# The PARI Journal

A quarterly publication of the Pre-Columbian Art Research Institute

Volume XII, No. 4, Spring 2012


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Joel Skidmore
Editor
joel@mesoweb.com

Marc Zender
Associate Editor
marc@mesoweb.com

The PARI Journal
202 Edgewood Avenue
San Francisco, CA 94117
415-664-8889
journal@mesoweb.com

Electronic version
available at:
www.mesoweb.com/
pari/journal/1204

ISSN 1531-5398


# Allspice as Template for the Classic Maya K'an Sign


**ESTELLA WEISS-KREJCI**
*University of Vienna, Austria*


During last year's field season in the Río Bravo conservation area in Northwestern Belize my workmen brought to my attention the cross-section of a freshly cut branch. The cuttings showed a yellowish cross with a smaller whitish cross inside and a small brown rhombus in the middle (Figure 1). The branch was cut from a tree in the afternoon of May 31, 2011 at the southern border of a large, previously unknown *aguada* approximately six kilometers east of La Milpa. After inquiring which tree the branch had been cut from, I was informed that it was pimento (Spanish *pimienta inglesa*, English allspice). This tree, *Pimenta dioica* (see Seaforth and Tikasingh 2005:72) emanates a strong cinnamon scent. I have seen many specimens over the years, but I have never paid attention to the cuttings before. My workmen also informed me that in earlier times the locals used to take the bark from this tree to manufacture strings which were used "to tie the thatches of their house."

## The K'an Cross

Looking at the cross in the tree branch I noticed a resemblance to the Maya **K'AN** cross. The **K'AN** logograph is common in Maya inscriptions and imagery, often used conspicuously as a decorative element on Late Classic Maya polychrome vessels (e.g., vessels K4945, K5179, K5459, K6943, K8804 in Justin Kerr's database at MayaVase.com) (Figure 2). K'an crosses are also depicted at San Bartolo, where they show up as part of a scaffold at the northern end of the West Wall (Figure 3). The scaffold is undoubtedly made from the same kind of tree (thanks to Guido Krempel for bringing this mural to my attention). Furthermore, the **K'AN** sign is attested as a component of emblem glyphs (e.g., **K'AN-na-WITZ-NAL** *k'anwitznal* for Ucanal, or **K'AN-tu-ma-ki** *k'antumaak* for Caracol) as well as personal names (e.g., *Itzamk'anahk* "Precious Itzam Turtle"). Additionally, *k'an* serves as an adjective for a specific cacao additive, hitherto read as "yellow, ripe" cacao beverage (Kettunen and Helmke 2011:114).

Although *k'an* is not a word for allspice in any modern Mayan language—e.g., Ch'ol has *ichte'* "allspice" (Hopkins et al. 2011:61), Ch'orti' *akmiyan* "allspice" (Wisdom 1950:448), and Itzaj *naba'-ku'uk* "allspice seed" (Hofling 1994:461)—I

**Figure 1**. Cross-section through an allspice branch (photo: Estella Weiss-Krejci).

**Figure 2**. The K'an cross on Late Classic Maya ceramic vessels: (left) photograph K8804 © Justin Kerr; (center) photograph K5459 © Justin Kerr; (right) photograph K4945 (detail) © Justin Kerr.

suggest that the K'an cross depicts the cross-section of an allspice branch. This assumption is based on the strong resemblance between the cross in allspice cuttings and the K'an cross in Maya imagery.

### K'an as Allspice Ingredient

Since allspice is also a known ingredient for traditional Maya cacao (Green 2010:321), the K'an cross probably not only denominates the branch but also the leaves and fruits of the tree. The berry-sized fruits (Figure 4) are picked when green and unripe. After being dried in the sun they turn brown. When freshly ground they can constitute an aromatic ingredient in a variety of foods. The leaves can be made into a good tea which tastes a bit like cinnamon.

As a result of a discussion with Guido Krempel (personal communication 2011) I propose that several Classic Maya ceramics may have been containers for allspice-flavored cacao (see also Beliaev et al. 2010:260). Thus I suggest the following translation for the text on ceramic vessel K625 (Figure 5):

> **yu-k'i-bi ta-yu-ta K'AN-na ka-wa**
> *y-uk'ib ta yuta(l) k'an ka(ka)w*
> "...the drinking cup/instrument for fruity allspice-cacao?..."

### Other Applications of Allspice

The idea that the K'an cross signifies allspice is additionally supported by the aromatic scrolls (see Houston et al. 2006:148) on K5179 (Figure 6a) and the substitution of the K'an-cross with leaves on K1377 (Figure 6b) and La Florida Stela 9 (Figure 6c), here forming part of a gown. On K1645 one person wears a garment composed of similar leaves bound around the neck (Figure 6d). The scenes depicted on K1377 and K1645 have mortuary connotations. Allspice's pleasant fragrance and its antimicrobial properties were possibly the reasons why the ancient Maya used it when dealing with dead bodies. The mortuary application of allspice is also suggested by archaeological evidence. In Tomb 19 of Rio Azul allspice leaves had been placed over the corpse within the textile wrap around the body (Hall 1989:62).

Potential allspice leaves constitute the roof on K3844 (another mortuary scene) (Figure 7a) and form part of a jaguar *way*'s house on K3038 (Figure 7b). The two other *wayoob* on K3038 facing the jaguar carry vessels which are marked with **K'AN** signs. The jaguar *way* seems to be vomiting. Could the vessels with the K'an sign contain a treatment? The medicinal properties of allspice are well known. A water extract of the berries is used to treat flatulence, vomiting, diarrhea, and other gastrointestinal problems (e.g., Seaforth and Tikasingh 2005:73).

### K'ante'

Whether a specific tree called *k'ante'* in the Maya inscriptions also denominates the allspice tree is a more complicated question. In the Popol Vuh Hunahpu and Xbalanque send their brothers One Batz and One

**Figure 3.** Scaffold accession scene at the northern end of San Bartolo Pinturas Sub-1A West Wall (rendering by Heather Hurst).

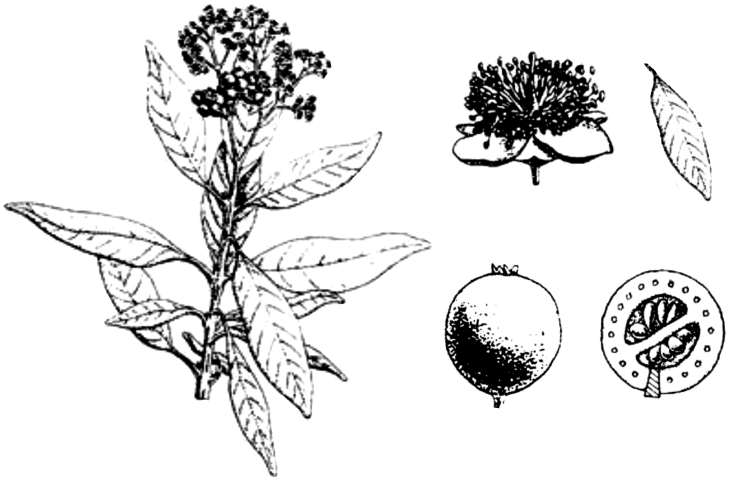

**Figure 4**. Drawing of the allspice plant, flower, leaves, and fruit (including cross-section). Courtesy of Marty Casado, ambergriscaye.com/fieldguide/bzplants.html.

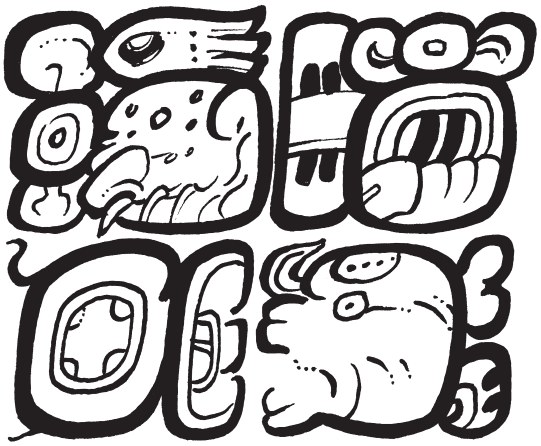

**Figure 5.** Drawing of detail of photograph K625 by Justin Kerr (drawing by Marc Zender).

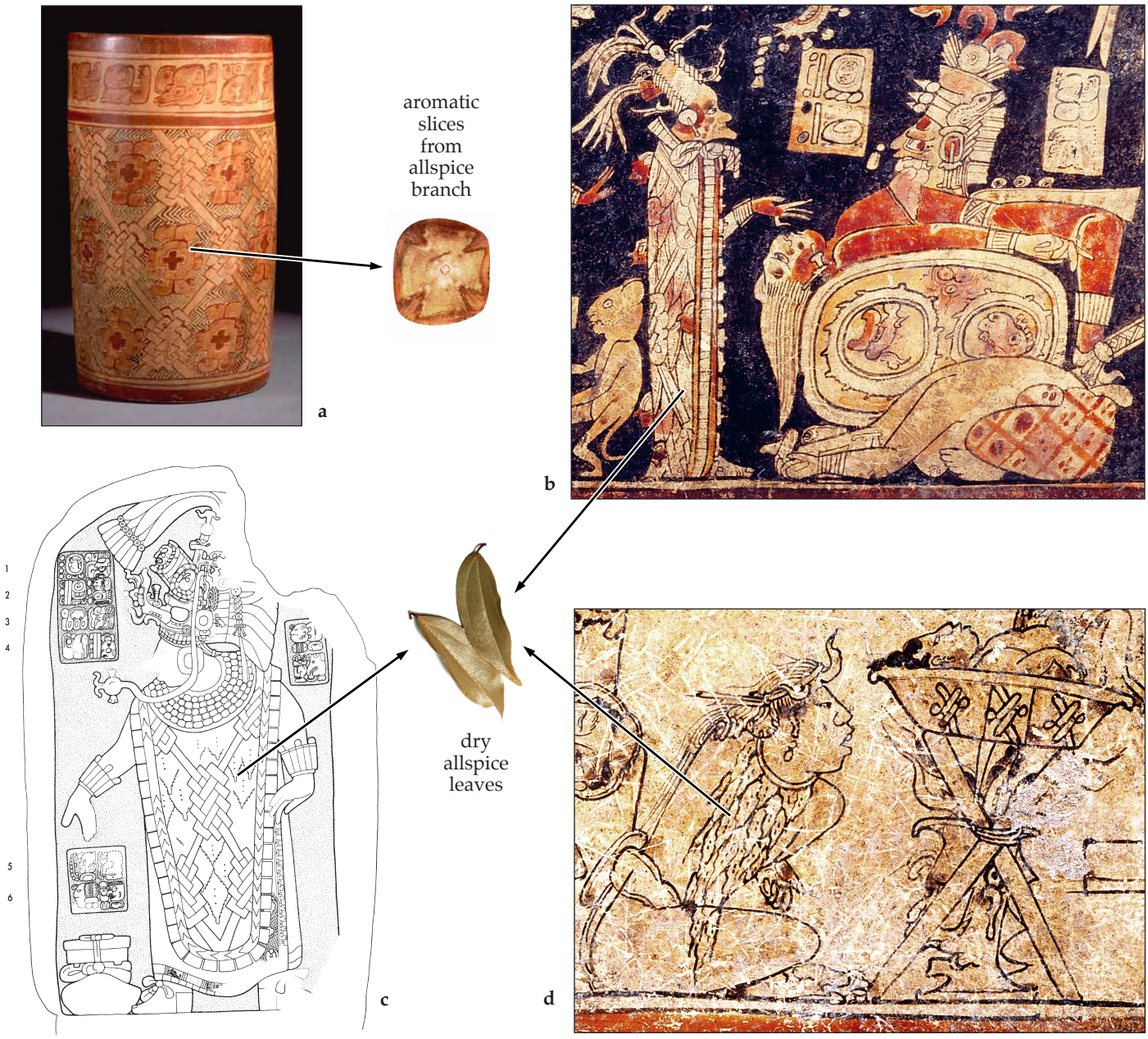


**Figure 6.** The allspice cross in Classic Maya imagery: (a) with aromatic scrolls (photograph K5179); (b-d) with allspice leaves (detail of photograph K1377; La Florida Stela 9; detail of photograph K1645. Drawing by Ian Graham (1970:Fig. 9b); all photographs © Justin Kerr.

Chouen up into Q'an Te' ("Yellow Tree"; *cante* in the source: Christenson 2007:2:95, 281, folio 18 verso, line 2816), which begins to grow taller and taller so that they cannot descend. As a result they turn into monkeys. This tree has been identified as madre de cacao, *Gliricidia sepium*, by Recinos (1950:128, n.6). According to historic sources the Maya used to extract a yellow dye from the roots of this tree (see also Christenson 2007:1:143, n. 329). In Q'eqchi' madre de cacao is also *k'ante'* (Maas 2008:167), but in Yucatan it is known by the name Zacyab (Recinos 1950:128, n.6). *K'ante'* has been discussed as a group of diverse trees (*k'ante'el* = the precious/sacred forest) by Landon (2011) (for further discussions involving *k'ante'* and *k'an* see also Freidel 2008:200 and Freidel et al. 2002:66-67; Stone and Zender 2011).

The cuttings of madre de cacao do not display a pattern comparable to the allspice tree, and the two trees need different environmental conditions to flourish. Pimento is a medium-sized tree that grows in wet forests. The seedlings benefit from shading until established (Schlesinger 2001:103-105; Seaforth and Tikasingh 2005:72). During the Preclassic and Early

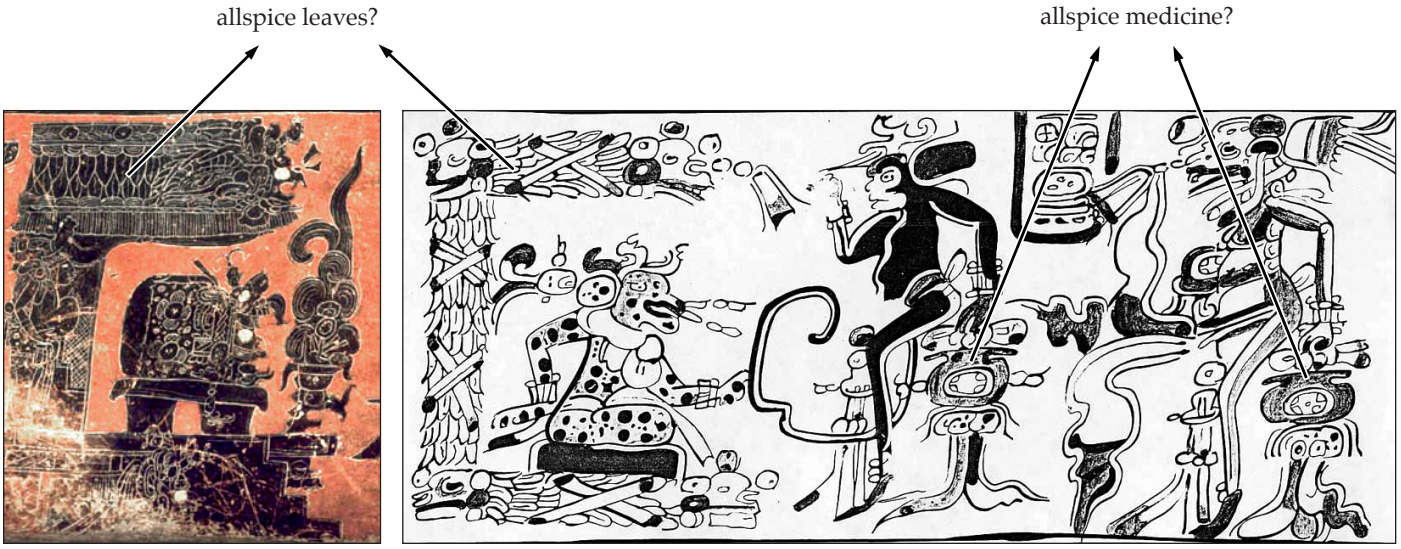


**Figure 7.** (left) detail of photograph K3844; (right) detail of photograph K3038. Photographs © Justin Kerr.

Classic periods, when tall humid forests still covered most of the lowlands, the high forest taxon Myrtaceae (myrtle family) to which the allspice tree belongs grew in large numbers. During the Late Classic period when the area was deforested, these trees became much rarer (as pollen data shows; e.g., Wahl et al. 2007:217). Madre de cacao is also medium-sized but prefers drier and lower forests because it does not tolerate heavy shade. As its name implies, madre de cacao is often planted in orchards to give shade to cacao trees (Rice 2007:209, n. 14). The existence of a tree called *k'ante'* (yellow tree) in the highlands during the Colonial period and today does not rule out the possibility that the allspice tree was called by that name in the Preclassic and Classic Maya lowlands. However, the identification of *k'ante'* for now remains uncertain.

Based on the evidence presented here, I strongly feel that the **K'AN** sign and the readings "precious," "yellow," and "ripe" are all based on the properties of the allspice tree (i.e., yellowish bark and yellowish cross in the cuttings, berries which ripen after the harvest, precious wood, good smell, etc.). *K'an* probably also denominates the branches and the tree's aromatic berries, oils, and leaves, which are used to season drinks and food.

## Acknowledgements

I would like to thank our project's three knowledgeable workmen Estéban Hernan, Carlos "Charlie" Humberto González, and Jaime "Jim" Israel Rodríguez, all from the village of San Felipe, for showing me the cross-section of the allspice branch and providing a great deal of background information about the forest flora. My investigations in Belize continue the work of Boston University's La Milpa Archaeological Project (LaMAP) directed by Dr. Norman Hammond and Dr. Gair Tourtellot. Field operations took place under a permit from the Belize Institute of Archaeology (Director, Dr. Jaime Awe) to Dr. Fred Valdez, Jr., Director of the Programme for Belize Archaeological Project (PfBAP), who also provided logistical support. I am grateful for the assistance. My special thanks go to Hermann J. Hendrich for his financial support of the 2011 field work. Thanks also to Michael Brandl and Kasper Hanus, who were part of this year's research team and to Guido Krempel for his comments and suggestions concerning this text.

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# The San Bartolo Regional Archaeological Project: Results of the Second Field Season 2003[1]

**MÓNICA URQUIZÚ**
**WILLIAM A. SATURNO**

The San Bartolo Regional Archaeological Project is a multidisciplinary program of investigation jointly conducted by the universities of New Hampshire and San Carlos de Guatemala. It brings together specialists in archaeology and anthropology whose work has provided new data of great importance for the interpretation of the social and geo-political context of the site as well as the surrounding area.

In pursuit of its objectives in 2003 the Project undertook a diverse range of activities, allocating half of its time to following up on the work conducted the previous year as regards architectural investigation, site mapping, ceramic analysis, and the investigation and preservation of San Bartolo's murals. Other activities were initiated in this field season and will be continued in the next. All have been directed toward understanding and preserving the cultural patrimony of Guatemala. Here we present new findings and the results obtained in the second field season of work.

## General Description

San Bartolo is a small city, but it possesses all of the hallmarks of a complex society that interacted with other cities of greater and lesser size. This has motivated us to undertake long-term investigations in order to understand the social, religious, and political ideologies of the city's inhabitants, as well its relationship with other sites of greater importance such as Uaxactun, Tikal, and El Mirador.

The site, occupying an area of one square kilometer, is surrounded by *bajos* and features two principal architectural groups (Figure 1). The largest is associated with the Ventanas pyramid. The sector of the site in which this is located comprises an important palace structure, a ballcourt, and a causeway oriented north and south, as well reservoirs and important residential groups. The other principal architectural complex is that centered on the Pinturas pyramid, which is located approximately 500 m east of Ventanas. It is within construction phase Sub-1 of this pyramid that the polychrome murals of San Bartolo are found, as was reported last year in the XVI Simposio de Investigaciones en Gautemala.

One of the objectives of the San Bartolo project is to reconnoiter and map the site, as well as the adjacent areas. This activity was undertaken by Thomas Garrison, Robert Griffin, and William Saturno, who conducted three phases of reconnaissance work. The first was within the site and consisted in the refinement on the map of architectural features in the areas excavated this season, including the Palace, Las Ventanas, Las Pinturas, and the residential areas adjacent to the Main Plaza. Surprisingly, they encountered a new complex called "Grupo Jabalí," which is located 430 m northeast of the Ventanas pyramid.

Another accomplishment was a transect between San

[1] This article is a translation of Mónica Urquizú and William A. Saturno, 2004, Proyecto Arqueológico Regional San Bartolo: resultados de la segunda temporada de campo 2003, in *XVII Simposio de Investigaciones Arqueológicas en Guatemala, 2003*, edited by Juan Pedro Laporte, Bárbara Arroyo, Héctor L. Escobedo, Héctor E. Mejía, v. 2, pp. 629-635. Ministerio de Cultura y Deportes; Instituto de Antropología e Historia; Asociación Tikal, Guatemala.

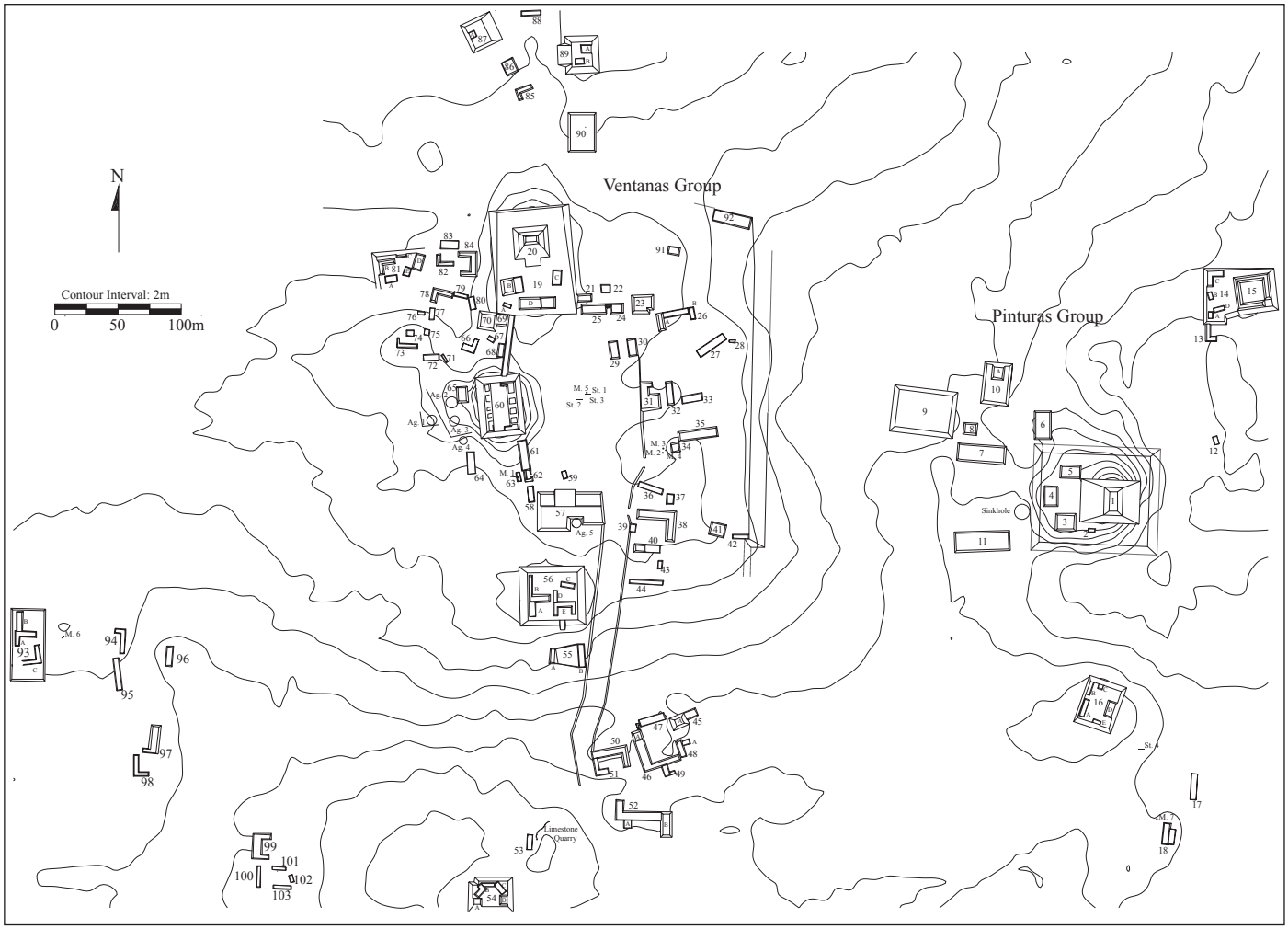


**Figure 1**. Map of the San Bartolo archaeological site.

Bartolo and the archaeological site of Xultun, located eight kilometers away. In this zone the reconnaissance team cut a *brecha* which will serve as a baseline for the future, and they proceeded to map the intersite zone, including the site of Chaj Kek' Cue. Finally, they undertook a preliminary reconnaissance of the San Bartolo regional zone, in which they located four sites including La Prueba, Las Minas, Oxtun, and Xixi.

For this reconnaissance work they used maps provided by NASA and Geographic Information System (GIS) as well as Global Postioning System (GPS) technology.

## Analysis of Ceramic Material

Kerry Sagebiel, Patricia Rivera, and Mónica Pellecer were in charge of the work of cleaning, cataloging, and analyzing the materials recovered in field investigations this season, in consultation with Fred Valdez.

Based on preliminary studies, the time period in which San Bartolo flourished extends from the Middle Preclassic (700–300 BC) to the Late Preclassic (300 BC – AD 150). The majority of the units analyzed correspond to the Late Preclassic, with intrusions of Middle Preclassic material. There is also some Protoclassic (AD 150–300) material present.

San Bartolo presents a pattern similar to that of other nearby sites, with a light occupation in the Middle Preclassic and the greatest peak in the Late Preclassic and Protoclassic, followed by a clear absence in the Early Classic (AD 300–600) and then a Late Classic (AD 600–900) resurgence. In general, an occupation corresponding to the Late Preclassic Chicanel ceramic phase has been identified in the larger structures such as Las Pinturas, Las Ventanas, the Palace, and the Ballcourt. In the residential areas, various remodelings have been identified, in the first construction phases of which Late Preclassic materials are present while Late

Classic materials predominate in the later construction phases.

Finally, Harriet Beaubien and her team have been working in the laboratory on the cleaning, conservation, and restoration of the archaeological materials such as vases, stuccoes, bones, etc.

### Residential Group Adjacent to the Ventanas Pyramid

This area was excavated by Mónica Pellecer. The residential group is located immediately to the west of the platform that supports the Ventanas architectural complex (Figure 3). The buildings sit on a leveling surface of sand and brownish, gravelly soil over bedrock. The group consists of three stuctures and a small, open patio. Structure 82 is L-shaped and sits in front of Structure 83, a rectangular platform. Structure 84 is U-shaped and located to the east of the two other buildings. The excavations revealed that these structures were originally rectangular platforms before various remodelings. But in general each takes the form of a low platform with an access step and a house of perishable material on top, although Structure 83 has the remains of very badly preserved walls.

Other interesting findings include the stones of the last construction phase, which are of different composition than those used earlier, and in the eastern section of Structure 84 one exterior wall is decorated with a cornice. Finally, a looters' tunnel was cleaned and found to contain the remains of two individuals whose funerary context was destroyed by the looters.

### Structure 63

This building is found to the south of the Palace. In the previous field season, the cleaning of one of its looters' trenches revealed the presence of a carved monument, which was partially excavated and designated Monument 1 (Figure 2). This sculpture in the round was found in the context of a ceramic deposit dating to the Late Classic period. Jessica Craig and Astrid Runggaldier completed the investigation in the current season. Complete excavation of the monument revealed a figure in the form of a monkey with a turtle on its shoulder. Some details are difficult to discern given the state of erosion due to natural factors like plant roots, rain, and solar radiation in the areas exposed to those elements. Cleaning and conservation of the monument was undertaken to address the fact that the head of sculpture was found in a fragmentary and unstable condition. This was addressed by positioning a supporting base of bags filled with sand. The monument

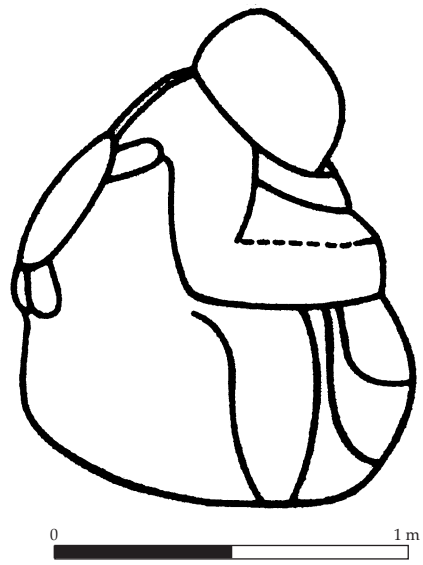


**Figure 2**. San Bartolo Monument 1 (from Craig 2005:Fig. 3).

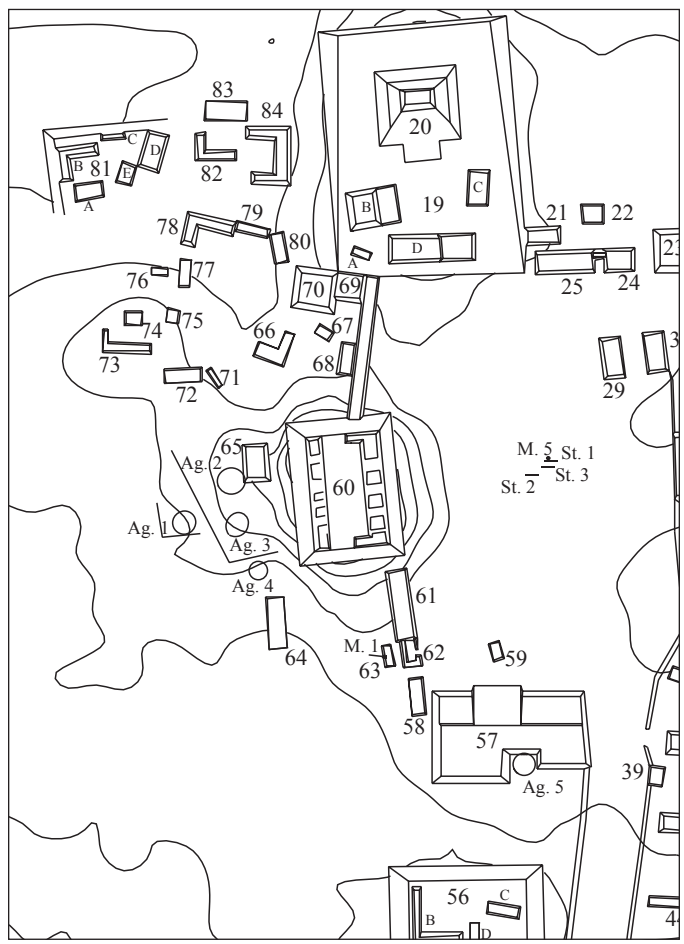


**Figure 3**. Detail of San Bartolo site map showing Ventanas architectural complex and pyramid (Structure 20), Structures 82-84, Tigrillo Palace (Structure 60), Structure 63, and find-spot of Monument 1 (M. 1).

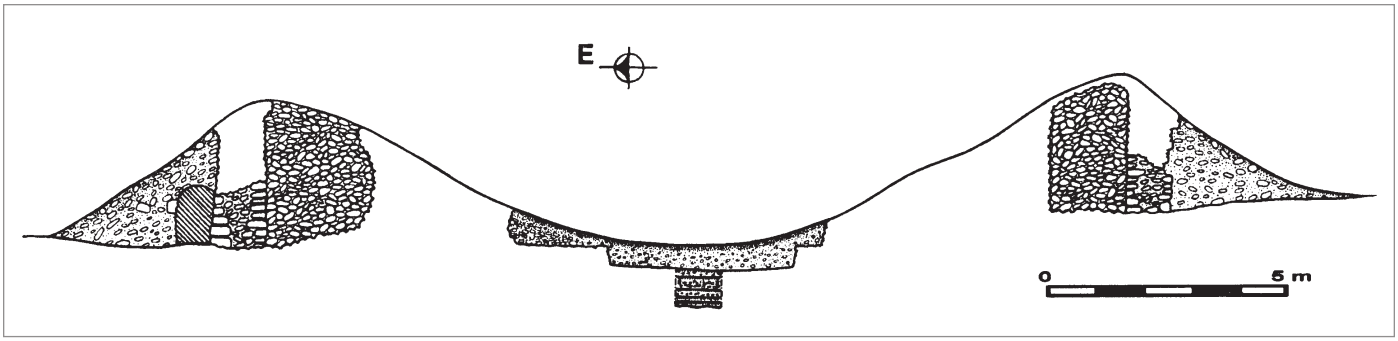


**Figure 2**. Cross-section of the San Bartolo ballcourt.

fragments were cleaned with water and brushes to be later joined together with Formula B-48N, a reversible polymer that holds up well in the ambient temperature of San Bartolo.

The excavations in Structure 63 detected at least four construction stages. The first corresponds to a leveling of clay over bedrock, followed by a series of floors associated with an unworked stone abutment which could have been a retaining wall. In the second phase a new floor was laid in association with a wall which seems to include a door jamb. For the third phase a stucco platform was constructed on top of the previous floors and it also was covered with a floor. These three phases have been dated to the Late Classic. The fourth phase saw the covering of the platform for the construction of a small enclosure that functioned as a shrine for Monument 1. This construction material also dates to the Late Classic, as does the associated ceramic deposit and a cache composed of two vases. In addition, cleaning and excavation of a long platform located between the Palace and Structure 63 was undertaken. The cleaning of a looters' tunnel in this building exposed a wall and two floors, one with an associated step. A test pit was sunk in order to observe the other side of the structure, but without success given that trees had destroyed the greater part of the architecture.

### Main Plaza

In the Main Plaza of San Bartolo, Robert Griffin sunk a five-meter test pit to the west of the Palace, on an alignment between the center of that complex and the Ventanas pyramid. This pit revealed a succession of compacted floors, which measured 15 m in total and reached a depth of 1.75 meters. The majority of these floors were .05–.10 m in thickness, and in some cases one was located beneath another with no intervening stratum. Other floors consisted of remodelings or levelings of the plaza. One thousand sherds dating to the Late Preclassic were recovered.

### Ballcourt

The ballcourt of San Bartolo, located on the east side of the Main Plaza, is comparatively small in size. Excavations by Carolina Díaz-Samayoa exposed the architecture of this small complex. The open-ended playing field is marked off by two parallel platforms, each with a bench, talud, and cornice. A succession of floors was found to cover parts of the benches of both structures, down to the level of the field (Figure 2). In general, the architecture is in a very poor state of preservation, in that trees have displaced many of the stones. In addition, seven looters' pits and trenches have left the structure in a sorry state.

### Tigrillo Palace

The Tigrillo Palace is found to the west of the Main Plaza (Figure 3). Astrid Runggaldier and Mónica Pellecer undertook investigations of its final construction phase, cleaning and recording looters' trenches. In addition they cleaned and excavated the exterior architecture on the western and northern sides. This area was found to be comprised of a building with five rooms, access to which was defined by eight stairs and a landing, which runs the length of the entire complex.

Other activities included the shoring up of sections damaged by looting and the construction of platforms on scaffolding for the collection of dirt from the excavations, in order to prevent it from falling into the plaza.

### Ventanas Pyramid

Mónica Urquizú undertook new explorations of the Ventanas pyramid. Data recovered from illicit excavations and the investigation carried out the previous year by Héctor Escobedo reveal that the pyramid is comprised of four construction phases and

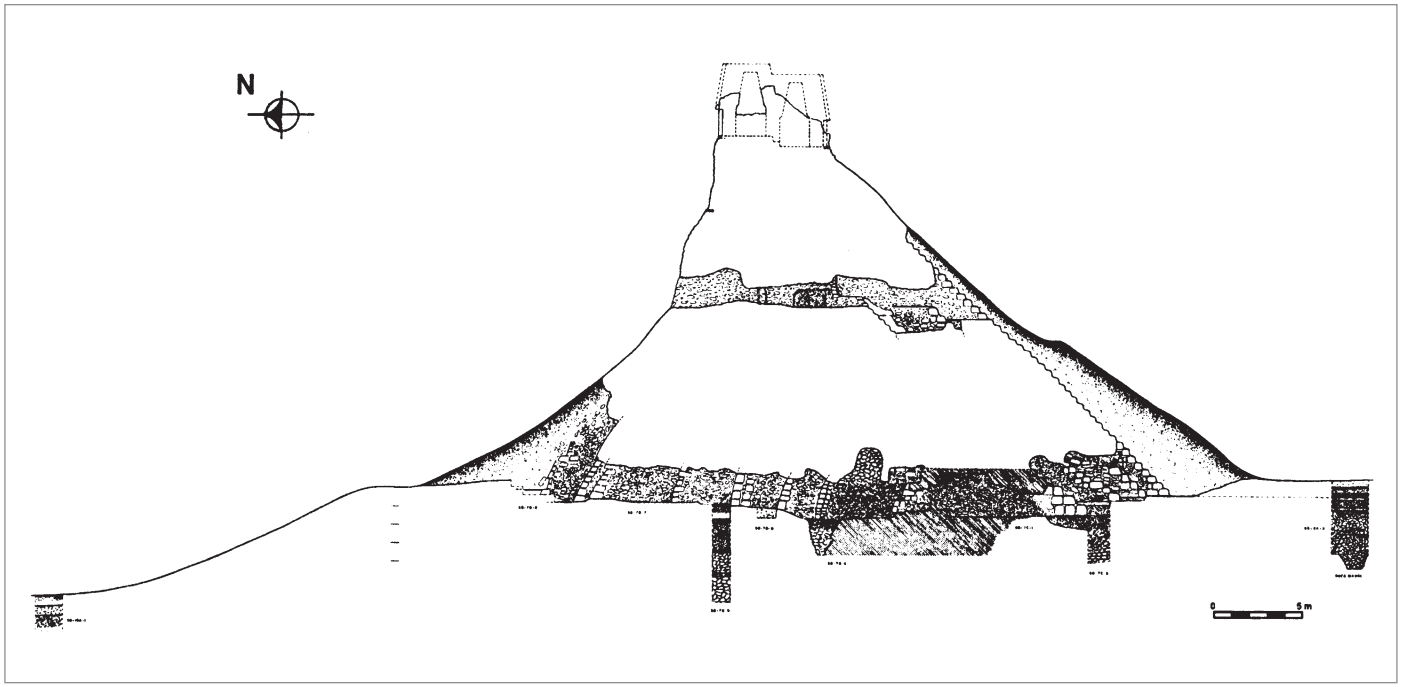


**Figure 3**. Cross-section of the Ventanas pyramid.

at least four remodelings (Figure 3). The architecture is characterized by terraces with apron moldings and fill composed of a large proportion of flint with particulate limestone. The upper portion supports chambers with masonry walls, and although no remains of vaults were found in the earlier constructions, part of a vault and its support were present in the final phase. In addition, some of the benches were uncovered as well as one of the windows that gives the pyramid its name (this was in the north wall of the sanctuary). The greater part of the building is made up of fill with very little mortar and consequent instability.

New investigations in 2003 began with the plotting of test pits in a tunnel located in the base of the pyramid at the rear. In this area the architecture of the first construction phase could be defined, with five terraces and the remains of the sanctuary wall. The masonry of this wall shows evidence of having been covered with stucco, with some signs of burning. As with the subsequent constructions, this one was partially destroyed and later covered with fill in order to begin construction of the next phase. The floors pertaining to each construction phase were identified, thereby more clearly defining the construction sequence of the building.

A looters' tunnel located in the upper part of the pyramid and running its entire length once more revealed the four construction phases. These were defined by means of very well preserved stairways, the earliest of which date to the Mamom ceramic phase. A newly discovered looters' tunnel at the base of the pyramid on the front side was also cleaned. And this tunnel also revealed the four construction phases by transecting the stuccoed stairways. The stucco here is thick and very well preserved.

A test pit was also sunk in front of the pyramid, encountering a substructure representing an earlier version of the platform that supports the building complex. This entails a platform with a talud and a well-stuccoed surface. Apparently some sections were painted red, judging by the recovered fragments in this color.

Parallel to the work of excavation, that of consolidation and preservation was begun in the Ventanas pyramid, with the reinforcing and consolidating of the building's internal fill. This was made necessary by the looters' tunnel in the rear of the building at its base and the instability of the fill, which had partially collapsed. By means of reinforcements and bracing using stones from the fill itself, the building was stablized and work could procede with safety. In a similar fashion, the looters' tunnel on the facade side of the structure was also shored up. Finally, some of the trees that were damaging the architecture of the vault were cut down, thereby relieving pressure on the walls, and these were also braced as necessary. All the work was carried out by Aciscio Alvarado, Miguel Caal, and Leslie Rainer.

## Pinturas Pyramid

The Pinturas pyramid is located about 500 m east of the Ventanas complex. Four different illicit excavations have penetrated the pyramid, two in the front and two in the rear. The main one consists of a tunnel starting in the base of the pyramid and revealing a minimum of six construction phases. In the Pinturas pyramid Sub-1 structure, William Saturno and Diana Davies completed the exposure of the mural on the north wall, and in an excavation on the exterior side of that wall they discovered a frieze with red painting. The newly cleared section of the mural shows a number of ornately attired figures, as well as motifs symbolic of creation and power, while the exterior frieze represents a stylized bird. In addition to this work, the murals on the east and west walls were partially revealed. These display scenes with courtly figures.

A smaller side door to the murals chamber was located in the south wall close to the southeast corner. And cleaning of a portion of the mural on the east wall revealed a figure in a scene of autosacrifice. Also on the east side, the facade of another construction phase of the building was located and found to be attached to the southeast corner of Pinturas Sub-1. Meanwhile, on the north side, a newly exacavated tunnel encountered a wall and a corner of another structure. Another tunnel was begun in the exterior facade of the pyramid with the intention of determining the architecture and construction sequence of this sector.

Aciscio Alvrado, Miguel Caal, and Leslie Rainer erected a wall that will serve as a base for the mural on the north side of Pinturas Sub-1 and provide for permanent stability. For this they utilized the same construction materials as those of the building itself, adding lime to the mixture in order to achieve greater solidity for the wall. They left a side door opening in the northeast corner of the building because the architecture *in situ* showed that one had existed there in the past.

A team made up of Angelyn Bass, Leslie Rainer, Harriet Beaubien, and Batyah Shtrum undertook the tasks of cleaning, conservation, and consolidation of the newly excavated sections of mural, as well analysis of the climate monitoring inside and outside the pyramid in order to establish the necessary regimen for the conservation of the mural.

## Conclusions

In its second field season, the San Bartolo Regional Archaeological Project has achieved its objectives in the field and in the lab.

Preliminary excavations in the Ventanas pyramid have revealed the structure's considerable complexity, while the construction technique seems to point to a rapid planning and execution of the work.

Investigation and conservation of the Pinturas Sub-1 building proceeded apace with the clearing of the chamber and the careful preservation of its murals and surviving architecture. The scenes of the murals display a rich political and religious ideology. This heritage of San Bartolo's inhabitants would evolve and defuse through other regions and eras.

The second field season also saw the drafting and refinement of 80% of the site map, while the discovery of new settlements around San Bartolo has shed light on the geopolitical conformation of the area.

Ceramic analysis now provides a clearer picture San Bartolo's occupation and ritual activity from the Middle Preclassic to the Late Classic. This season's finds in Structure 63 provide valuable information on religious activities from the earliest times up until the Late Classic, the final moment of the site's occupation. This was also documented by the materials recovered in the residential areas adjacent to the Ventanas pyramid.

Finally, all of the work accomplished by the multidisciplinary team of the San Bartolo Project has gone toward a greater understanding of the architectural, social, and religious development of this region from its Preclassic beginnings, when the Maya founded settlements with great civico-religious works bespeaking a complex social organization.

## Acknowledgments

We would like to take this opportunity to thank our workers from the communities of Dolores and Uaxactun, without whose help the second field season would not have been possible.

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