, if any, the anomalous readings detected by the magnetometer were a result of the architectural features. Other excavation units (46A-5, -7, -9, -10, & -11) opened to explore the architecture found in the initial units were not characterized by anomalous magnetic readings despite the fact that some of the units also contained large buried walls (e.g. 46A-10 & -11). As an additional control, two units (46A-8, 46B-1) were also placed in areas where magnetic readings were relatively normal. These two units did not contain high-density middens nor any significant archaeological or geological features.

Evidence of ceramic production was found in some of the large middens. This find supplements the data recovered from earlier field seasons and supports the idea that a ceramic production workshop was located in or alongside the Main Acropolis at Motul de San José. Included in the middens excavated during the 2005 field season were ten ceramic wasters (over-fired and vitrified sherds, bubbly, spalled, and cracked sherds, a possible unfinished vase, and twisted and warped sherds), two paint pots, possible pigments or minerals for paint, smoothers or polishers, possible bone painting tools, and evidence of burning (burnt clay, carbon, and ash deposits). Most of these materials were found from the units closest to the Main Acropolis, 2A-40 and 2A-41 & -42. Because the waster fragments were almost all polychrome vessel sherds, polychrome pots were probably the primary item manufactured at the workshop or production area. The figurine mold ([Figure 5a](#) and [Figure](#)

[5b](#), shown below) found in the same zone (Op. 2A) during a previous field season and indirect evidence gathered from laboratory analysis, as detailed below, indicates, however, that figurine production also occurred at the site.

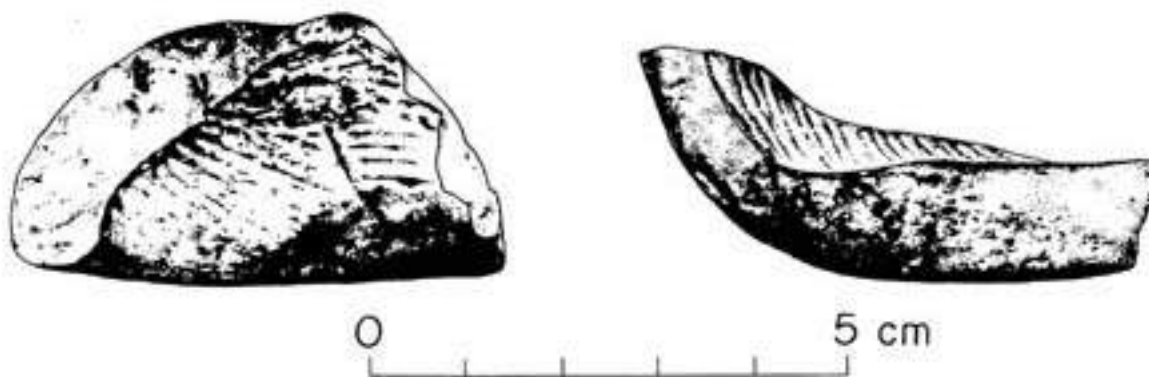


Figure 5a. Figurine mold from Op. 2 (MSJ2A-5-7-3m): drawing by Luis F. Luin.



Figure 5b. Figurine mold from Op. 2 (MSJ2A-5-7-3m): photo by author.

All five operations excavated during the 2005 field season recovered figurines. Higher figurine to ceramic sherd ratios were found from Operations MSJ2A&46 and MSJ39 than Operations MSJ42, CHT44C, and CHT44E ([Figure 6](#), shown below). These ratios indicate that while both elite and commoners had access to figurines, common peoples possessed lower frequencies of them.

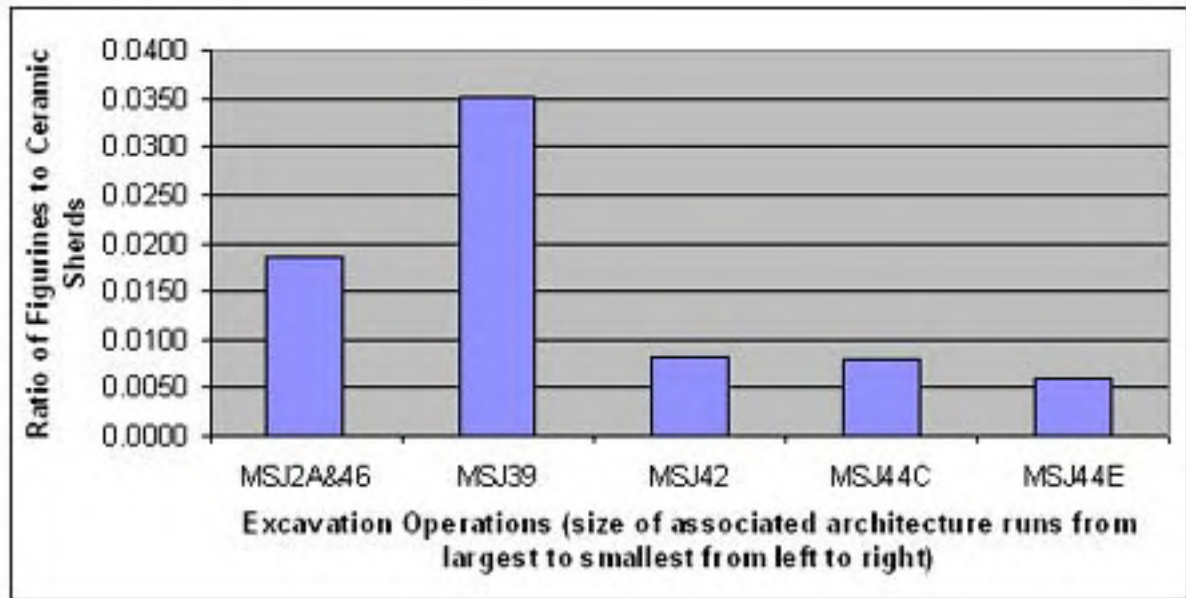


Figure 6. Figurine to ceramic sherd ratios by Operation.

Laboratory Work

The Motul de San José figurine collection is comprised of 2,800 figurines in whole or partial forms. Included in this count are 20 flutes, many of which possessed effigy attachments ([Figure 7a](#), and [Figure 7b](#), [Figure 7c](#), [Figure 7d](#), shown below).

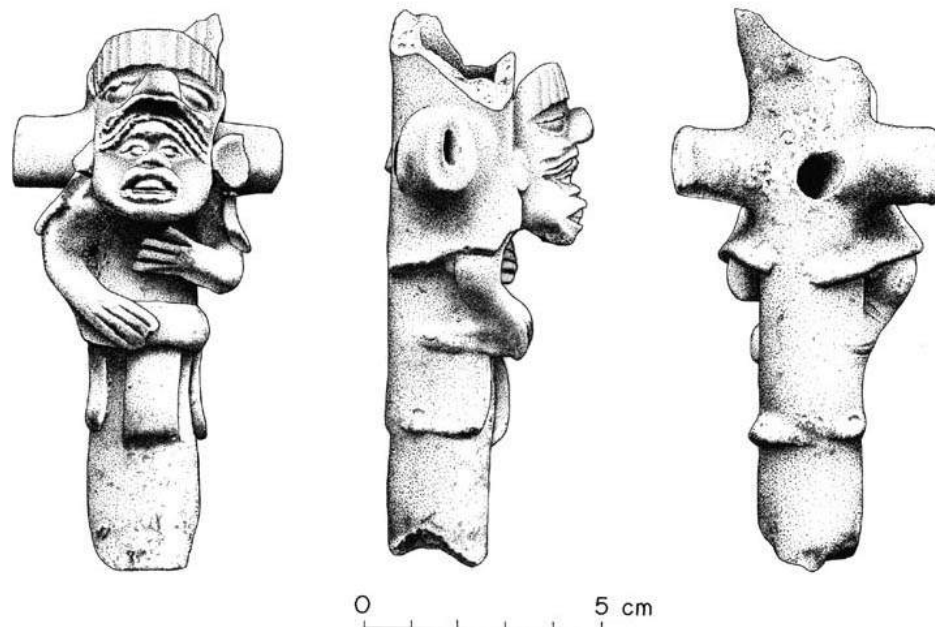


Figure 7a. Effigy flute (TRI13E-5-3-1b): drawing by Luis F. Luin.



The figurines were recovered from excavations by the Proyecto Arqueológico Motul de San José between 1998 and 2005. They were found primarily in excavation fill and midden contexts. Sites excavated by the project include Motul de San José, Akte, Buenavista, Chäkokot, Chachaklum, and Trinidad de Nosotros (Foias 1998, 1999, 2001; Foias and Castellanos 2000; Moriarty 2002b). The majority of the collection dates to the Late or Terminal Classic period (only 27 Preclassic figurines have been identified). The data below represent preliminary results of the analysis.

Duplicate Figurines

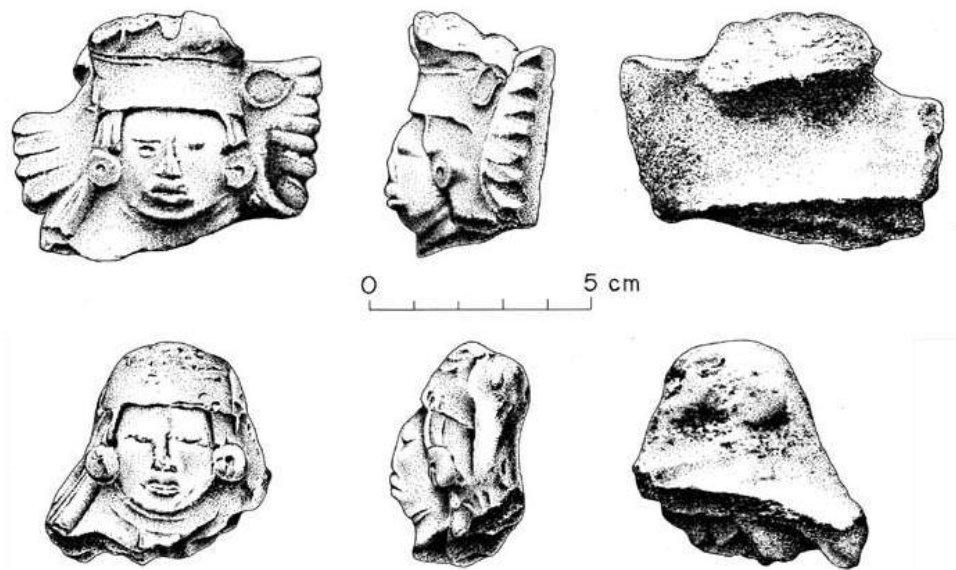


Figure 8a. Duplicate figurines (MSJ2A-5-6-15l & MSJ2A-3-14-1d): drawings by Luis F. Luin.



Figure 8b. Duplicate figurines (MSJ2A-5-6-15I & MSJ2A-3-14-1d): photos by author.

The majority of the figurines recovered from Motul de San José and its neighboring centers were mold made, the most common figurine production technique during the Late Classic period. Molds allowed a single image to be reproduced many times over. While multiple figurines could have been made using a single mold, copies of molds may also have been produced from pre-existing figurines. At least 18 sets of duplicate or matching figurines were found in the Motul de San José figurine collection (see [Figure 8a](#) and [Figure 8b](#), shown above; and the following figures, shown below: [Figure 9a](#), [Figure 9b](#); [Figure 10a](#), [Figure 10b](#); [Figure 11a](#), [Figure 11b](#); [Figure 12a](#), [Figure 12b](#); [Figure 13a](#), [Figure 13b](#); [Figure 14a](#), [Figure 14b](#); [Figure 15a](#), [Figure 15b](#); and [Figure 16a](#), [Figure 16b](#)) (also compare figurine matches found at Teotihuacán: Allen 1980; Barbour 1975). Some matching figurines, however, may exhibit minor variations in appliqué headdresses or detailing. These matches, which range from two to six duplicates per set, were recovered through excavations from different size households throughout the site and its satellite centers (Halperin 2006). The widespread distribution of the matches across both site boundaries and household status levels indicate that figurines or possibly their molds were exchanged between the different centers and between households of different social ranking. One excavation operation, Op. 2, however, possessed the largest number of matches: three pairs of matches and nine figurines that shared match mates found elsewhere in the region. Duplicate figurines found in the same context tend to occur close to production areas (Barbour 1975:118-119; Feinman 1999:92).

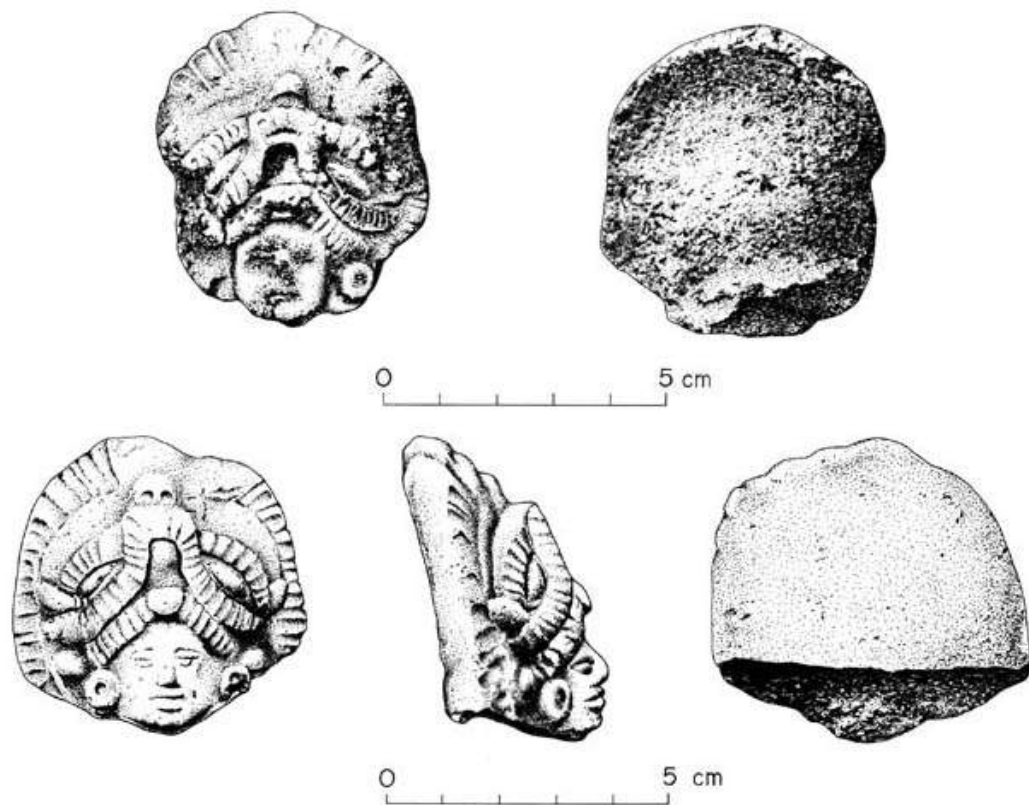


Figure 9a. Duplicate figurines (CHT44E-14-3-1a & MSJ2A-1-7-1a): drawings by Luis F. Luin.



Figure 9b. Duplicate figurines (CHT44E-14-3-1a & MSJ2A-1-7-1a): photos by author.

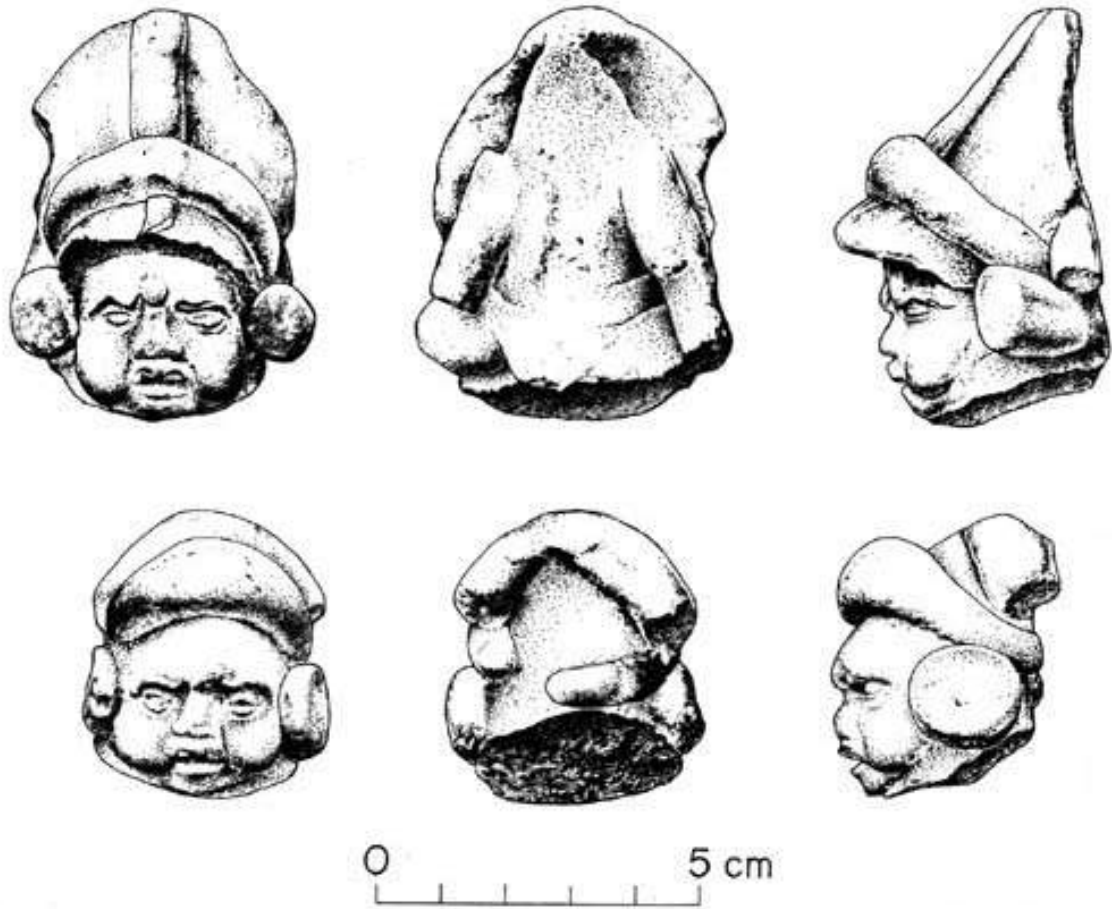


Figure 10a. Duplicate figurines (MSJ2A-2-7-1a & MSJ2A-40-3-1a): drawings by Luis F. Luin.



Figure 10b. Duplicate figurines (MSJ2A-2-7-1a & MSJ2A-40-3-1a): photos by author.

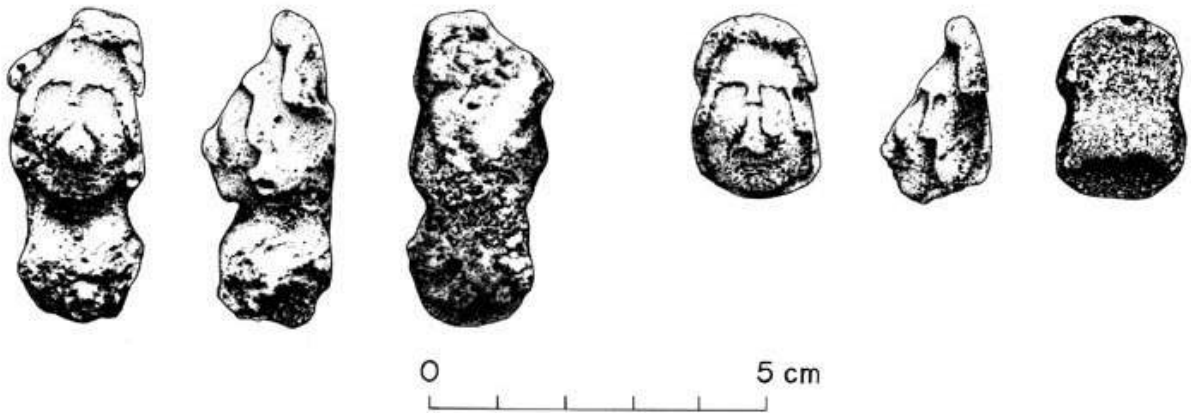


Figure 11a. Duplicate figurines (MSJ19A-3-1-0a & MSJ30A11-1-1a): drawings by Luis F. Luin.



Figure 11b. Duplicate figurines (MSJ19A-3-1-0a & MSJ30A11-1-1a): photos by author.

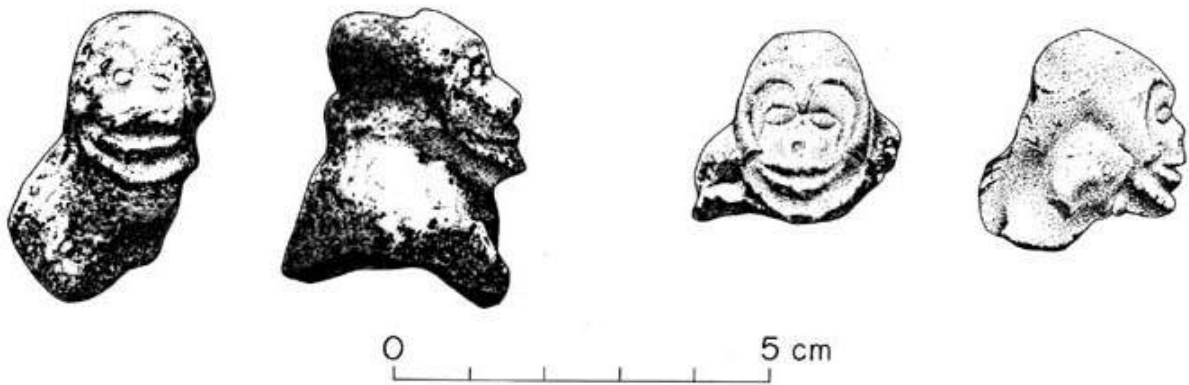


Figure 12a. Duplicate figurines (CHA1A-1-1-2a & MSJ15A-26-1-1a): drawings by Luis F. Luin.



Figure 12b. Duplicate figurines (CHA1A-1-1-2a & MSJ15A-26-1-1a): photos by author.

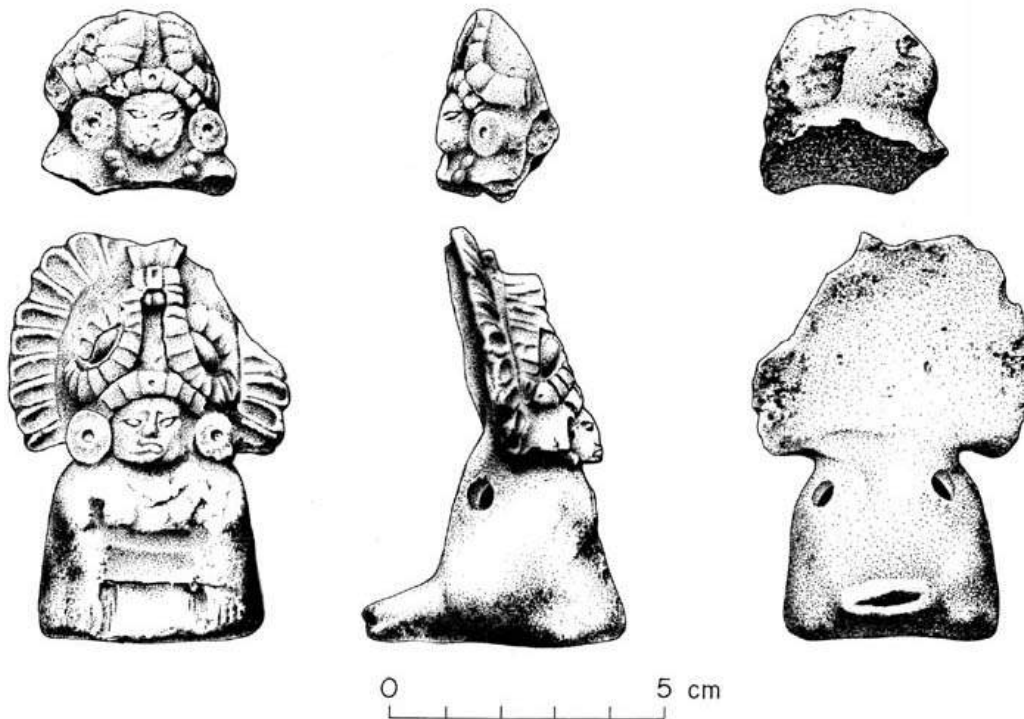


Figure 13a. Duplicate figurines (MSJ2A-40-5-2e & MSJ4A-1-2-1a): drawings by Luis F. Luin.



Figure 13b. Duplicate figurines (MSJ2A-40-5-2e & MSJ4A-1-2-1a): photos by author.

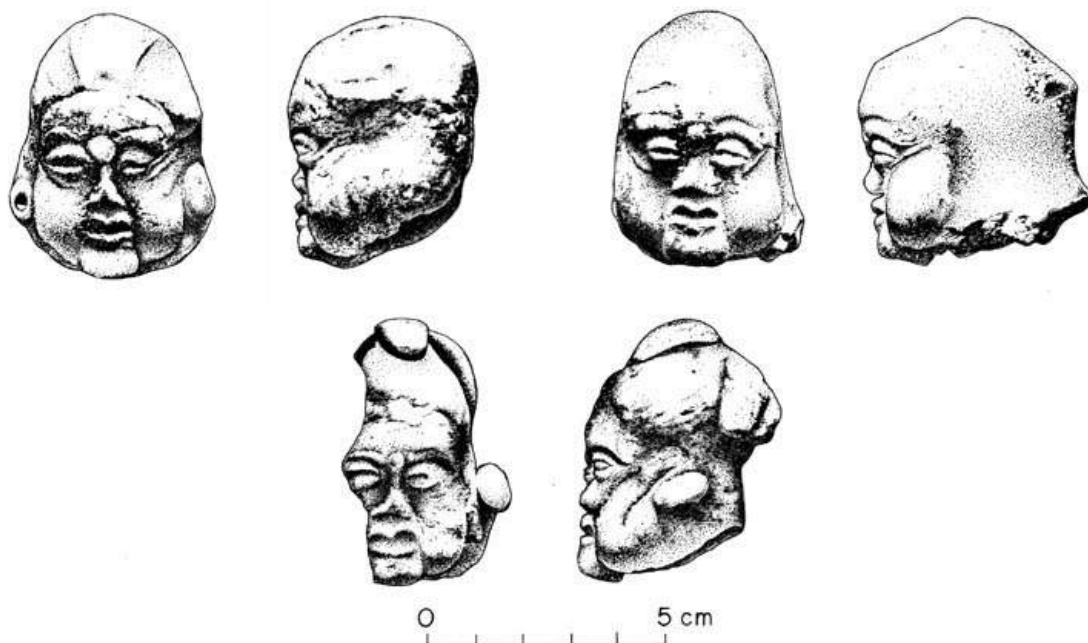


Figure 14a. Duplicate figurines (MSJ2B-1-5-1a & MSJ33D-12-1-1a & MSJ2A-3-9-1a): drawings by Luis F. Luin.



Figure 14b. Duplicate figurines (MSJ2B-1-5-1a & MSJ33D-12-1-1a & MSJ2A-3-9-1a): photos by author.

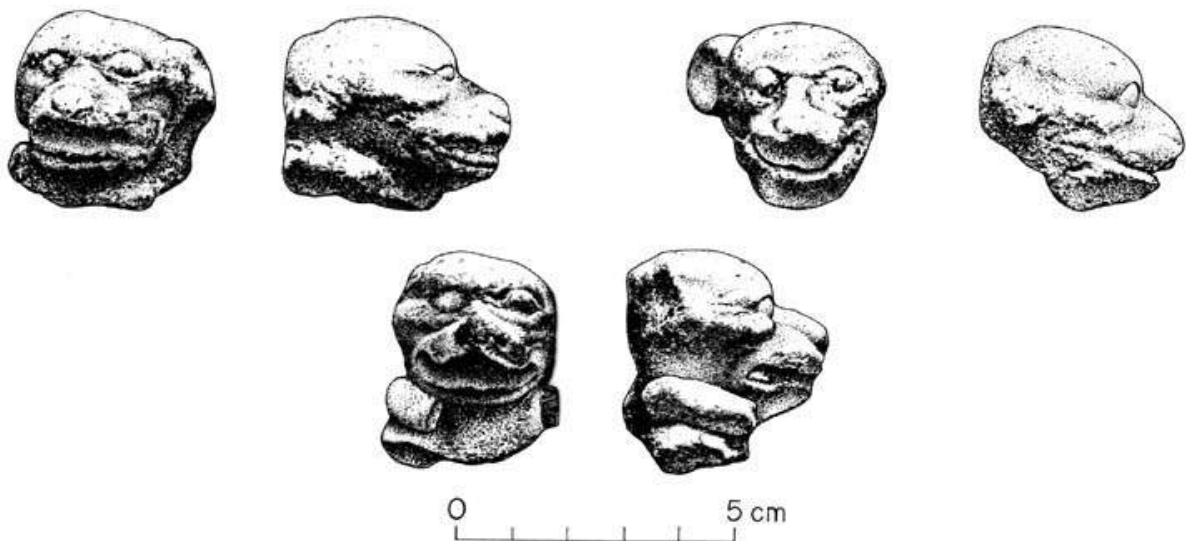


Figure 15a. Duplicate figurines (TRI14A-2-2-7a & TRI12B-1-1-1a & MSJ42D-7-2-2a): drawings by Luis F. Luin.



Figure 15b. Duplicate figurines (TRI14A-2-2-7a & TRI12B-1-1-1a & MSJ42D-7-2-2a): photos by author.

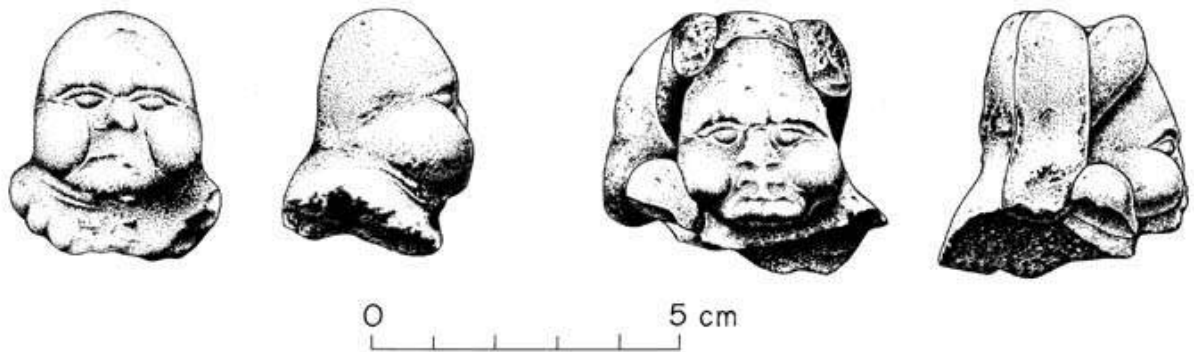


Figure 16a. Duplicate figurines (MSJ41B-0-0a & MSJ2A-3-14-1b): drawings by Luis F. Luin.



Figure 16b. Duplicate figurines (MSJ41B-0-0a & MSJ2A-3-14-1b): photos by author.

Figurine Pastes

The Classic period figurines from the Motul de San José collection were produced with fine, ash-tempered pastes. Some, however, also had minor inclusions of calcite, mica, and quartz sand in addition to ash. These paste compositions are similar to Motul de San José's polychrome and monochrome vessels, which are also ash-tempered, and contrast with the coarse calcite- and sand-tempered utilitarian vessels from the region (Spensley 2001). Over half of the figurine pastes were red and light red in color (2.5YR4/8, 2.5YR5/8, 2.5YR5/6, 2.5YR6/8, 2.5YR6/6). The remaining figurines tended to either be a reddish yellow color or overlapped in color with the polychrome and monochrome traditions, which are more typically light brown, very pale brown, and gray. The distinctive red pastes were present among figurines from both Motul de San José and its smaller centers. Ellen Spensley at the University of Boston is currently conducting petrographic analysis on a sample of 62 figurines from the Motul de San José collection to identify the mineral components, frequencies, and characteristics of the pastes as a means to provide additional evidence on the organization of figurine production and distribution in the region.

Instrumental Neutron Activation Analysis (INAA)

INAA is being conducted on 105 figurine samples from Motul de San José and its neighboring settlement sites at the Smithsonian Center for Materials Research and Education under the direction of Dr. Ronald Bishop. Preliminary results from 63 of the 105 figurine samples reveal that the figurines were produced locally in the Motul de San José region and only rarely, if at all, imported over long-distances. Many of the figurines belong to the same chemical paste groups as Ik' style and other high status polychrome vessels (Reents-Budet, *et al.* 2006). In addition, one of the polychrome vessel waster, presumably an error created during firing, and a figurine mold share the same chemical profile as one of the Ik' style vessel groups. These data suggest that both figurines and polychrome vessels were being produced in the same workshops. Many of the duplicate figurines belonged to the same chemical paste groups, although a few (e.g. M16 and M17) did not. This discrepancy suggests that some figurines were either made from the same mold but with different pastes or that multiple molds of the same figurine imagery were available and used in different production loci. Further analysis of the entire sample should illuminate patterns found between Motul de San José and its subsidiary centers.

Iconographic and Stylistic Themes

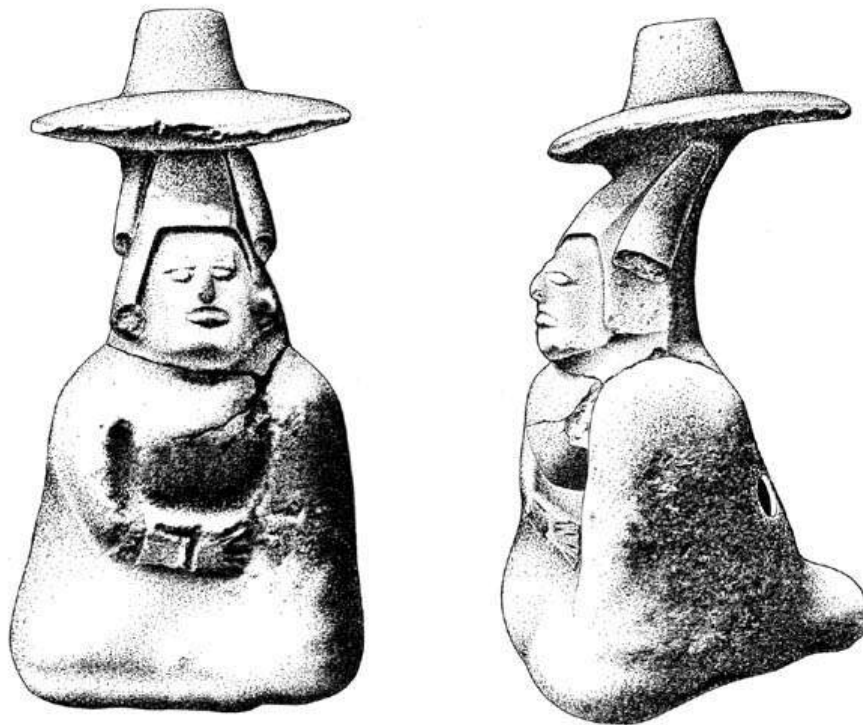


Figure 17a. Woman with broad-brimmed hat (MSJ2A-5-6-15n): drawings by Luis F. Luin.



Figure 17b and 17c. Woman with broad-brimmed hat (MSJ2A-5-6-15n): plan photo by author.

The Proyecto Arqueológico Motul de San José figurine collection contains a range of anthropomorphic, zoomorphic, and supernatural figurines (Deter-Wolf 2000; Halperin 2004a, b, 2006). Late Classic anthropomorphic figurine styles are similar to those from other sites in the Petén (Breuil-Martínez, *et al.* 2004; Triadan 2006; Valdés, *et al.* 2001; Willey 1972, 1978) in that faces tend to fit within Butler's (1935; see also Goldstein 1979; Goldstein 1980) X stylistic category, which are characterized by oval heads and realistic poses and proportions. Nopiloa or Y style figurines, which are characterized by stiff poses, abnormal body proportions, and round-, square-, or triangular-sized heads are rare in the Motul de San José collection.

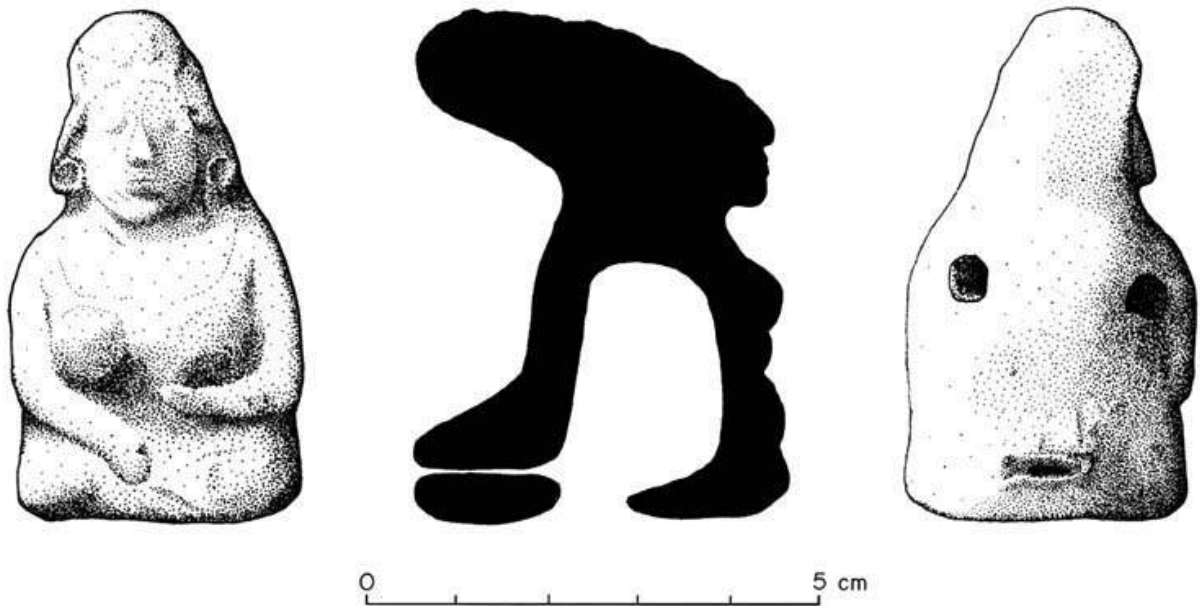


Figure 18a. Woman with broad-brimmed hat missing [appliqué mark indicates she was wearing a circular disk on top of hair] (ATE2A-1a): drawings by Ingrid Seyb.



The most common iconographic categories with human attributes are women with broad-brimmed hats ([Figure 17a](#), [Figure 17b](#), [Figure 17c](#); and [Figure 18a](#), [Figure 18b](#), [Figure 18c](#), [Figure 18d](#), shown above), women with center-parted hair tied with a cinta or hair cloth ([Figure 19a](#), [Figure 19b](#); [Figure 20a](#), [Figure 20b](#), [Figure 20c](#); [Figure 21a](#), [Figure 21b](#); and [Figure 22a](#), [Figure 22b](#), shown below), women with stepped-hair cuts with an incised hair-band and tassel hanging in the back, and ruler figures with war serpent ([Figure 9a](#), [Figure 9b](#); and [Figure 13a](#), [Figure 13b](#), shown above; and [Figure 23a](#), [Figure 23b](#), shown below) or fan-shaped headdresses.

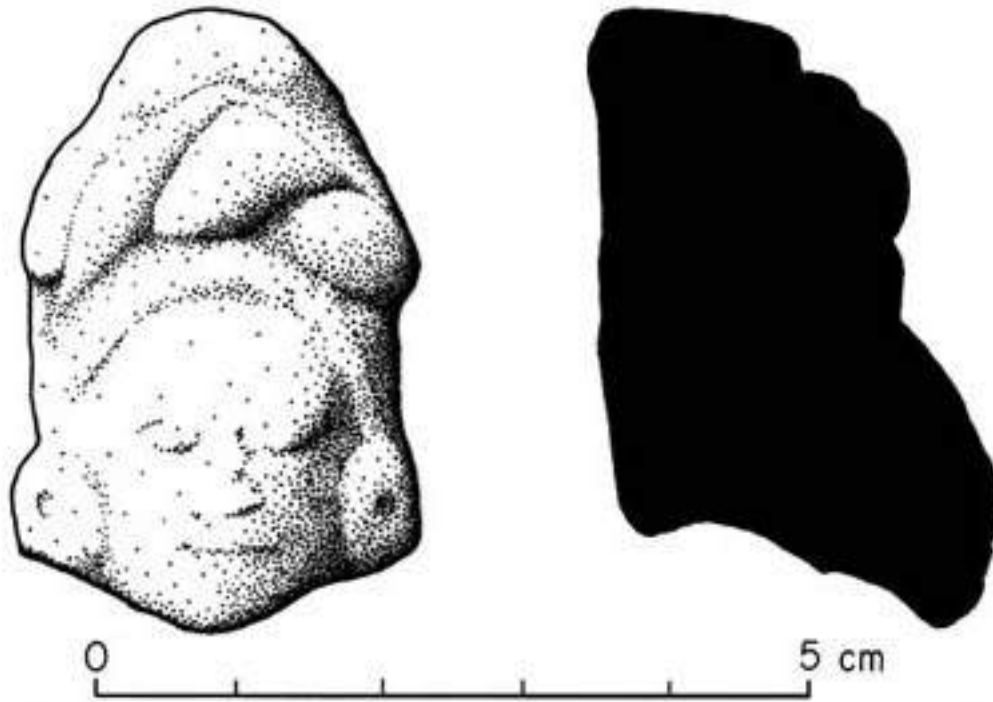


Figure 19a. Woman with cinta hair tie and hair with center-part (MSJ39F-1-4-4a): drawing by Ingrid Seyb.



Figure 19b. Woman with cinta hair tie and hair with center-part (MSJ39F-1-4-4a): photo by author.

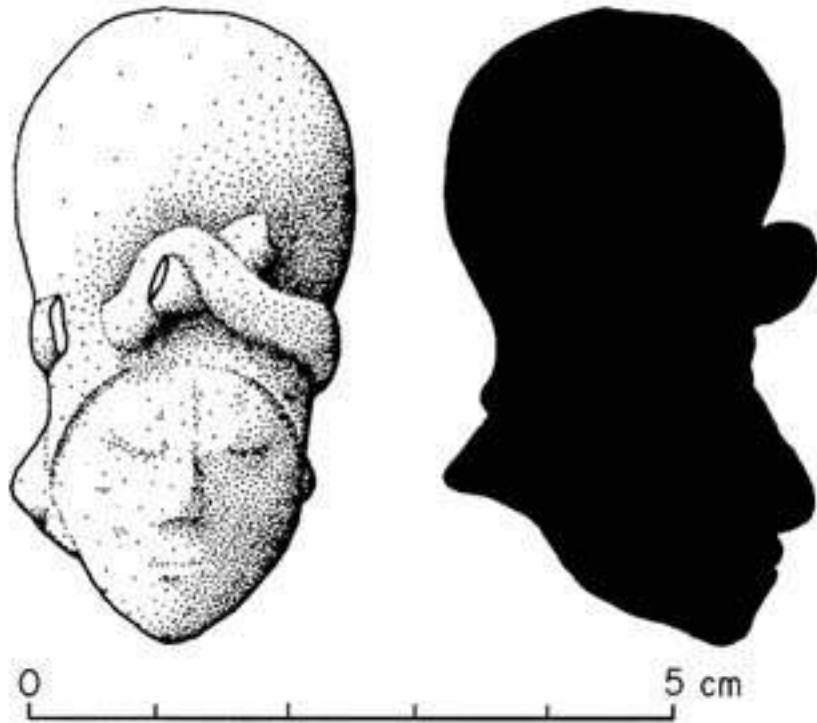


Figure 20a. Woman with cinta hair tie and hair with center-part (MSJ35H-4-1-1c): drawing by Ingrid Seyb.



Figure 20b and 20c. Woman with cinta hair tie and hair with center-part (MSJ35H-4-1-1c): plan and profile photo by author.

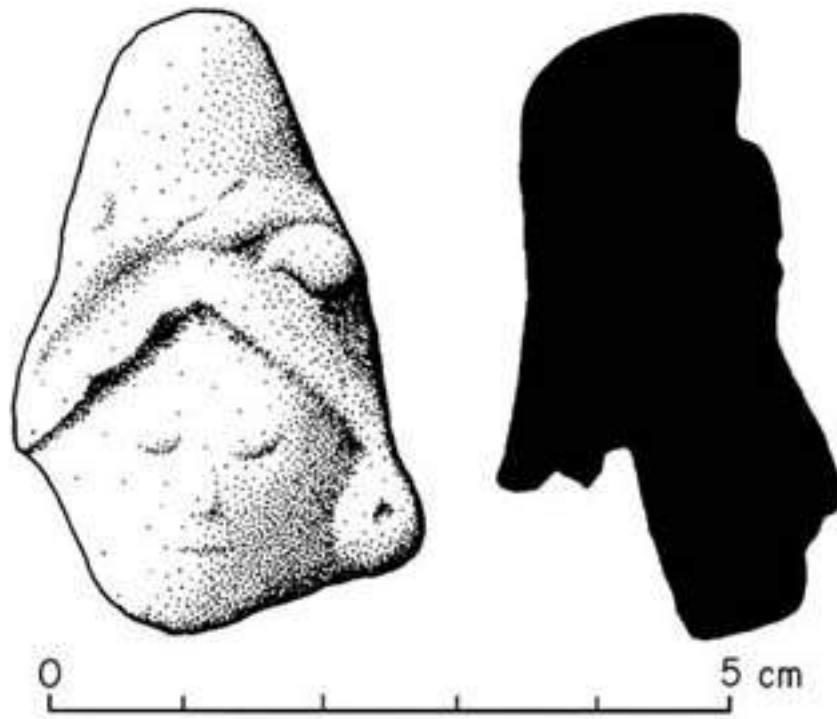


Figure 21a. Woman with cinta hair tie and hair with center-part (MSJ42D-8-1-1c): drawing by Ingrid Seyb.



Figure 21b. Woman with cinta hair tie and hair with center-part (MSJ42D-8-1-1c): photo by author.

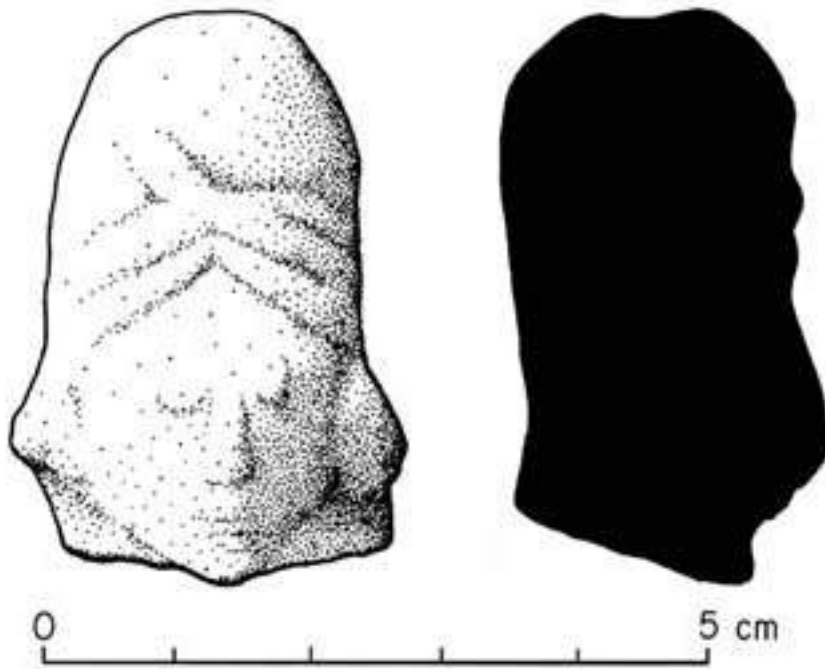


Figure 22a. Woman with cinta hair tie and hair with center-part (MSJ42H-4-2-4a): drawing by Ingrid Seyb.



Figure 22b. Woman with cinta hair tie and hair with center-part (MSJ42H-4-2-4a): photo by author.

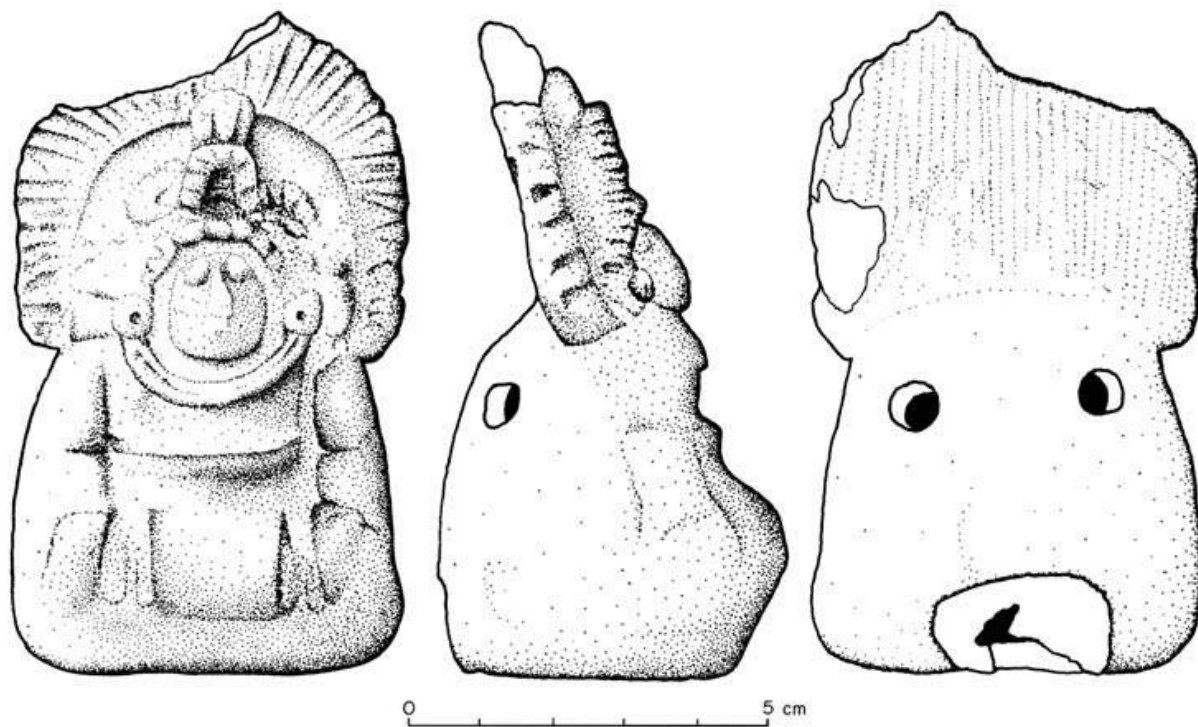


Figure 23a. Ruler with war serpent headdress (MSJ2A-3-11-1d): drawings by Ingrid Seyb.



Figure 23b and 23c. Ruler with war serpent headdress (MSJ2A-3-11-1d): plan and profile photo by author.

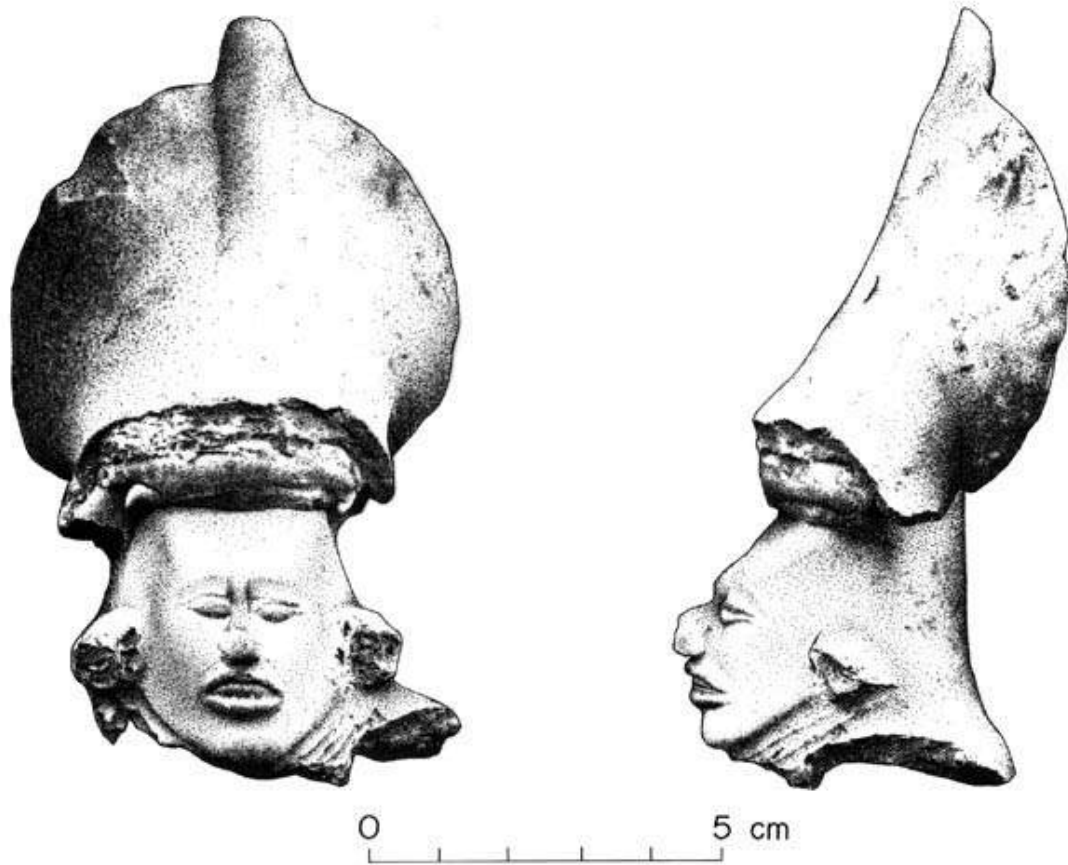


Figure 24a. Figure with balloon-shaped headdress (MSJ2A-40-5-1b): drawings by Luis F. Luin.



Figure 24b and 24c. Figure with balloon-shaped headdress (MSJ2A-40-5-1b): plan and profile photo by author.

Other more minor types include figures with balloon-shaped ([Figure 24a](#), [Figure 24b](#), [Figure 24c](#), shown above) or tasseled headdresses, ballplayers, musicians ([Figure 25a](#), [Figure 25b](#), shown below), women holding bowls or baskets full of food ([Figure 26a](#), [Figure 26b](#), [Figure 26c](#), [Figure 26d](#), shown below), an adult and child ([Figure 27a](#), [Figure 27b](#), shown below), and man and woman couples ([Figure 28a](#), [Figure 28b](#), [Figure 28c](#), [Figure 28d](#), shown below). Slightly more female figurines exist in the collection (53.4% female and 46.6% male when gender determined by anatomy or clothing only or 57.7% female and 42.3% male when determined gender by anatomy, clothing, or hairstyle).



Figure 25a and 25b. Musician (MSJ2A-5-7-2d): drawing by Luis F. Luin photo by author.

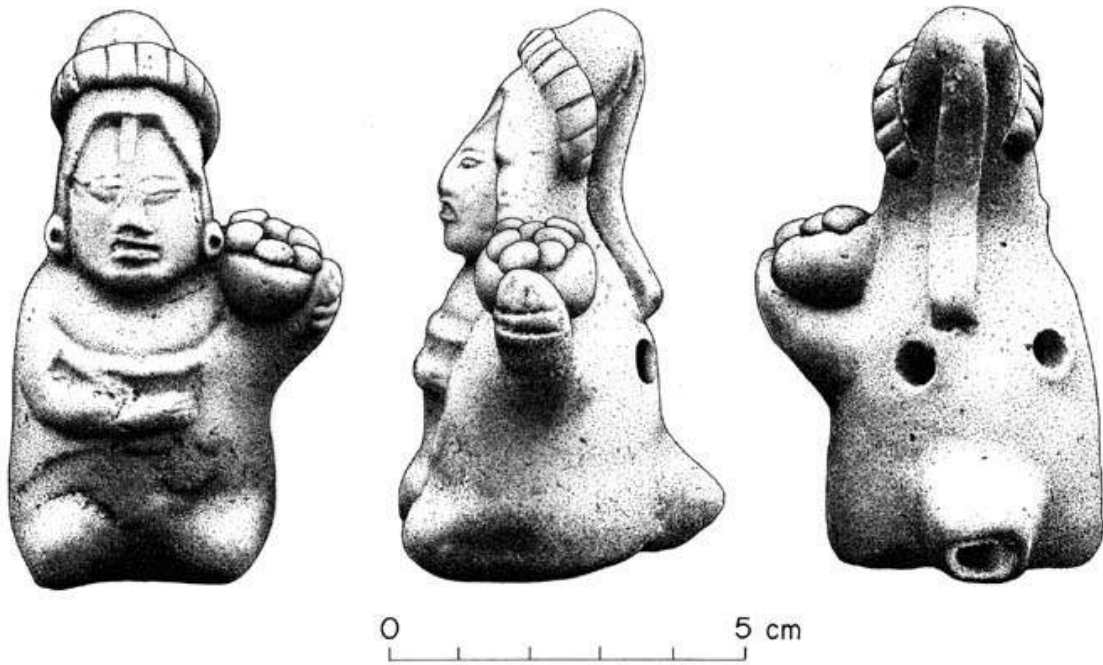


Figure 26a. Woman holding bowl or basket of food (MSJ2A-40-3-1h): drawings by Luis F. Luin.



Figure 26b, c, and d. Woman holding bowl or basket of food (MSJ2A-40-3-1h): plan, profile, and back - photo by author.

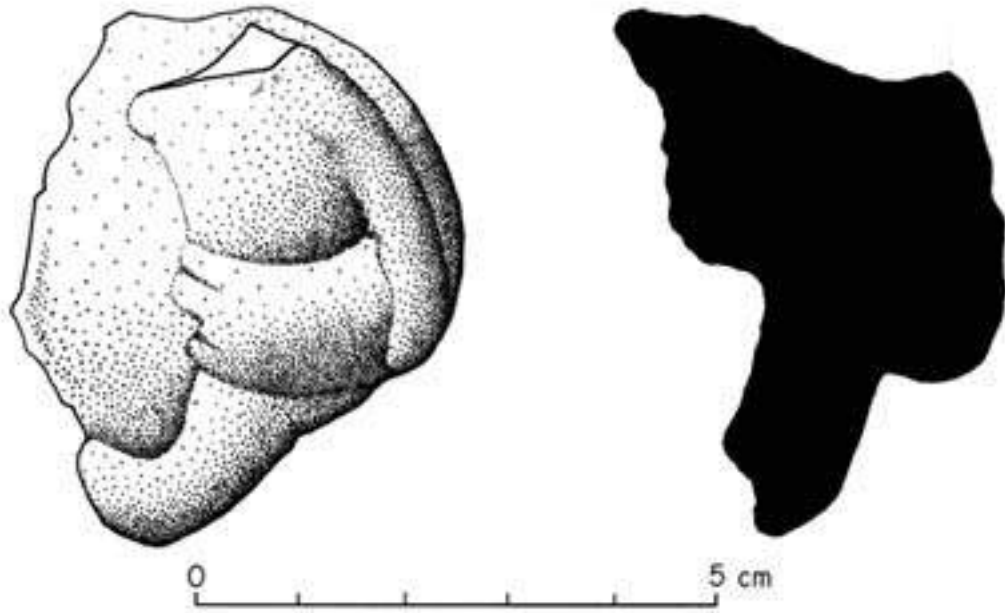


Figure 27a. Adult and child (MSJ39G-4-1-1a): drawing by Ingrid Seyb.



Figure 27b. Adult and child (MSJ39G-4-1-1a): photo by author.

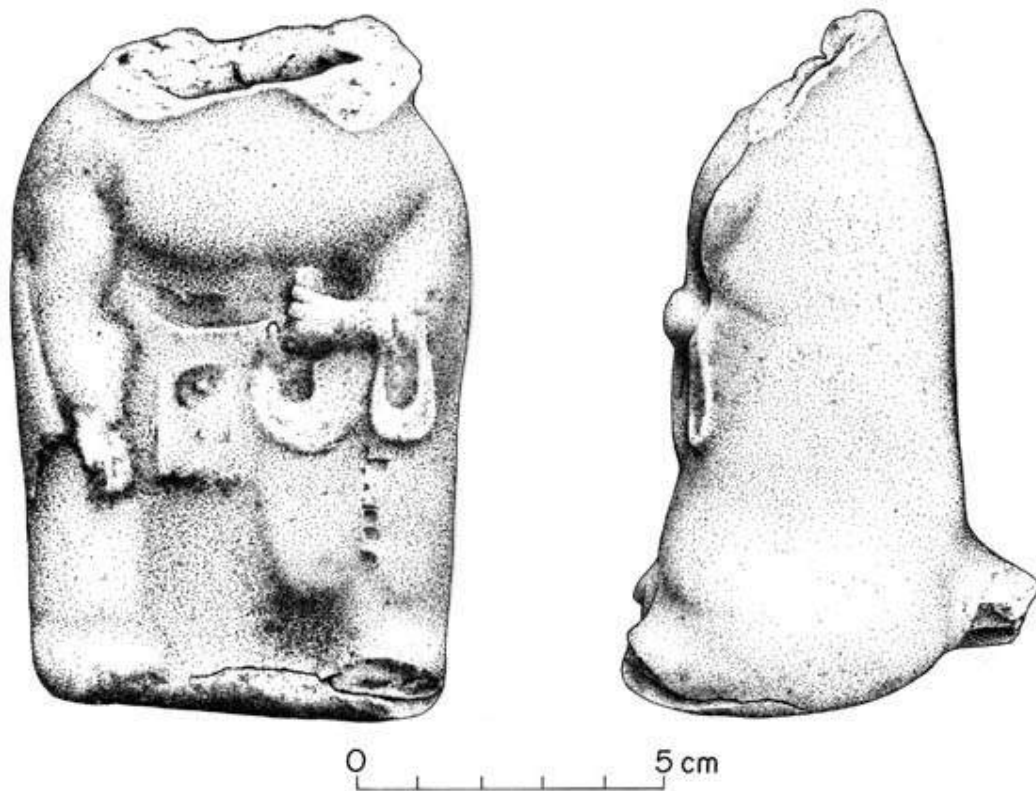


Figure 28a. Male and female couple (MSJ2A-40-5-5a): drawings by Luis F. Luin.



Figure 28b, c, & d. Male and female couple (MSJ2A-40-5-5a): plan, profile, and back - photo by author.

The most prominent supernatural figures represented in the collection are dwarves and Fat Gods. Dwarves sometimes have elaborate headdresses ([Figure 10a](#), [Figure 10b](#), shown

above), although the single or triple versions of the "mohawk" hairstyle, which dates back to the Olmec (Miller 1985:146), also occur.

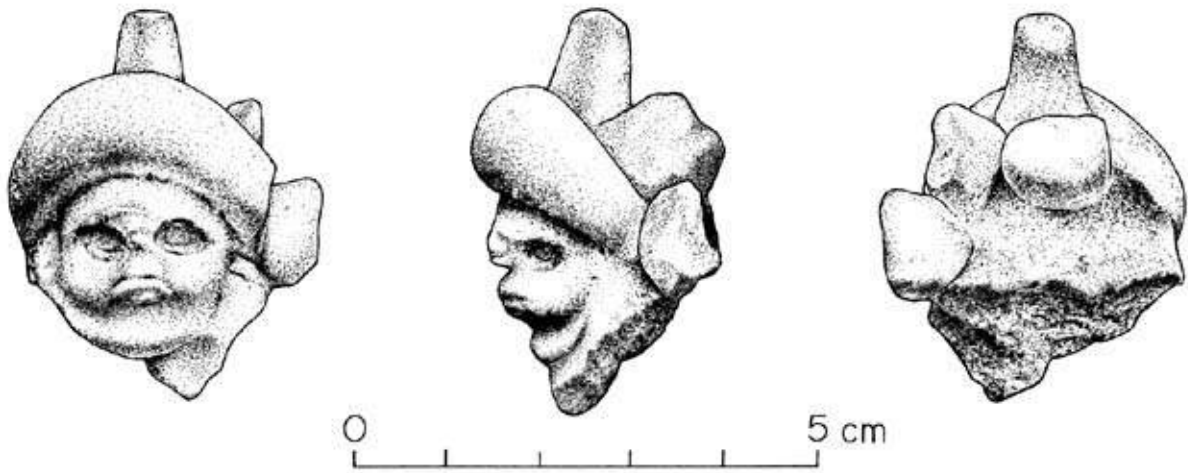


Figure 29a. Dwarf or human with dwarf mask (MSJ2A-50-5-5c): drawings by Luis F. Luin.



Figure 29b, c, & d. Dwarf or human with dwarf mask (MSJ2A-50-5-5c): plan, profile, and back - photo by author.

One dwarf may in fact be a human disguised as a dwarf because a set of eyes pokes out from underneath large eye-holes ([Figure 29a](#), [Figure 29b](#), [Figure 29c](#), [Figure 29d](#), shown above). Dwarves are often confused with Fat Gods because they are both known to have short statures, pot bellies and large, round faces. Fat Gods are distinguished primarily by their jowly cheeks, cotton body-suits, and fans ([Figure 30a](#), [Figure 30b](#); and [Figure 31a](#), [Figure 31b](#), shown below) (Miller 1985:147).



Figure 30a. Fat God (MSJ2A-3-9-1b): drawing by Luis F. Luin.



Figure 30b. Fat God (MSJ2A-3-9-1b): photo by author.

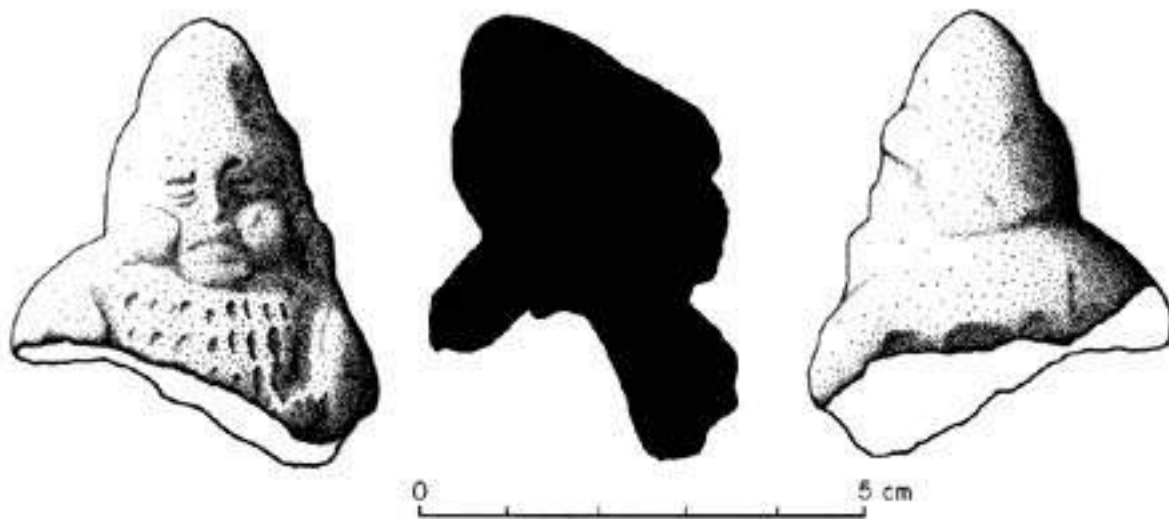


Figure 31a. Fat God (MSJ36F-2-2-3a): drawings by Ingrid Seyb.



Figure 31b. Fat God (MSJ36F-2-2-3a): photo by author.

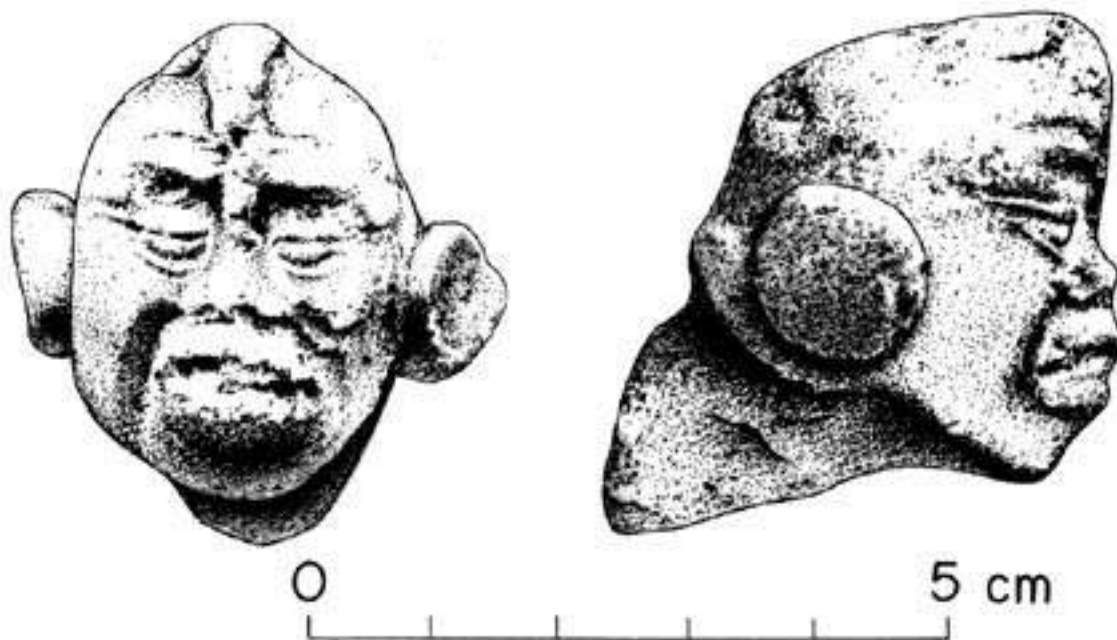


Figure 32a. Grotesque (MSJ2A-40-5-1i): drawings by Luis F. Luin.



Figure 32b. Grotesque (MSJ2A-40-5-1i): plan photo by author.



Figure 32c. Grotesque (MSJ2A-40-5-1i): profile photo by author.

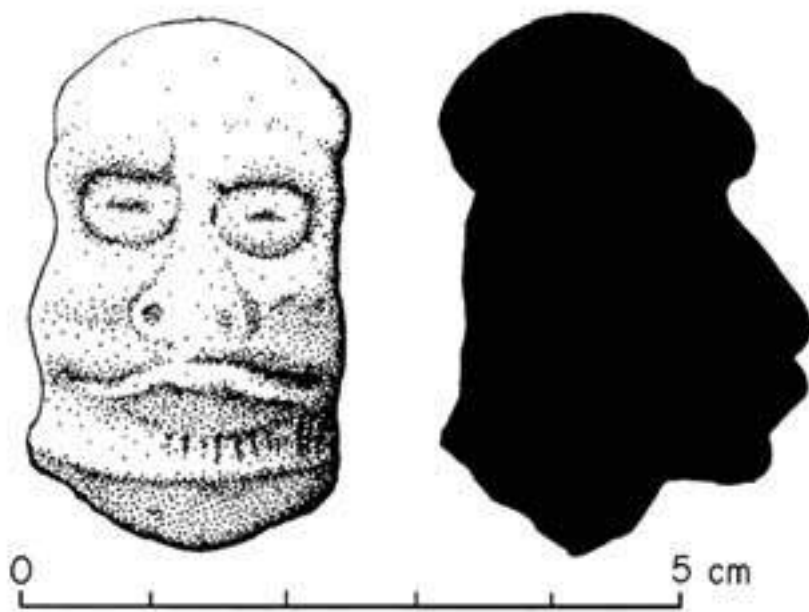


Figure 33a. Grotesque (MSJ36F-2-2-3d): drawing by Ingrid Seyb.



Figure 33b & 33c. Grottesque (MSJ36F-2-2-3d): plan and profile photo by author.

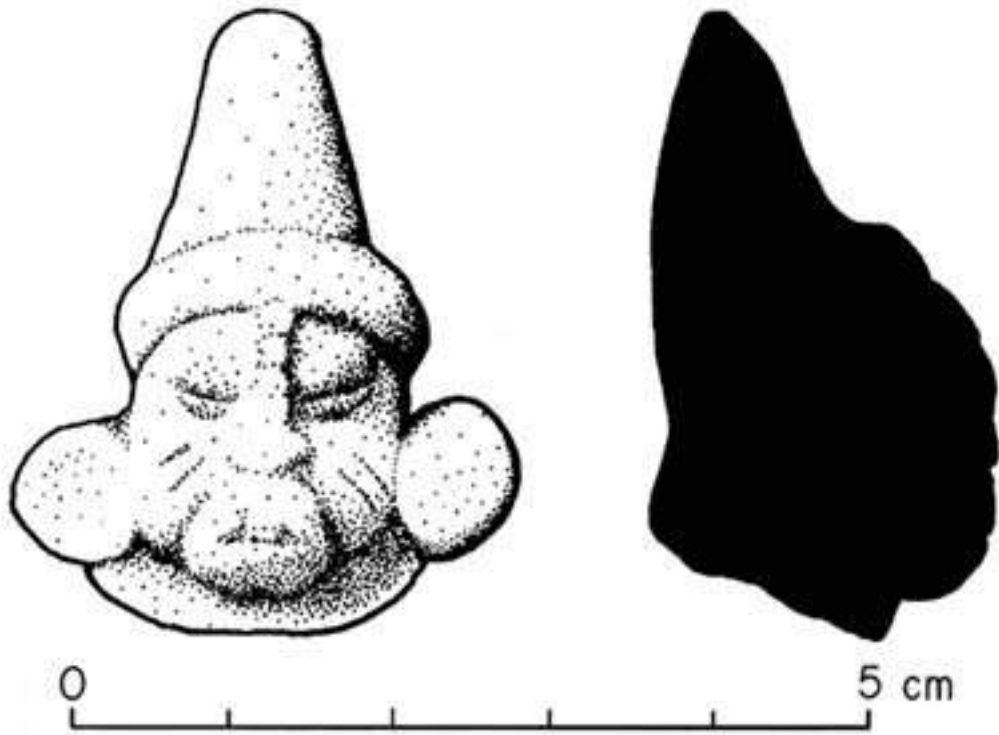


Figure 34a. Grottesque (MSJ39C-2-2-3a): drawing by Ingrid Seyb.



Figure 34b. Grotesque (MSJ39C-2-2-3a): photo by author.

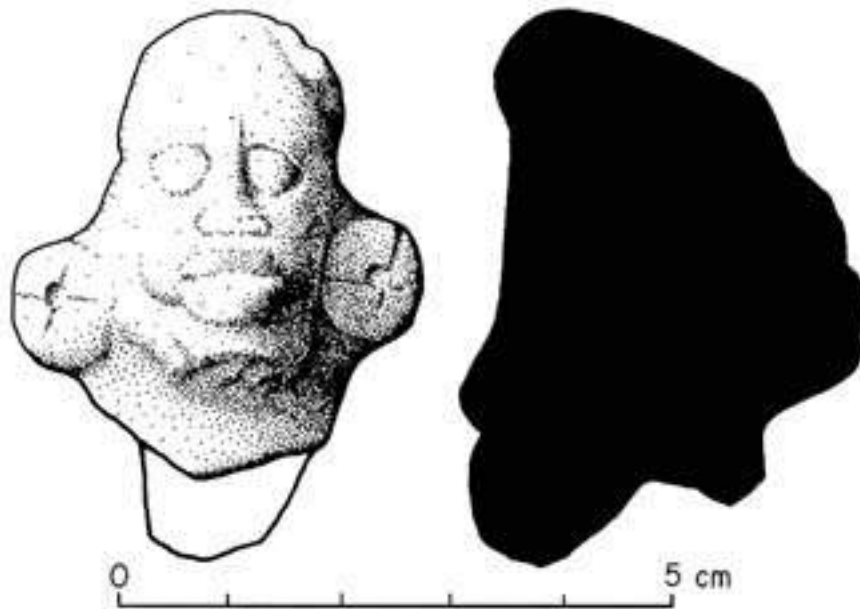


Figure 35a. Grotesque (MSJ29F-7-2-3a): drawing by Ingrid Seyb.



Figure 35b & 35c. Grotesque (MSJ29F-7-2-3a): plan and profile photo by author.

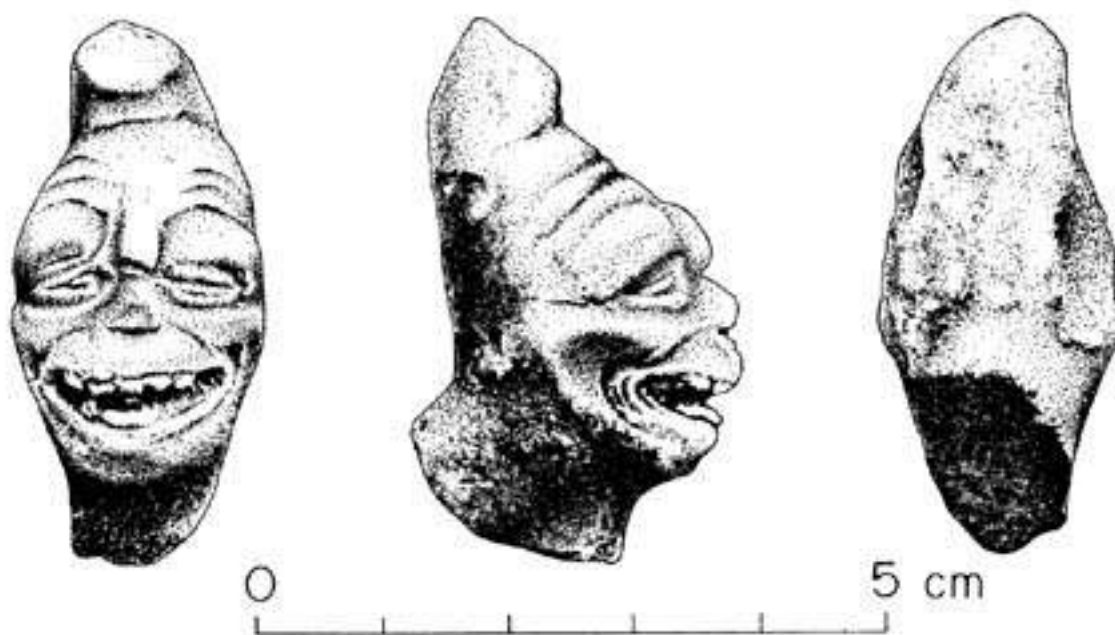


Figure 36a. Grotesque (MSJ46A-5-1-1a): drawings by Luis F. Luin.



Figure 36b, c, & d. Grotesque (MSJ46A-5-1-1a): plan, profile, and back - photo by author.

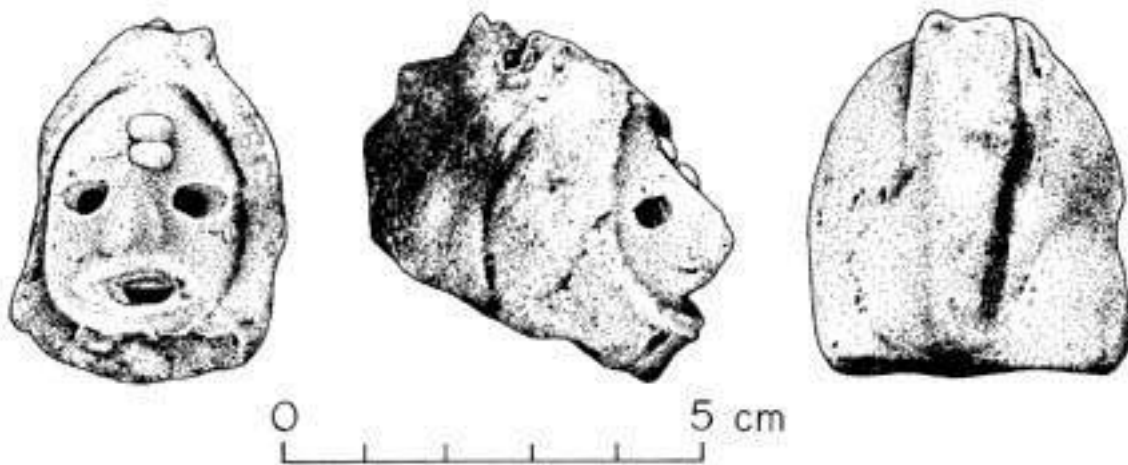


Figure 37a. Removable mask or helmet (TRI10D-10-3-3c): drawings by Luis F. Luin.



Figure 37b, c, & d. Removable mask or helmet (TRI10D-10-3-3c): plan, profile, and back - photo by author.

Other supernatural figures may be masked humans or supernatural figures with human attributes. One mask or helmet was made separately and thus is removable from the figurine head ([Figure 37a](#), [Figure 37b](#), [Figure 37c](#), [Figure 37d](#), shown above). Another appears to be a human with a bird mask ([Figure 38a](#), [Figure 38b](#), [Figure 38c](#), [Figure 38d](#), shown below).

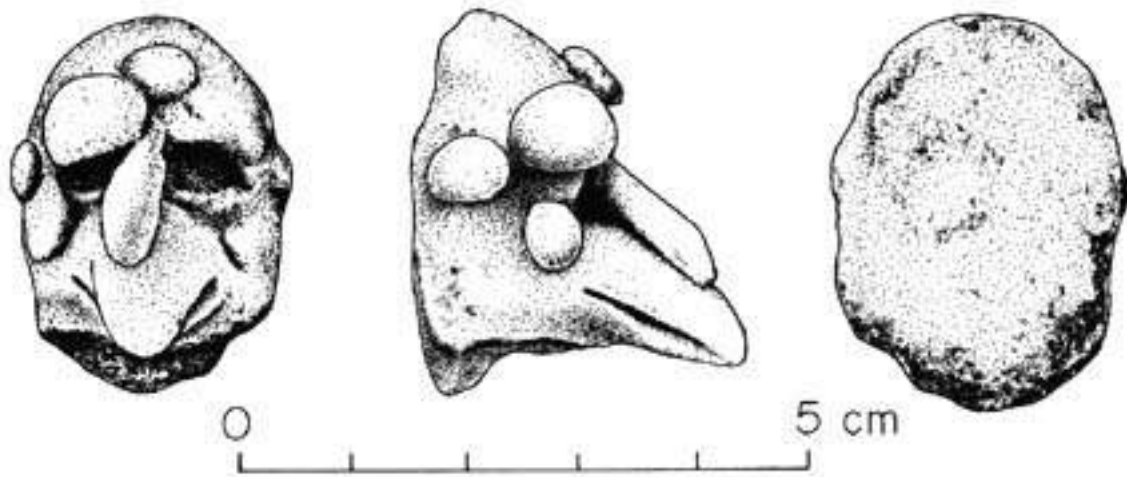


Figure 38a. Bird mask (MSJ15A-27-1-1b): drawings by Luis F. Luin.



Figure 38b, c, & d. Bird mask (MSJ15A-27-1-1b): plan, profile, and back - photo by author.

An unusual figurine type is a human with a duck-billed mask ([Figure 39a](#), [Figure 39b](#), [Figure 39c](#); [Figure 40a](#), [Figure 40b](#), [Figure 40c](#); and [Figure 41a](#), [Figure 41b](#), shown below). The Maya wind god wears a duck-billed mask. This deity or deity-impersonator is infrequently depicted during the Classic period, but is widespread in its Postclassic manifestation as Ehecatl (O'Mack 1991; Pasztory 1983; Seler 1966; Taube 2000, 2004a, b). The masked figurines parallel a theme of masked performers and dancers depicted in many Ik' style vessels (for examples, see the Maya Vase Database and search for: K1454, K1896, K2795, K3054).



Figure 39a. Human with duck-billed mask or Wind god (MSJ2A-5-6-16a): drawings by Luis F. Luin.



Figure 39b. Human with duck-billed mask or Wind god (MSJ2A-5-6-16a): plan photo by author.



Figure 39c. Human with duck-billed mask or Wind god (MSJ2A-5-6-16a): profile photo by author.\

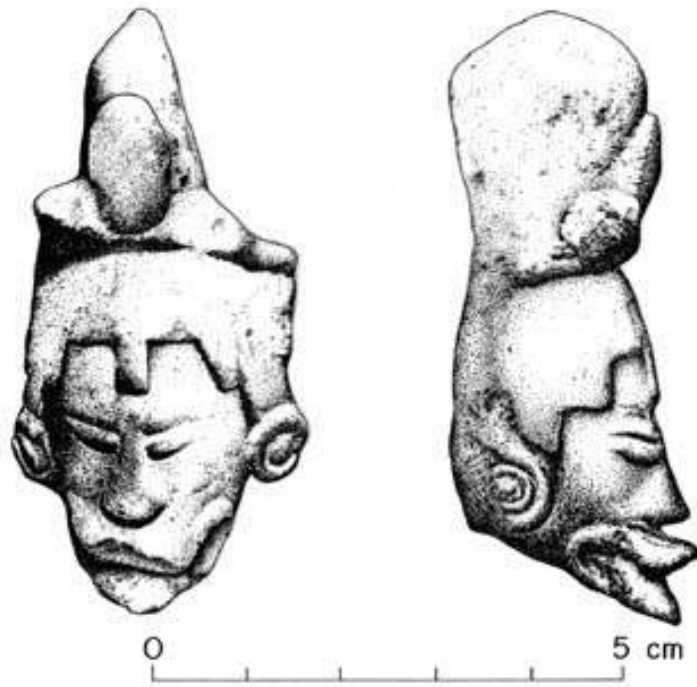


Figure 40a. Human with duck-billed mask or Wind god (MSJ2A-5-6-16b): drawings by Luis F. Luin.



Figure 40b and 40c. Human with duck-billed mask or Wind god (MSJ2A-5-6-16b): plan and profile - photo by author.

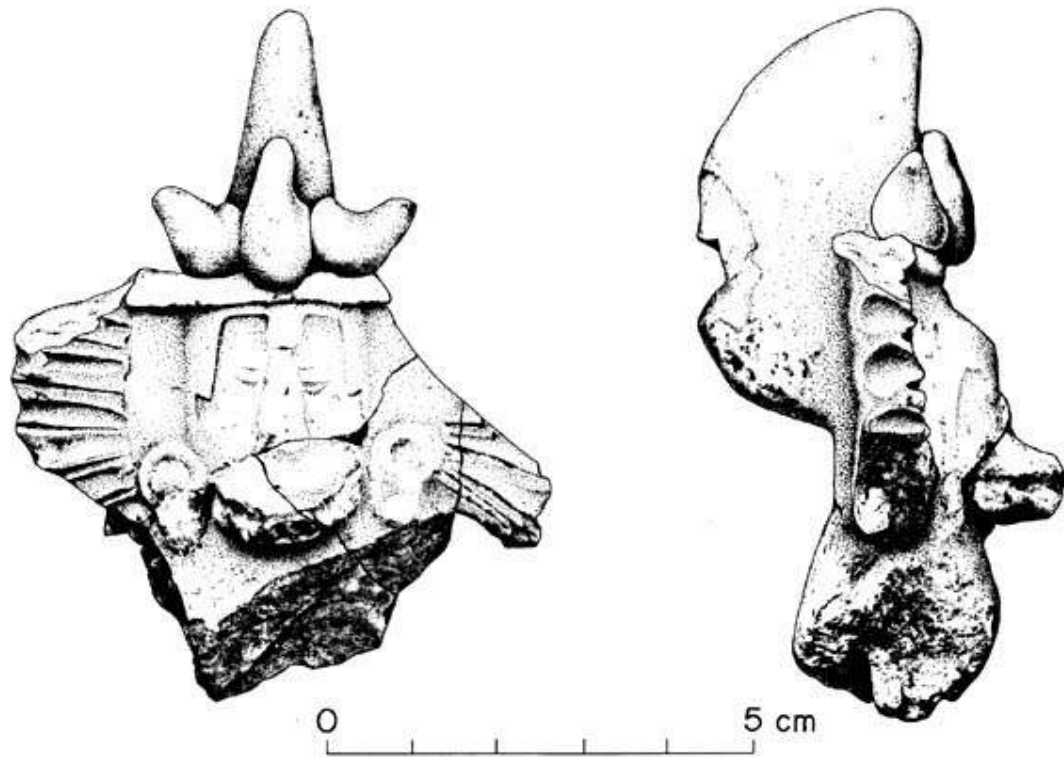


Figure 41a. Human with duck-billed mask or Wind god (MSJ2A-40-5-4a): drawings by Luis F. Luin.



Figure 41b. Human with duck-billed mask or Wind god (MSJ2A-40-5-4a): photo by author.

Zoomorphic figurines are represented most commonly as birds ([Figure 42a](#), [Figure 42b](#), [Figure 42c](#), [Figure 42d](#); and [Figure 43a](#), [Figure 43b](#), shown below), dogs ([Figure 15a](#), [Figure](#)

[15b](#), shown above), jaguars ([Figure 44a](#), [Figure 44b](#), [Figure 44c](#); and [Figure 45a](#), [Figure 45b](#), shown below), monkeys ([Figure 46a](#), [Figure 46b](#), [Figure 46c](#); and [Figure 47a](#), [Figure 47b](#), shown below), and owls ([Figure 48a](#), [Figure 48b](#), [Figure 48c](#); and [Figure 49a](#), [Figure 49b](#), shown below). Birds tend to be crudely modeled rather than the more common molded type. Jaguars and dogs look very similar, although dogs differ in their wrinkled foreheads and simple collars.

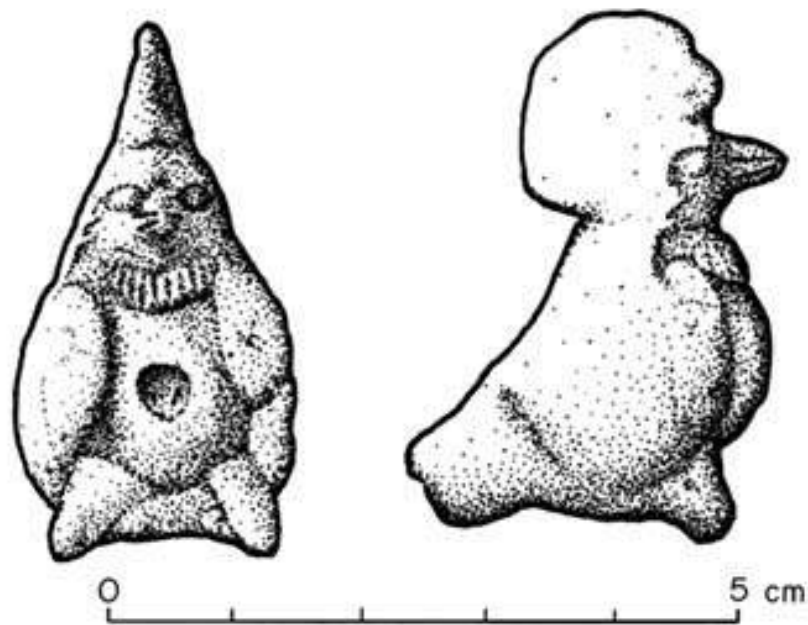


Figure 42a. Bird (turkey?) (TRI4A-1-1-2a): drawings by Ingrid Seyb.



Figure 42b. Bird (turkey?) (TRI4A-1-1-2a): plan photo by author.



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Figure 42d. Bird (turkey?) (TRI4A-1-1-2a): profile photo 2 by author.

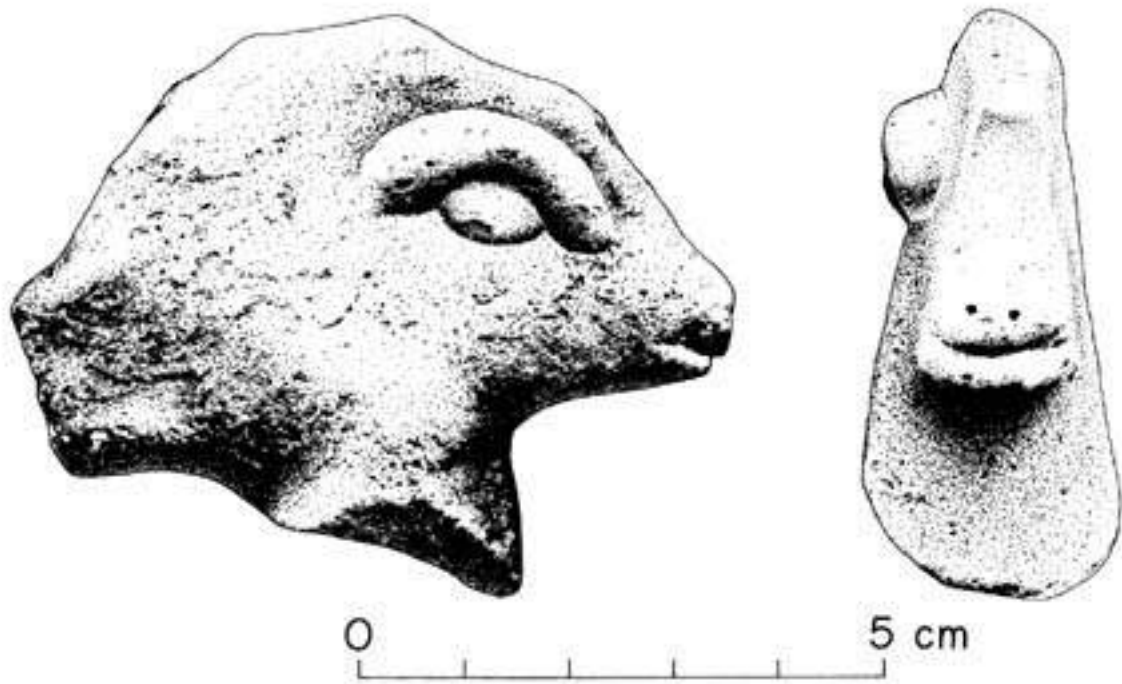


Figure 43a. Bird (MSJ39G-7-2-1b): drawings by Luis F. Luin.



Figure 43b. Bird (MSJ39G-7-2-1b): photo by author.

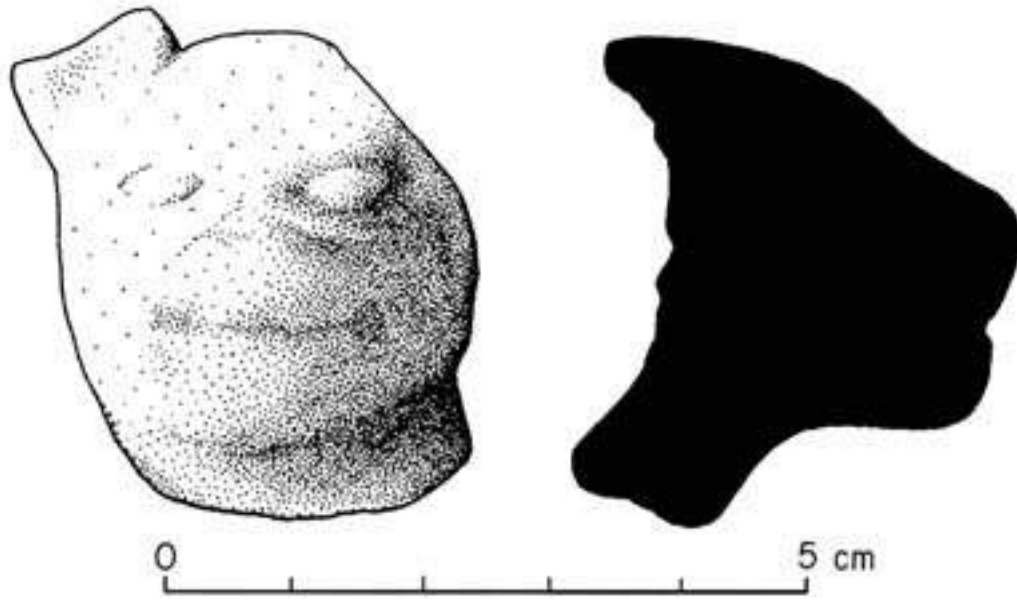


Figure 44a. Jaguar (MSJ34A-11-5-5a): drawing by Ingrid Seyb.



Figure 44b and 44c. Jaguar (MSJ34A-11-5-5a): plan and profile - photo by author.

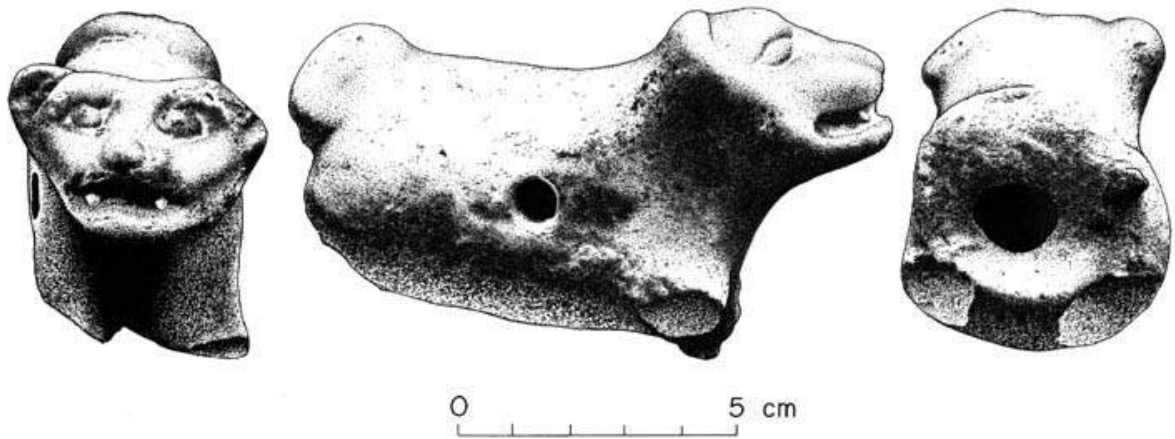


Figure 45a. Jaguar (TRI6D-9-2-1a): drawings by Luis F. Luin.



Figure 45b. Jaguar (TRI6D-9-2-1a): photo by author.

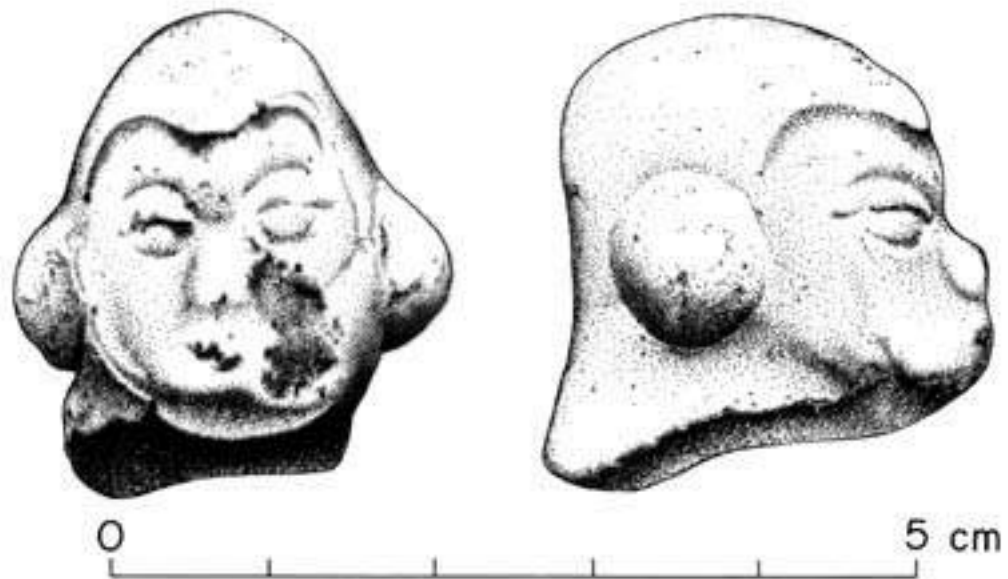


Figure 46a. Monkey (CHT44G-1-3-3b): drawings by Luis F. Luin.



Figure 46b and 46c. Monkey (CHT44G-1-3-3b): plan and profile - photo by author.

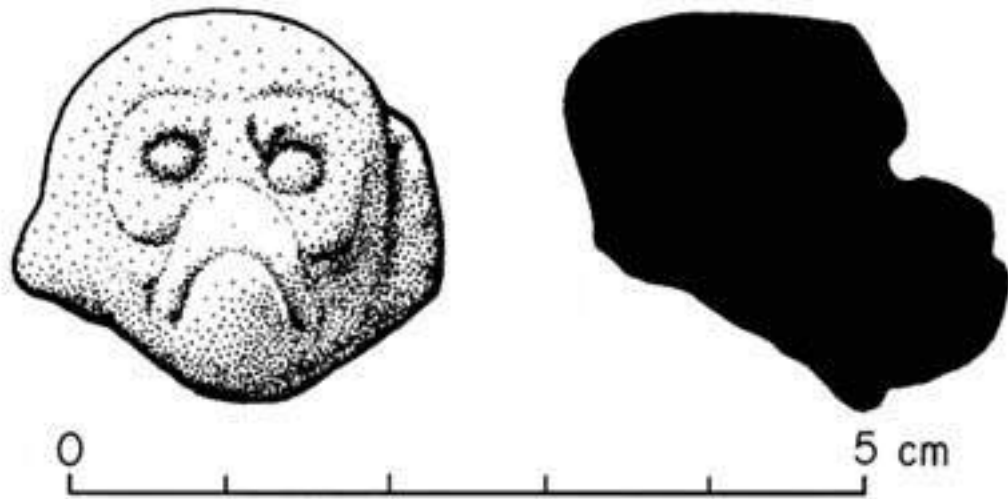


Figure 47a. Monkey (MSJ35H-1-1-1a): drawing by Ingrid Seyb.



Figure 47b. Monkey (MSJ35H-1-1-1a): photo by author.

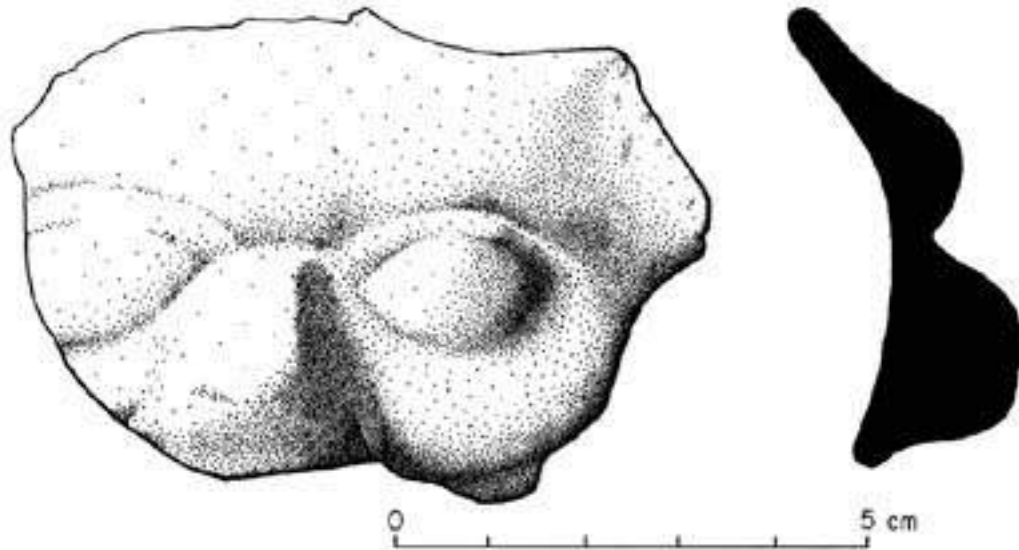


Figure 48a. Large owl head (MSJ42D-8-2-2b): drawing by Ingrid Seyb.



Figure 48b. Large owl head (MSJ42D-8-2-2b): plan photo by author.



Figure 48c. Large owl head (MSJ42D-8-2-2b): back photo by author.

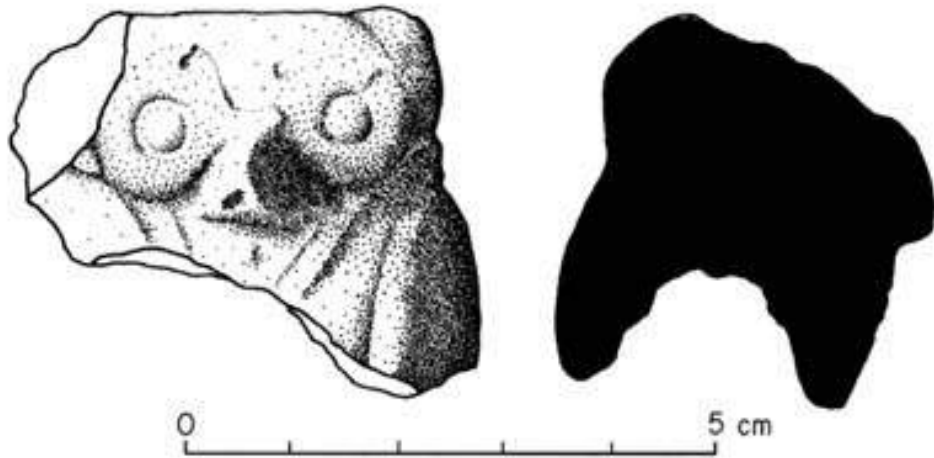


Figure 49a. Owl (MSJ39F-4-2-1a): drawing by Ingrid Seyb.



Figure 49b. Owl (MSJ39F-4-2-1a): photo by author.

More minor varieties of animals include deer, frogs ([Figure 50a](#), [Figure 50b](#), [Figure 50c](#), shown below), lizards (?) ([Figure 51a](#), [Figure 51b](#), [Figure 51c](#), shown below), tapir, peccary, turtles, and crocodile. Some of the animals possess human attributes or clothing.

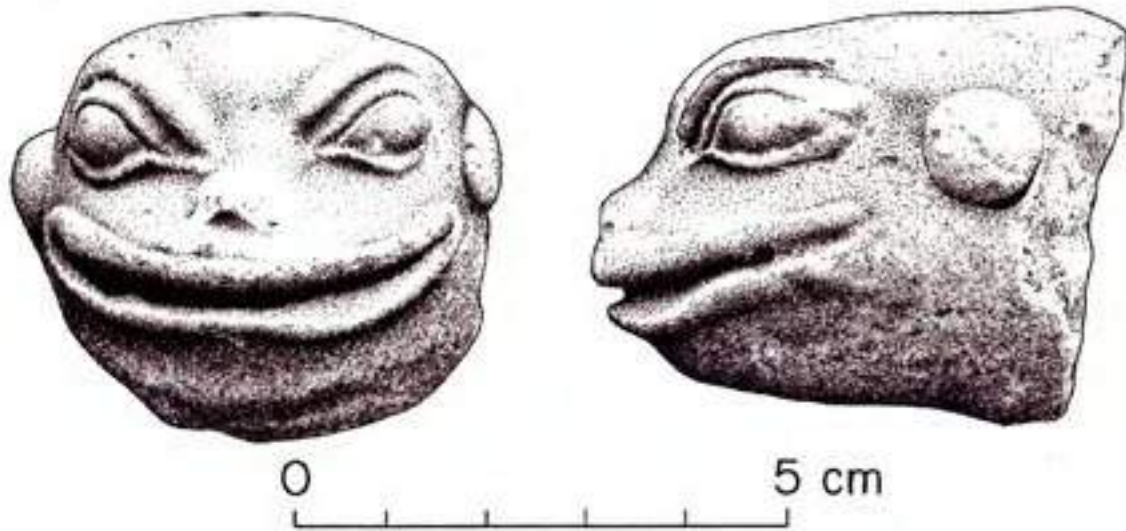


Figure 50a. Frog (MSJ46A-9-2-1a): drawings by Luis F. Luin.



Figure 50b. Frog (MSJ46A-9-2-1a): plan photo by author.



Figure 50c. Frog (MSJ46A-9-2-1a): profile photo by author.

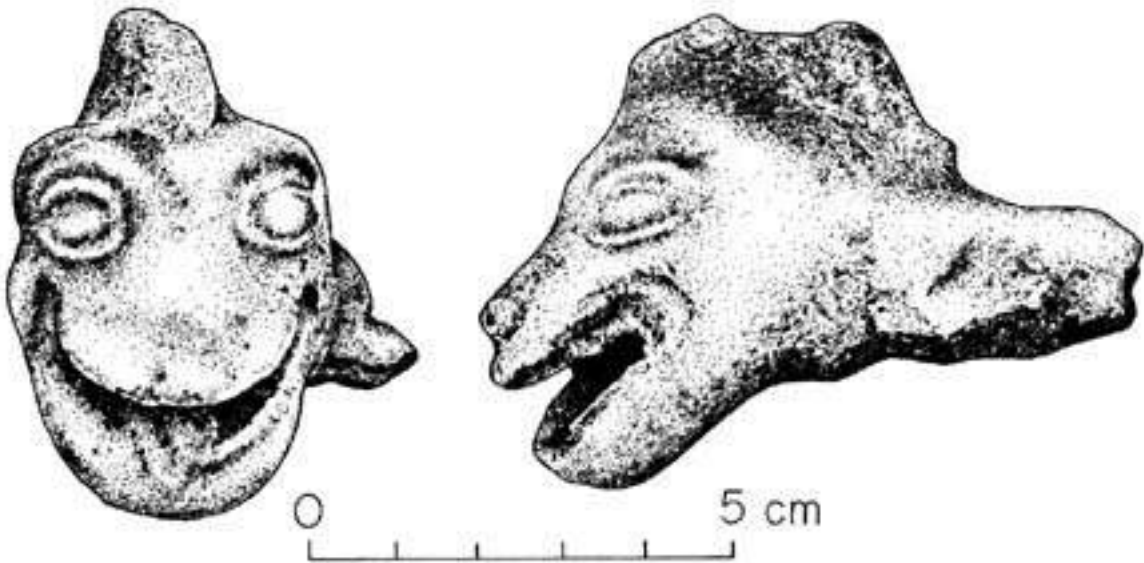


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Figure 51b and 51c. Lizard (?) (MSJ2A-40-4-4b): plan and profile - photo by author.

Conclusions

The geophysical survey and subsequent excavations at Motul de San José during the 2005 field season ended in mixed results. The large variability caused in consecutive base station readings of two of the three grids suggests that a good deal of magnetic disruptions or noise can occur and impede positive results. Nonetheless, one of the geophysical survey grids in Operations 2 and 46 did not result in any major disruptions. The detection of anomalous readings and the subsequent excavation of some of these anomalies revealed four high-density middens as well as more minor, low-density middens mixed with architectural features. The large trash deposits contained both figurines and ceramic production debris including vessel wasters, a variety of possible ceramic production tools, ash deposits, and burnt clay.

The evidence from the ceramic production debris from Operation 2 and the preliminary laboratory analysis results (INAA, evidence of duplicate figurines, paste types) indicate that figurine production occurred in the Motul de San José region and was based, at least in part, at the elite and administrative site core of Motul de San José. This production may have occurred alongside or in conjunction with polychrome vessel production. The similarity of paste types from the different settlements in the region and the presence of matching imagery between them indicate that the distribution of figurines was not restricted within each settlement site. Despite an intra-regional exchange of figurines, however, the preliminary INAA results do not point to significant long-distance or inter-regional importation of figurines. Further analyses of the Motul de San José figurine collection will refine our understandings of the role of figurines in the political economy in the region as well as of the implications of this system on figurine imagery, use, and meanings.

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[Figure 31a](#). Fat God (MSJ36F-2-2-3a): drawings by Ingrid Seyb.

[Figure 31b](#). Fat God (MSJ36F-2-2-3a): photo by author.

[Figure 32a](#). Grotesque (MSJ2A-40-5-1i): drawings by Luis F. Luin.

[Figure 32b](#). Grotesque (MSJ2A-40-5-1i): plan photo by author.

[Figure 32c](#). Grotesque (MSJ2A-40-5-1i): profile photo by author.

[Figure 33a](#). Grotesque (MSJ36F-2-2-3d): drawing by Ingrid Seyb.

[Figure 33b](#). Grotesque (MSJ36F-2-2-3d): plan photo by author.

[Figure 33c](#). Grotesque (MSJ36F-2-2-3d): profile photo by author.

[Figure 34a](#). Grotesque (MSJ39C-2-2-3a): drawing by Ingrid Seyb.

[Figure 34b](#). Grotesque (MSJ39C-2-2-3a): photo by author.

[Figure 35a](#). Grotesque (MSJ29F-7-2-3a): drawing by Ingrid Seyb.

[Figure 35b](#). Grotesque (MSJ29F-7-2-3a): plan photo by author.

[Figure 35c](#). Grotesque (MSJ29F-7-2-3a): profile photo by author.

[Figure 36a](#). Grotesque (MSJ46A-5-1-1a): drawings by Luis F. Luin.

[Figure 36b](#). Grotesque (MSJ46A-5-1-1a): plan photo by author.

[Figure 36c](#). Grotesque (MSJ46A-5-1-1a): profile photo by author.

[Figure 36d](#). Grotesque (MSJ46A-5-1-1a): back photo by author.

[Figure 37a](#). Removable mask or helmet (TRI10D-10-3-3c): drawings by Luis F. Luin.

[Figure 37b](#). Removable mask or helmet (TRI10D-10-3-3c): plan photo by author.

[Figure 37c](#). Removable mask or helmet (TRI10D-10-3-3c): profile photo by author.

[Figure 37d](#). Removable mask or helmet (TRI10D-10-3-3c): back photo by author.

[Figure 38a](#). Bird mask (MSJ15A-27-1-1b): drawings by Luis F. Luin.

[Figure 38b](#). Bird mask (MSJ15A-27-1-1b): plan photo by author.

[Figure 38c](#). Bird mask (MSJ15A-27-1-1b): profile photo by author.

[Figure 38d](#). Bird mask (MSJ15A-27-1-1b): back photo by author.

[Figure 39a](#). Human with duck-billed mask or Wind god (MSJ2A-5-6-16a): drawings by Luis F. Luin.

[Figure 39b](#). Human with duck-billed mask or Wind god (MSJ2A-5-6-16a): plan photo by author.

[Figure 39c](#). Human with duck-billed mask or Wind god (MSJ2A-5-6-16a): profile photo by author.

[Figure 40a](#). Human with duck-billed mask or Wind god (MSJ2A-5-6-16b): drawings by Luis F. Luin.

[Figure 40b](#). Human with duck-billed mask or Wind god (MSJ2A-5-6-16b): plan photo by author.

[Figure 40c](#). Human with duck-billed mask or Wind god (MSJ2A-5-6-16b): profile photo by author.

[Figure 41a](#). Human with duck-billed mask or Wind god (MSJ2A-40-5-4a): drawings by Luis F. Luin.

[Figure 41b](#). Human with duck-billed mask or Wind god (MSJ2A-40-5-4a): photo by author.

[Figure 42a](#). Bird (turkey?) (TRI4A-1-1-2a): drawings by Ingrid Seyb.

[Figure 42b](#). Bird (turkey?) (TRI4A-1-1-2a): plan photo by author.

[Figure 42c](#). Bird (turkey?) (TRI4A-1-1-2a): profile photo 1 by author.

[Figure 42d](#). Bird (turkey?) (TRI4A-1-1-2a): profile photo 2 by author.

[Figure 43a](#). Bird (MSJ39G-7-2-1b): drawings by Luis F. Luin.

[Figure 43b](#). Bird (MSJ39G-7-2-1b): photo by author.

[Figure 44a](#). Jaguar (MSJ34A-11-5-5a): drawing by Ingrid Seyb.

[Figure 44b](#). Jaguar (MSJ34A-11-5-5a): plan photo by author.

[Figure 44c](#). Jaguar (MSJ34A-11-5-5a): profile photo by author.

[Figure 45a](#). Jaguar (TRI6D-9-2-1a): drawings by Luis F. Luin.

[Figure 45b](#). Jaguar (TRI6D-9-2-1a): photo by author.

[Figure 46a](#). Monkey (CHT44G-1-3-3b): drawings by Luis F. Luin.

[Figure 46b](#). Monkey (CHT44G-1-3-3b): plan photo by author.

[Figure 46c](#). Monkey (CHT44G-1-3-3b): profile photo by author.

[Figure 47a](#). Monkey (MSJ35H-1-1-1a): drawing by Ingrid Seyb.

[Figure 47b](#). Monkey (MSJ35H-1-1-1a): photo by author.

[Figure 48a](#). Large owl head (MSJ42D-8-2-2b): drawing by Ingrid Seyb.

[Figure 48b](#). Large owl head (MSJ42D-8-2-2b): plan photo by author.

[Figure 48c](#). Large owl head (MSJ42D-8-2-2b): back photo by author.

[Figure 49a](#). Owl (MSJ39F-4-2-1a): drawing by Ingrid Seyb.

[Figure 49b](#). Owl (MSJ39F-4-2-1a): photo by author.

[Figure 50a](#). Frog (MSJ46A-9-2-1a): drawings by Luis F. Luin.

[Figure 50b](#). Frog (MSJ46A-9-2-1a): plan photo by author.

[Figure 50c](#). Frog (MSJ46A-9-2-1a): profile photo by author.

[Figure 51a](#). Lizard (?) (MSJ2A-40-4-4b): drawings by Luis F. Luin.

[Figure 51b](#). Lizard (?) (MSJ2A-40-4-4b): plan photo by author.

[Figure 51c](#). Lizard (?) (MSJ2A-40-4-4b): profile photo by author.

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