

**PRE-COLUMBIAN ART RESEARCH INSTITUTE**

**MONOGRAPH 4**

**A Postclassic Perspective:  
Excavations at the Maya Site  
of Santa Rita Corozal, Belize**

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## Preface

*A Postclassic Perspective* is meant to provide a preliminary and easily accessible statement both on the results of work at Santa Rita Corozal by the Corozal Postclassic Project from 1979 through 1985 and on the importance of the data in terms of our perceptions concerning ancient Maya society. The final reports on these investigations will contain a full exposition of all the detailed excavation and artifactual analysis. This monograph should bridge the gap until the full Santa Rita Corozal site report is published.

The research reported on here was indirectly birthed by the Nicaraguan revolution. Originally, D. Chase had hoped to do her dissertation work in the Chontales region of Nicaragua, exploring the prehistoric-historic interface. The events of the late '70's, however, led her to shift her dissertation research to the Maya area and the Postclassic Period in the country of Belize. A short 1978 season in northern Belize resulted in the selection of Santa Rita Corozal for the primary focus of this research with a secondary focus at Nohmul. The Corozal Postclassic Project formally began in 1979 with work at both sites. Two 10-week seasons of excavation for the dissertation were carried out at Santa Rita Corozal during the summers of 1979 and 1980. The 1979 crew consisted of an 8 person staff and 23 Belizean workers; in 1980, the crew consisted of an 11 person staff and 23 Belizean excavators. An additional full summer of laboratory work was carried out in Belmopan, Belize during the summer of 1981; some mapping also took place during the summer of 1982. These investigations not only produced abundant dissertation material (D. Chase 1982a), but also a host of other data. In 1984, after the completion of the dissertation, the National Science Foundation (BNS-8318531) awarded funds for a third 12-week season of excavation involving a staff of 15 and 32 Belizean workers. A fourth 12-week season in 1985, involving a staff of comparable size to the 1984 season, was also funded by the National Science Foundation (BNS-8509304).

Other support, both monetary and in-kind, has come from a variety of people and places over the 7 year history of the project. The original 1979 field season was funded by: private donations; The University Museum and Anthropology Department of The University of Pennsylvania; and a youth activities grant from the Philadelphia branch of the Explorer's Club. The 1980 field season was again funded through the auspices of The University Museum and Anthropology Department of The University of Pennsylvania in conjunction with grants from the New York branch of the Explorer's Club and Sigma Xi. Besides the National Science Foundation funding, a "Dean's grant" from The College of The University of Pennsylvania was also awarded for the 1984 season.

A large number of individuals were crucial to the continued survival of the Corozal Postclassic Project. At The University of Pennsylvania, these included W. Coe, P. Conn, R. Dyson, W. Goodenough, F. Johnston, and R. Sharer. At the University of Central Florida, W. Brown, J. Burr, D. Fabianic, R. Llewellyn, R. Okoniewski, and J. Rollins aided in the transfer of the project from its Princeton base to Florida in 1984. Help has also come from a series of other sources. D. Freidel of the neighboring Cerros Project provided the heavy equipment necessary for both the 1979 and 1980 field seasons, all of which T. Castillo graciously stored in between seasons. N. Hammond provided a full-scale Corozal Project map of the site; R. Sidrys also provided a copy of his Santa Rita Corozal map to the project. R. Schyberg donated a much needed vehicle to the project for the 1984 and 1985 seasons. The Pendergasts permitted us to use their Belmopan house for the 1981 season of analysis. J. Espat kept both the vehicles running and

our spirits up during all the years of the project. The Miguel family of San Antonio participated in many aspects of the project and kept the staff well fed during the 1984 and 1985 seasons. S. Hall, W. Hall, W. Miguel, L. Ramirez, J. Trummer, and J. Wilson all provided permission for excavations to be conducted on their land. Others, such as V. Marin and O. Margana, helped by providing the boxes needed for shipping the artifacts to our state-side laboratory for further analysis. The Belizean work crews all came from Corozal, Patchchacan, San Antonio, San Pablo, and Xaibe; for them, we are sure that excavation at Santa Rita Corozal was more than just another job. The staff for all field seasons was composed of individuals who often worked 15-hour days without recompense; all are sincerely thanked. Additionally, numerous people aided and are still helping in the analysis of the Santa Rita materials; their hard and patient work is also most gratefully acknowledged. Finally, we would also note the generous assistance of the Belize Department of Archaeology (variously under the direction of E. Graham Pendergast, H. Topsey, and W. Branche during the lifespan of the project) and their frequent and welcome visits to Santa Rita Corozal.

Standards used within this monograph are those that have proven themselves in the past. All structure plans are presented at a scale of 1:100 (original scale of 1:20) with the exception of Figure 8 which is presented at a scale of 1:150; the site map is presented at a scale of 1:4000 (original scale of 1:1000); all vessels are presented at an inked scale of 1:4 (original scale of 1:1). The ceramics types that are named within are formally defined elsewhere (D. Chase 1982a, 1982b, 1984); the earlier phases and ceramic types are currently being established, although some of these have been presented (A. Chase and D. Chase 1987a; D. Chase in press b). All in-field photographs are by D. Chase; artifact photographs were prepared by M. Greathouse and R. Spencer. All line-drawings are based on in-field or laboratory drawings by the project staff. The majority of these have been inked for publication by either D. Chase (Figures 1, 4, 5, 8, 9, 11, 13-15, 17, 18, 22, 38, and 41) K. Kievit (Figures 4-6, 8, 11, 14, 17-23, 26, 27, 31, 35, and 38), or S. Ruch (Figures 11, 24, 25, 32, and 33); the map was inked by A. Chase (Figures 42-52). Some additional illustrations were provided by S. Jaeger (Figures 55 and 56), M. Kirkpatrick (Figure 8f upper) and C. Pope (Figures 53 and 54). The reduction and printing of the illustrations were done by M. Greathouse, R. Spencer, and J. Hughes of Instructional Resources at the University of Central Florida. S. Jaeger compiled the bibliographic references. C. Clara of Computer Services of the University of Central Florida provided technical assistance; Prem Purushothaman and Denise Herron also helped with computer processing. Finally, R. Okoniewski of the Division of Sponsored Research at the University of Central Florida was instrumental in ensuring that the appropriate facilities were available so that the text and linework could be properly prepared.

To all of the above, we offer our sincere gratitude.

## A Postclassic Perspective: Excavations at the Maya Site of Santa Rita Corozal, Belize

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Since the first substantial research by the Carnegie Institution of Washington at Chichen Itza and Mayapan in the Yucatan Peninsula of Mexico (Figure 1), the interpretation of Postclassic Maya society has proved to be problematic for the archaeologist. Postclassic Maya material culture was noted very early as being distinct from preceding Classic remains. In fact, rather than defining its positive attributes, Maya researchers have found it easier to characterize the Postclassic Maya by reference to negative criteria when compared to the Classic Period; this is specifically seen in the literature through an emphasis on the cessation of stelae erection, on the lack of tall monumental architecture, and on the production of what have been interpreted as standardized ceramics during the Postclassic Period (Morley 1947; J. Thompson 1966, 1970; Erasmus 1968; Bronitsky 1978; Willey 1982). There has long been speculation on the reasons for these temporal differences, with suggestions varying from decadence (Proskouriakoff 1955; Willey 1982) to cost-control (Sabloff and Rathje 1975a, 1975b; Rathje 1975) to elite replacement (J. Thompson 1966, 1970; cf., Freidel 1981a). While it is generally agreed that the term "Postclassic" has both a developmental and temporal aspect (Holden 1957:75), a full definition of this period - its changes and the models which best explain it - are still being debated (cf., Chase and Rice 1985; Sabloff and Andrews 1986).

Until fairly recently, the Postclassic Maya have not served as a prominent focus for research. Early work on the Postclassic Maya site of Mayapan by the Carnegie Institution of Washington allowed for the possibility that these late Maya may have been in the process of developing a more successful unified government or that "the destruction of an obsolete hierarchy may have opened the way for a more flexible social organization" (Proskouriakoff 1954:103); at the same time, members of the Mayapan project firmly stamped the Late Postclassic Maya as participants of a declining civilization rife with cultural decay. Mayapan itself was viewed as "a pale reflection of earlier glories" (Proskouriakoff 1955:82). The stigma of decline and decay has largely remained with the late Maya, particularly in popular writings (Gallenkamp 1985) and these Maya continue to be viewed as very different from their earlier ancestors. Nevertheless, the Postclassic Maya are the sole link between the Maya encountered and described by Europeans following voyages of conquest and discovery during the 16th century and the Classic Period Maya, who centuries earlier (A.D. 250-950) occupied the many ancient sites in the lowlands. And, even though the Postclassic and Historic Period Maya are viewed as being very different from their Classic Period ancestors, ethnohistoric information written by 16th century Europeans about the Maya shortly following initial contact continues to be applied directly to the earlier Maya as if no changes had occurred either between the Classic and Postclassic Periods or following contact between the Spanish and the Maya. Thus, a basic dichotomy exists with regard to the late Maya - on one hand they are viewed as a "pale reflection" of the Classic Period, but on the other hand second-hand information about them has been applied, often uncritically, to the Maya of the Classic Period.



Corozal Postclassic Project investigations at Santa Rita Corozal, Belize, carried out from 1979 through 1985, were initiated precisely to resolve this dichotomy and to fill in the transitional gap between the Postclassic and Historic eras with detailed archaeological information. In spite of physical destruction to many of its mounds, the site of Santa Rita Corozal was considered to be the perfect locale for such work for several reasons. First, unlike Mayapan which was supposedly abandoned long before the advent of Europeans in the New World (ca. A.D. 1440), ethnohistoric documents indicated that Santa Rita Corozal was occupied at the time of contact and survived only a short time after the arrival of the Spaniards. Second, previous excavations had demonstrated that the site had a large and important Late Postclassic occupation. Finally, the initial archaeological work done at the turn of the twentieth century also demonstrated that Santa Rita Corozal was not a single phase site, but also had widespread earlier Maya remains.

An important offshoot of the Corozal Postclassic Project investigations has been the demonstrated need to use archaeology as part of a critical methodology for evaluating ethnohistoric materials pertaining to the Maya. Early historic documents, penned largely by the Spanish priests, conquerors, and administrators were sometimes written years following the initial period of contact. The fact that ethnohistoric documents were written by the Europeans rather than the Maya themselves means that cultural bias obscures certain descriptions or interpretations. Because the major documents about the Maya were also written long after contact, they also did not account for the very real possibility that there had been significant change in Maya culture, including acculturation to and assimilation of European customs; practices that were not typical of preconquest Maya were likely incorporated unknowingly within these accounts. Thus, besides the need for critically evaluating ethnohistoric sources (see also Davies 1987:10, Jones 1986:74-78, and J. Thompson 1970:xiii), it is clear that some answers to the nature of Maya society in the Late Postclassic Period can only be provided through archaeology.

While there have been various specific research questions employed to help direct archaeological investigations, an additional tenet to all research by the Corozal Postclassic Project at Santa Rita Corozal was the gathering of information to evaluate the similarities and differences between the Classic and Postclassic Maya as well as the ways in which these differences impact on reconstructions of the Maya or on the theories used to explain Maya cultural evolution. To some, the evaluation of similarities and differences might seem a naive undertaking, especially as every Mayanist knows that the material cultures of the Classic and Postclassic Maya were distinctive. Pottery from the two periods emphasized different forms and kinds of decoration; polychrome slips were characteristic of the Classic Period while post-fire painting was more predominant in the Postclassic. Lithic tool assemblages also varied; the introduction of new weapons during the Postclassic Period is indicated by the predominance of small side notched points (see Appendix III). Classic Period monumental architecture is replaced in the Postclassic Period with relatively low-lying and unpretentious constructions in combination with a greater emphasis on perishable building materials. The late Maya did not erect stelae with long count dates as did their predecessors, or, if they did, the stones, like their censers, were painted, but not carved, with such information. However, the necessary evaluation must go beyond the simple identification of differences in material culture to include an interpretation of the significance of the variations between the two periods and the nature of changes in cultural behaviors, such as in burial practices or caching. Work at Santa Rita Corozal has helped to resolve these problems by firming up the linkages between the Historic, Postclassic, and Classic Period Maya. Importantly, then, this re-



Fig. 1 Map of Maya area showing the location of Santa Rita Corozal relative to other Maya sites. search also can provide a slightly different Postclassic perspective to the reconstruction of earlier Maya society.

#### The Lowland Maya Postclassic

The Lowland Maya Postclassic is bounded temporally by the Classic Maya "collapse" following A.D. 889 (in an 11.16.0.0 correlation) and by Spanish contact following 1506 (see A. Chase and D. Chase 1985 and A. Chase 1986). Most researchers can readily identify Postclassic occupation on the basis of its material culture; however, the limits of the period are hard to fix with any permanence and vary from region to region. While it is generally agreed the Maya collapse began in and pertains primarily to the Southern Lowlands, it appears to have occurred at

different sites at different times. Portions of the Southern Lowland Maya area never completely collapsed (A. Chase 1979; Pendergast 1981a, 1986; D. Rice 1986) while the Northern Lowlands apparently continued to prosper without suffering the effects evident in the south (Andrews IV 1965). Most scholars do agree, however, that the Southern Lowland collapse, as determined by cessation of monument erection, took place within a period of 50-100 years (Adams 1977:222; Hamblin and Pitcher 1980; Morley, Brainerd, and Sharer 1983:140).

Just as the collapse may be generally dated as following A.D. 889, the upper limits of the Postclassic Period have similarly been arbitrarily defined to coincide with first European contact. Like the collapse, however, this dating varies in the Maya Lowlands with the earliest contact being made in 1506 (Brinton 1882:132). Unlike the abrupt changes that have been recognized as occurring between Classic and Postclassic material culture, it appears that Postclassic material culture did not change immediately following contact (Pendergast 1977, 1981, 1985a; Graham 1987a:91; Charlton 1968, 1969).

Developmentally, "the Postclassic Stage in the New World is defined by features of, or tendencies toward, urbanism, secularism, and militarism" (Willey and Phillips 1958:128-38). As Holden (1957:101) has pointed out, however, these three features or tendencies may not always be found in association. While militarism is thought to be fairly universal during the Postclassic in Mesoamerica (Erasmus 1968; Rathje 1975; Cowgill 1979; Willey 1982; Repetto Tio 1985), few Postclassic sites have been viewed as totally urban (Haviland 1970; Andrews IV and Andrews 1975; Drennan 1988), and, at least one feature, secularism (J. Thompson 1970; Sabloff et al. 1974; Freidel and Sabloff 1984:192), is extremely hard to verify archaeologically.

In contrast to the Classic Period, the Maya Postclassic has been viewed as a time of decadence, decline, and degeneration (see Proskouriakoff 1955; Willey 1982). Other perspectives, however, have been receiving increased support in the literature (Erasmus 1968; D. Chase 1981; Sharer 1977, 1982). Briefly, Erasmus (1968:188) viewed the Maya Postclassic as characterized by increased stratification in the authority structure due to invasion and/or competition for resources; increased stratification and warfare were seen as necessarily reducing the input of labor in the monumental aspects associated with Classic Maya society. Erasmus (1968) further indicated that the Classic Maya collapse may represent a change from rank to state society. Sabloff and Rathje (1975b) suggested that the dissimilarities between Classic and Postclassic remains might be interpreted as reflecting a shift in emphasis towards mercantilism. Rathje (1975:435-6) also asserted that the Late Postclassic was a logical outgrowth of previous patterns and might be best explained by changes in cost-control mechanisms rather than by reference to decadence. He indicated that Classic populations were integrated primarily through their elite while Postclassic ones were integrated by commerce. Using settlement pattern data, Freidel (1981a:330-331) alternatively proposed that the Postclassic Maya might have been characterized by a more theocratic society rather than one controlled by a military or mercantile oligarchy. In keeping with this suggestion, Freidel and Sabloff (1984:192-193) have clearly noted the important role that religion must have played in integrating the Postclassic society of Cozumel Island. Thus, although numerous and differing perspectives have been offered in the literature to explain the orientation and organization of Postclassic Maya society, no unified picture has emerged.

#### Archaeology of the Lowland Maya Postclassic

Archaeological data on the Postclassic have been derived from a number of sites and regions within the Maya Lowlands and research on the period has in-

creased substantially within the last decade. However, the extensive excavations at the Northern Lowland site of Mayapan (Pollock et al. 1962), one of the earliest investigations of the topic, still form the basis for most generalizations about the Postclassic Period, largely because of the extent of the site and the scale of the work undertaken there. Slightly earlier excavations at Chichen-Itza (Ruppert 1935, 1952; Brainerd 1958; Bolles 1977; Coggins and Shane 1984), while clearly important for understanding the earlier part of the Postclassic, are not nearly as well documented as Mayapan artifactually, although architectural recording of the site is abundant. As new data have been collected in the Northern Lowlands, the older view concerning the isolated nature of Chichen Itza has been changing in favor of a more holistic perspective (see Adams 1971; Andrews et al. 1988; Andrews V 1978; Andrews IV and Andrews V 1980; Ball 1979a, 1979b; D. Chase and A. Chase 1982; Cowgill 1964; Lincoln 1986; Pollock 1952:238-239, 1965:393).

Investigations on the Postclassic in the Campeche region consist primarily of work by Ruz (1969) and Andrews IV (1943); these studies are important today in any consideration of the ethnic composition of this and other areas, specifically with regard to the "Putun." On the east coast of Yucatan, a series of Postclassic sites have been recorded (Andrews IV and Andrews 1975; Andrews and Robles 1986; Robles and Andrews 1986; Andrews et al. 1988). The sites of Tulum (Lothrop 1924; Sanders 1960; Miller 1973, 1977) and Tancah (Miller 1982) are particularly significant for their combined architectural, artifactual, and mural information. The Postclassic sites on Cozumel Island have also been investigated as part of a larger research design bearing on the nature Postclassic trade (Rathje and Sabloff 1973; Sabloff 1977; Sabloff and Freidel 1975; Sabloff and Rathje 1973, 1975a, 1975b; Sabloff et al. 1974; Hamblin 1984; Freidel and Sabloff 1984). Further south, Harrison (1979) has surveyed Postclassic remains in Quintana Roo.

In northern Belize important work having a bearing on the Postclassic has been undertaken at: Altun Ha (Pendergast 1967) where a Postclassic overlay has been found, Lamanai (Pendergast 1977, 1981a-c, 1985a, 1986; Loten 1985; Graham 1987a), where there is a continuous sequence from Classic through Postclassic; Colha (Adams and Valdez 1980; Hester 1979; Hester, Eaton, and Shafer 1980; Valdez and Adams 1982; Valdez 1987) where there appears to have been a violent end to the Classic Period population of the site with a subsequent replacement by early Postclassic peoples; Nohmul (D. Chase and A. Chase 1982; D. Chase 1982a; Hammond 1974), where Chichen related influences seem to have been at work during the Terminal Classic - Early Postclassic transition; Santa Rita Corozal (D. Chase various), which appears to have been the protohistoric capital of Chetumal; and a number of other sites in the northern part of the country (see Sidrys 1983; Box 1988). Recent work in central Belize by Graham, Jones, and Kautz (1985; Jones, Kautz, and Graham 1986) has focused on the problems of correlating ethnohistory and archaeology for the early Historic Period at Macal-Tipu (Negroman). To the west, the central Peten has long been noted for its Postclassic occupation (Avendano 1696; Means 1917; Guthe 1921, 1922; Cowgill 1963; Bullard 1970, 1973; A. Chase 1979, 1983, 1985b; D. Rice 1986; P. Rice 1979, 1986; D. Rice and P. Rice 1981, P. Rice and D. Rice 1985). Work there, however, has served to cause significant controversy as to the relative merits of ethnohistoric versus archaeological evidence in establishing ethnic identity and in identifying specific historic locations (A. Chase 1976, 1982, 1985b; Jones, Rice, and Rice 1981).

#### Ethnohistory, Archaeology and the Protohistoric Maya

Research on Postclassic Lowland Maya society has been aided by documentary accounts of the Maya at the time of Spanish contact (*Relaciones de Yucatan*



1898-1900; Avendano 1696; Tozzer 1941). While these manuscripts do not cover all aspects of ancient Maya life and are to a certain extent subjective, they do provide an extensive body of data on Maya cultural practices. Up to this point, however, use of combined ethnohistoric and archaeological work in the Maya Lowlands has been limited - perhaps because of the problem in correlating ethnohistorically known towns with archaeological sites (J. Thompson 1972; A. Chase 1976, 1982; Graham, Jones, and Kautz 1985; Jones, Rice, and Rice 1981; Jones 1981; Pendergast 1985a). Such research, however, is clearly desirable (cf. Spores 1980) for not only can ethnohistory provide models for archaeological testing, but in conjunction with more traditional methods of evaluating historical documents, archaeology can also be employed as a critical methodology to analyze and interpret these sources. Such critical review of ethnohistory and Postclassic archaeology is also necessary as an intermediate step prior to making interpretations about earlier eras (cf., Davies 1987; Jones 1986; Nicholson 1955, 1965), just as it is necessary in attempts to bridge the gap from modern to prehistoric Maya culture (R. Thompson 1958; Reina and Hill 1978; Jones 1986:84).

There are various types of documentary sources which contain information relevant to the Protohistoric Lowland Maya. These consist of native Maya pictorial texts (codices) as well as written texts (generally chronicles such as the books of *Chilam Balam*). Perhaps the most useful information concerning Protohistoric Maya cultural practices, however, exists in those documents written by Europeans (Nicholson 1965). Much of this information for the Northern Lowlands can be found in the *Relaciones de Yucatan*. One of the most comprehensive descriptions of the early Historic Period Maya exists in the work of Diego de Landa (Tozzer 1941). Although he was noted to have availed himself of other manuscripts in existence while writing his *relacion* (Ganet 1934), and even though it is often unclear which of his descriptions came from personal observation opposed to a Maya informant, his work still contains a wealth of knowledge and remains one of the most commonly cited in reference to Lowland Maya cultural practices (see Roys 1943, D. Chase 1986). In addition to the primary source material, comprehensive studies of Lowland Maya ethnohistory have been made by more recent scholars, particularly Roys (1933, 1943, 1952, 1957, 1960, 1962, 1965) and Farriss (1984).

In spite of the multitude of documents that exist for the early Historic Maya, the ethnohistory is nowhere absolutely complete and, on many occasions, is contradictory or nebulous. Despite work at Mayapan and Chichen Itza in northern Yucatan and more recent work on the Postclassic in the central Peten and Belize, it is still difficult to assess the bulk of ethnohistoric statements concerning Lowland Maya society. While the complementary relationship between ethnohistory and archaeology in Mesoamerica is a frequent topic for discussion (Spores 1980; Jones 1986), combined ethnohistoric and archaeological work concerning the Lowland Maya has tended to focus on specific problems such as trade (Andrews 1983; Chapman 1957; Freidel and Sabloff 1984; Jones 1981; Sabloff and Rathje 1973, 1975a, 1975b), assimilation (Jones 1979, 1981), or the location of peoples and places (A. Chase 1976, 1982, 1985b; J. Thompson 1977; Jones 1981; Jones, Rice and Rice 1981). Lowland Maya ethnohistorical sources have also been used as a means for filling out archaeological information (Wauchope 1938; J. Thompson 1951; Cowgill 1963). Outside the Maya Lowlands, however, there have been substantial attempts to correlate ethnohistory and archaeology, particularly in Highland Guatemala (Carmack 1973, 1981; Carmack and Weeks 1981; Guillemin 1965, 1977; R. Hill 1982; Wallace and Carmack 1977; Fox 1978) and Mexico (Calnek 1972, 1976; Charlton 1969, 1972; Spores 1980). Much of this areal difference can be ascribed to the fact that known historic sites exist in these

latter areas, that they are more easily identified, and/or that the researchers involved are asking different questions. Even outside the Maya Lowlands, however, a reciprocal relationship between ethnohistory and archaeology is only rarely established; thus, while archaeological interpretations and models are frequently modified based upon ethnohistoric data in Mesoamerican research, the converse is uncommon.

Santa Rita Corozal is one of only two known sites that can be credibly identified as regional Maya capitals at the time of the Spanish conquest and one of the few sites that can even be dated to this time period. The site is unusual in having demonstrated and widespread Late Postclassic occupation associated with abundant material remains (particularly constructions and associated refuse deposits as well as burials and caches). Investigations by the Corozal Postclassic Project at Santa Rita Corozal in northern Belize in 1979, 1980, 1984, and 1985 have demonstrated that archaeology there can be successfully utilized to both augment and refine certain ethnohistoric accounts of Late Postclassic life and activities - from descriptions of general house plans to specific ritual activities such as New Year's ceremonies (D. Chase 1981, 1982a, 1985a:118-124, 1985b, 1986).

### Investigations at Santa Rita Corozal

Santa Rita Corozal is located in and around modern Corozal Town in northern Belize (Figure 2). The site manifests a long history of occupation, but is most conspicuous for its Postclassic Period remains. The first archaeological investigations at the site were carried out in the late 19th and early 20th centuries by Thomas Gann (1900, 1911, 1914, 1918; Gann and Gann 1939), a medical doctor stationed in Corozal Town. Even at this early date, the site was being destroyed and mounds were being dismantled as a source of building material for Corozal Town. Gann (1900:Fig. 4; 1918:Fig. 1) roughly mapped the site and excavated in most of the structures he noted; his excavations recovered 8 Late Postclassic caches and at least 17 Postclassic interments in the more than 47 structures that he investigated (D. Chase 1982a:Tables 1, 3, and 8). His most referred to Postclassic finds consisted of caches with unusual modeled and painted figures (Figure 3) and his "Mound 1," a structure with painted murals. The conspicuous Santa Rita Corozal Postclassic modeled and painted cache figures and figurines were well illustrated in Gann's reports and are similar to others found at Mayapan (Smith 1971:Figs. 64a, b, i, j, k, n, o; 65h, i, j) and Lamanai (Pendergast 1985a:Fig. 5b, 1985b:Figs. 1 and 2). The Structure 1 murals were only partially recorded (Figure 40), having been destroyed by the local populace prior to completion of the project (Gann 1900:665-677; Hammond 1982); they are particularly important because of their art historical interpretation of an unusual combination of Mixteca-Puebla horizon-style figures with Maya hieroglyphs; however, no unified interpretation of these murals exists in the literature (Nicholson 1955, 1960, 1961; Quirarte 1974, 1982; Robertson 1970). A summary of Gann's investigations at Santa Rita Corozal has been presented elsewhere (D. Chase 1982a:30-74).

Later excavations were carried out at Santa Rita by Green (1973), Pring (1973:62-67; Hammond 1974:24), and Sidrys (1976:332-344; 1983:124-159). Sidrys' Excavation 37 contained mural fragments and a carbon sample from a deposit twelve centimeters above a floor which yielded a C14 date of A.D. 1425 ± 40. He (1976; 1983:132-149) suggested that his Excavation 37 had encountered the remains of Mound 1; in spite of the fact that this area was completely bulldozed prior to Corozal Postclassic Project work in 1979, both further archaeological work in this area and the mapped distribution of structures support his conclusion.



Fig 2 Photograph of 1984 re-excavation of Thomas Gann's trench through Structure 42 showing the growth of modern Corozal Town over the archaeological site.

While Gann's work had established the importance of Late Postclassic Santa Rita Corozal, it was difficult to place his findings at the site in the context of more thoroughly excavated and reported sites such as Mayapan (Pollock et al. 1962; Smith 1971). Later research (Green 1973; Pring 1973; Sidrys 1976, 1983) had indicated that large portions of the site were still in existence, in spite of subsequent modernization and Gann's extensive digging. Accordingly, the site was selected for excavation as part of the program of research undertaken by the Corozal Postclassic Project in 1979 and 1980 (A. Chase 1980; A. Chase and D. Chase 1981; D. Chase 1981, 1982a, 1984; D. Chase and A. Chase 1980). These initial investigations indicated both the extent of Santa Rita (ca. 4 square kilometers) and the relative archaeological "wealth" of the site as compared to the known destruction due to modernization.

Mapping the site of Santa Rita Corozal began during the first season of the project in 1979 and was finally completed during 1985. Mapping at Santa Rita Corozal was an extremely difficult problem given modern locations of houses and the use of mechanical land-clearing devices. This problem was increased by the proclivity of Postclassic peoples for constructing low buildings. A good number of the structures indicated on the site map (Appendix I) are raised less than 20 cm above the surrounding area. Yet, an even larger number of Postclassic buildings have either been destroyed or are not visible above the ground surface (D. Chase

in press a), thus suggesting that the density of occupation of Postclassic Santa Rita Corozal was far greater than that indicated by the structures actually mapped.

Excavations during 1979 and 1980 focused largely on the Northeast and North Central Sectors of the site and attempted to sample as many different structure types as possible based upon an interpretation of surface remains. These investigations provided information on the temporal delineation (Table 1) and cultural variability to be found within the site and set the stage for later investigations by outlining the kinds of questions that could be asked regarding the Postclassic occupation of Santa Rita Corozal. During the first two years, a total of 17 structures were investigated, primarily through an excavation methodology using combined trenching and areal clearing. Work also revealed 72 special deposits (plus 1 privy and 6 hearths), of which 19 were Postclassic burials containing 31 individuals and 5 were Postclassic caches. While extensive Postclassic remains were recovered, these excavations also encountered significant earlier occupation. This initial research allowed for a re-interpretation of certain of Gann's discoveries at the site by permitting the placement of much of his work into a more secure archaeological context; this has also allowed his data to be used in discussions of site and ritual organization (see D. Chase 1982a, 1985b, and later sections in this monograph).

More importantly, these initial excavations also demonstrated that Santa Rita Corozal, even in its present state, was a unique site capable of providing archaeological information directly relevant to Lowland Maya ethnohistoric data. Analysis of the 1979 and 1980 investigations led to the recognition of significant relationships between ethnohistoric descriptions of the Protohistoric Maya of the Northern Lowlands and the Late Postclassic archaeological evidence from Santa Rita Corozal (D. Chase 1982a, 1985a, 1985b, 1986).

As a result of the 1979 and 1980 work, it was determined that Santa Rita Corozal still remained the ideal locale for the further testing of models relating to Late Postclassic site, ritual, and social organization. The reasons for this were many. First, relatively untouched portions of the site still existed and data from earlier excavations could be used to supplement the more recent work by the



Fig 3 Modeled and painted figures encountered by Thomas Gann. Left figure of a kneeling warrior is from Structure 24. Right figure of a woman with a mantle of cloth hiding her face is from Structure 6.



Corozal Postclassic Project. Second, the 1979 and 1980 archaeological work indicated that most of the site dated to the Late Postclassic - Protohistoric Period. Third, both archaeology and ethnohistory (Roys 1957) suggested that Yucatec analogy was appropriate. Fourth, Santa Rita Corozal was the probable location of the Maya capital of Chetumal (J. Thompson 1972; D. Chase 1981; see also subsequent discussions) and, as such, it was the only archaeologically identified site from the 17 Northern Lowland provinces known to be a regional capital at the time of the Spanish conquest. And, finally, work at Santa Rita Corozal had indicated that a larger sample of excavated caches, burials, and structures would produce the required data necessary to test models generated from ethnohistory and archaeology.

Accordingly, a second phase of investigations was undertaken at Santa Rita Corozal during 1984 and 1985. This research specifically focused on the structural organization of Lowland Maya society during the Late Postclassic Period. In order to guide excavation, three idealized models were conceptualized in heuristically opposing sets which, although not mutually exclusive, represented the extremes of variation along a continuum. These were derived primarily from the extant ethnohistory (specifically from Landa - Tozzer 1941 - and Roys various) and modified slightly based on past examination of Classic and Postclassic archaeology (Pollock et al. 1962; M. Coe 1965; J. Thompson 1966, 1970; Kurjack 1974; Kurjack and Garza T. 1981; Arnold and Ford 1980; Folan et al. 1982; Ford and Arnold 1982; Ashmore 1981b:404-409; Freidel 1981a, 1981b). The three sets of contrastive models postulated for testing during the 1984 and 1985 seasons were: (1) the concentric versus sector models of site organization; (2) the regulated, potentially directional, calendric versus dissipated, individual worship models of ritual organization; and (3) the disjunctive versus gradation models of social organization. Two excavation sub-programs were run coevally during the work undertaken in 1984 and 1985; each had a sampling strategy pointed toward excavation of differing structure types. Excavations were conducted primarily in the more southern sectors of the site in order to gain comparative material for the already extant 1979 and 1980 data. Intensive Sector Investigations focused on the South Intermediate Sector; this complemented the focus on the Northeast Sector during the initial two seasons. The Structure Variability and General Testing Sub-Program investigated the structures in other sectors (primarily the North Central Sector) to serve as comparative data for the intensively excavated Northeast and South Intermediate Sectors. The 1984 and 1985 research not only added substantially to information on the structure of Late Postclassic social organization, but also served to document important archaeological information from a site slated for destruction due to the extensive modern housing developments being placed in previously "untouched" sectors of the site. As a result of the 1984 and 1985 seasons, an additional 29 structures were tested, the majority witnessing large-scale areal excavation. These investigations resulted in the recovery of another 80 special deposits (not including 3 hearths), which included 10 Postclassic caches and 23 Late Postclassic burials representing 38 individuals.

While work during all seasons emphasized Postclassic Period remains, evidence of widespread occupation during earlier periods was also encountered and recorded (Table 1). Santa Rita Corozal is not generally noted for its Preclassic remains; however, it is clear that there was a sizeable Preclassic occupation at the site. Swasey-related "Early Preclassic" deposits were found in 1980 excavations in the Southwest Sector (D. Chase 1983; D. Chase and A. Chase 1986a:5-6). Transitional deposits dating to the Middle Preclassic were encountered in the North Central Sector in 1984, as well as in the Southwest Sector (see A. Chase and D. Chase 1987a:51 and Figure 38). Late Preclassic occupation at Santa Rita

Table 1 Santa Rita Corozal Ceramic Complexes: Names and Dating.

Postclassic	Xabalxab	late facet	AD 1300-1550
		early facet	AD 1150-1300
Terminal Classic	Natalnat		AD 850-1150
Late Classic	Emelem		AD 550 - 850
Early Classic	Hokenhok		AD 300 - 550
Protoclassic	Mocolmoc		AD 200 - 300
Late Preclassic	Pakalpak		300 BC-AD 200
Middle Preclassic	Ebeleb		900 - 300 BC
Early Preclassic	Vecelvec		? - 900 BC

Corozal is abundant and encountered in all sectors of the site, as are Protoclassic ceramics and deposits, albeit in less abundance than those of the Late Preclassic. The Early Classic Period marks one of the peaks of occupation at Santa Rita Corozal and Early Classic deposits are also found in all sectors; the most elaborate deposits and constructions from this era center on Structure 7 (Figures 12, 13 and 14). Remains representing the Late to Terminal Classic Periods at Santa Rita Corozal are found throughout the site, but it is difficult to describe Terminal Classic occupation as Terminal Classic refuse was often re-used as construction fill by Late Postclassic peoples, thus making it almost impossible to establish the original contexts of these deposits. Without doubt, however, the Late Postclassic occupation at Santa Rita Corozal is the most extensive at the site, existing in all sectors and in nearly all excavation locales.

Because the Corozal Postclassic Project sought not only to define the Late Postclassic occupation at Santa Rita Corozal, but also to assess continuities and disjunctions between the Postclassic and Historic Periods as well as between the Classic and Postclassic Periods, it was necessary to securely establish both the spatial and temporal parameters for the site. On a temporal level, this was accomplished through stratigraphic excavations and carbon-14 dating (Table 2);

Table 2 Corozal Postclassic Project Carbon-14 Dates from Santa Rita Corozal.

FieldNumber	Lab #	1-SigmaDate	RangeInYears	Mean Date
P2B/9-2	Beta-18068	780 ± 70BP	1190 - 1315	AD1253 ± 70
P2B/15-1	Beta-18069	1580 ± 100BP	230 - 610	AD 420 ± 100
P2B/27-1	Beta-18070	2990 ± 120BP	-1520 - -900	BC1210 ± 120
P2B/70-2	Beta-18071	1600 ± 70 BP	245 - 585	AD 415 ± 70
P3B/75-1	Beta-18076	530 ± 60 BP	1325 - 1430	AD 1378 ± 60
P6F/9-1	Penn-3076	880 ± 190 BP	850 - 1395	AD1123 ± 190
P6F/19-1	Beta-18078	610 ± 60BP	1270 - 1410	AD 1340 ± 60
P6F/33-1	Beta-18079	930 ± 110 BP	895 - 1255	AD1075 ± 110
P6F/33-2	Penn-3074	650 ± 40 BP	1255 - 1400	AD 1328 ± 40
P6F/51-8	Beta-18080	490 ± 100 BP	1315 - 1520	AD1418 ± 100
P8C/9-1	Penn-3073	740 ± 50 BP	1215 - 1330	AD 1273 ± 50
P8C/48-8	Beta-18081	660 ± 80. BP	1225 - 1415	AD 1320 ± 80
P8C/62-1	Beta-18082	730 ± 70 BP	1220 - 1335	AD 1278 ± 78
P8C/76-1	Beta-18083	710 ± 70 BP	1230 - 1340	AD 1285 ± 70
P8C/76-1	Penn-3075	700 ± 50 BP	1235 - 1345	AD 1290 ± 50
P12B/75-11	Beta-18084	not	sufficient	carbon
P30D/35-5	Beta-18086	3530 ± 120BP	-2165 - -1675	BC 1920 ± 120
P37A/23-31	Beta-18087	330 ± 70 BP	1420 - 1655	AD 1538 ± 70

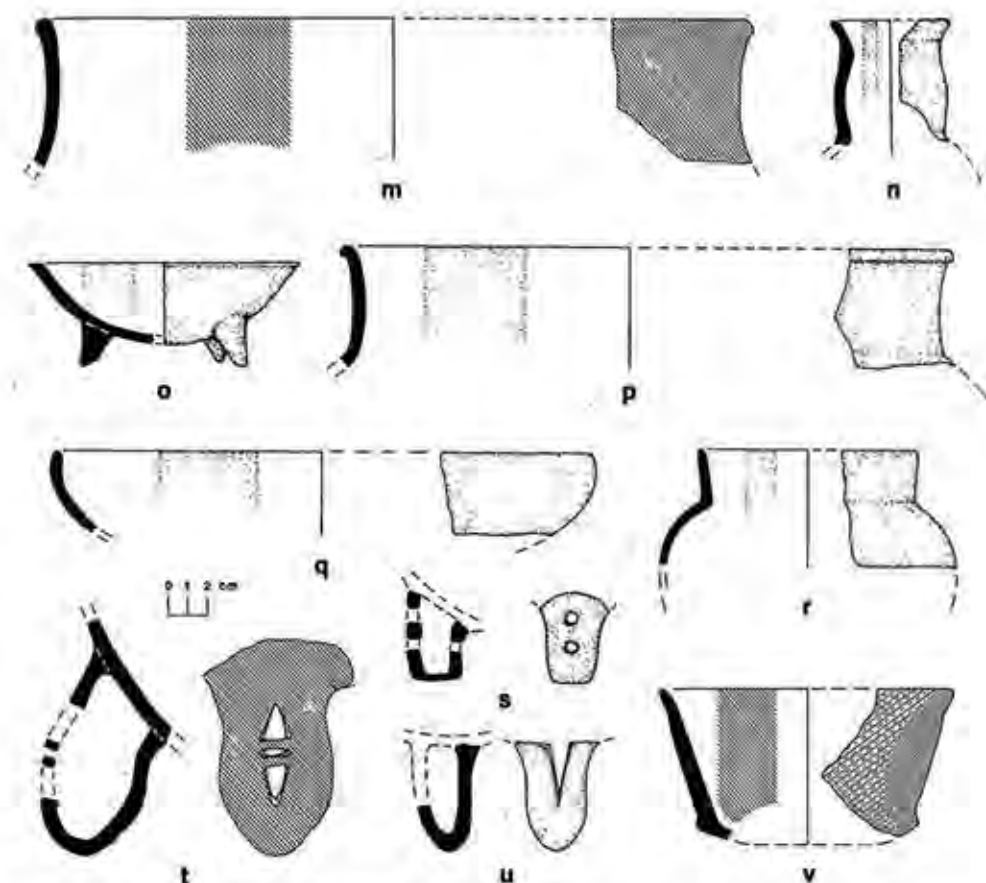
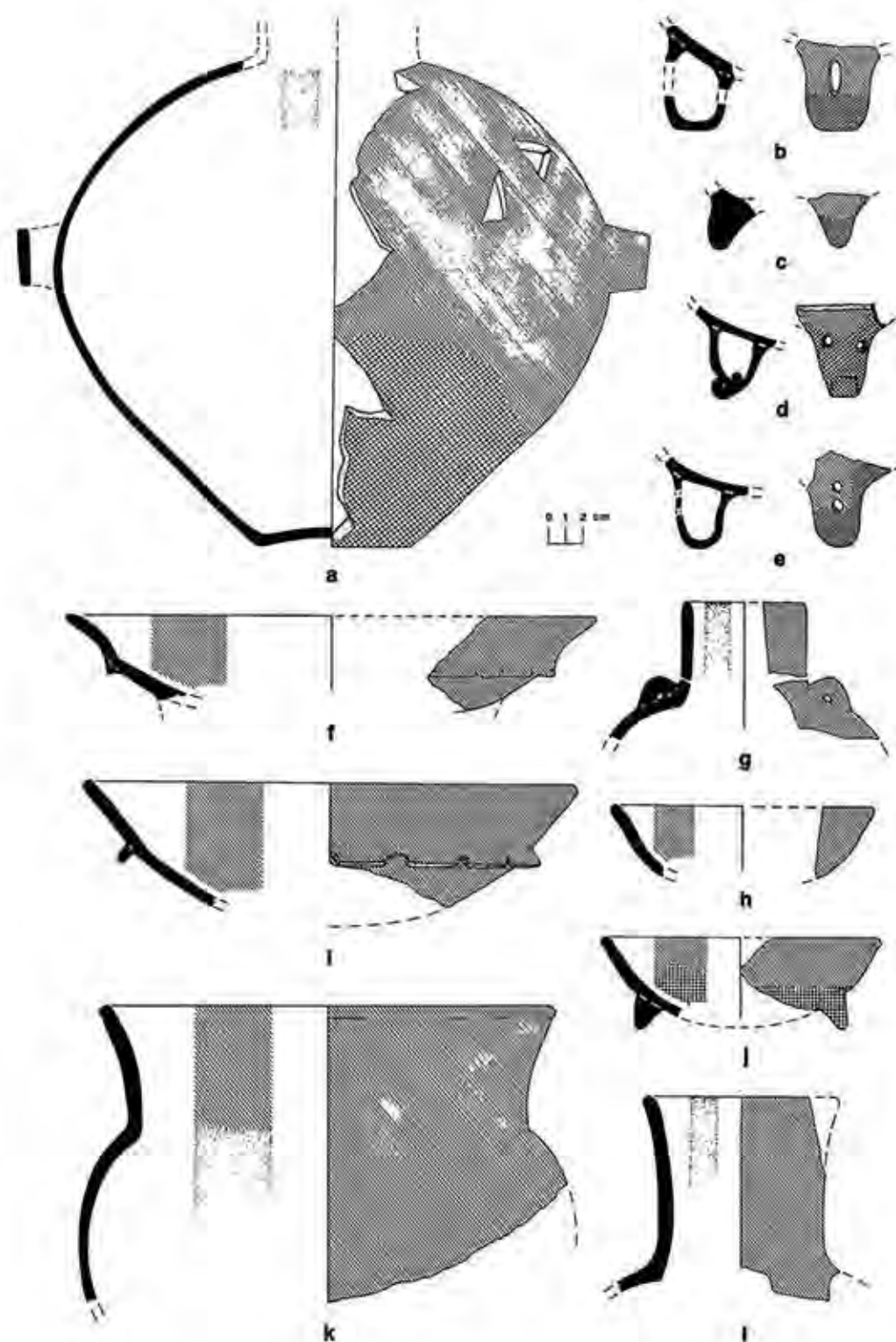


Fig 4 Early Facet Xabalxab ceramics : a, d, and s) Payil Red; b, c, e-m, t and u) early facet Rita Red; o-r) Santa Unslipped; v) Metzabok Slate; a and d) from the Structure 212 locus; all other ceramics from the Structure 77 locus.

stylistic comparisons of ceramics to other parts of the Maya area served to confirm the interpretations. The sequence that was established for Santa Rita Corozal (Table 1) has a Terminal Classic-Early Postclassic ceramic complex (Natalnat) which is distinct from the site's Postclassic ceramic complex. The Natalnat Ceramic Complex for Santa Rita is related to the Ikilik Ceramic Complex, previously defined for Nohmul (D. Chase 1982b). The Xabalxab Ceramic Complex spans the later part of the Postclassic Period and may be broken into two facets (D. Chase 1984). The later facet Xabalxab material is distributed throughout the site and represents the acme of occupation at Santa Rita Corozal; based on radiocarbon dates from several locales (Table 2), this late facet was in existence from sometime after A.D. 1300 until contact with the Spaniards. The early facet Xabalxab material (Figure 4) is not plentiful, but is securely dated to the 13th century in two loci (Table 2); it is expected to have been in existence by around A.D. 1150. The more plentiful Natalnat Ceramic Complex is believed to have spanned the "collapse" and to have generally preceded the Xabalxab materials; alternatively, Natalnat may overlap with early facet Xabalxab materials (A. Chase 1986:124). Historic materials of both Spanish and English origin have also been recovered at Santa Rita Corozal. Thus, the temporal framework for Santa Rita is firmly anchored.



The spatial parameters of the site were established through the mapping sub-program (Appendix I). All sectors of the site demonstrated evidence of Late Postclassic occupation. Research undertaken during 1979 and 1980 had originally suggested that a clustering of certain buildings and the re-occurrence of structure types could be used to distinguish spatially distinct sectors or barrios at the site (D. Chase 1982a:Table 20; 1986:Fig. 10.2). Subsequent research during 1984 and 1985 has shown that the original conception was somewhat simplistic, even though very real differences do exist between spatially distinct, but coeval, parts of the site. The original sector formulation, however, was retained for ease of reference and because they did appear to correspond with some archaeological differences, particularly in regard to caching practices. The sector separation is also amplified by slight settlement drop-off in some instances and by modern razed areas. With the exception of the North Intermediate Sector, which has been largely razed since Thomas Gann's times, excavation occurred within all of the defined sectors - Northeast, North Central, South Intermediate, Southwest, and Bay. In the following pages, the investigations undertaken at Santa Rita Corozal between 1979 and 1985 are summarized by structure within their respective sector to provide a brief review of the data base from which interpretations pertaining to Postclassic Maya society have been derived.

#### The Northeast Sector

The northernmost extent of the site of Santa Rita Corozal is found beneath the modern village of Paraiso. At this spatial boundary, there is a drop-off in mounded constructions to the north for the distance of at least one kilometer. The Northeast Sector is presently conceived of as being arbitrarily bounded by the modern Santa Elena-Corozal Town road on its western side and by the cessation of ancient habitation to the north, east, and south. The eastern and southern sides of this sector are defined by a curving bluff which rises above old Corozal Town; no mounds were observed on the lower side of this topographic feature. Until the 1970's, the northeast portion of the site was largely untouched by modern earth-moving equipment, except in the case of early penetrations by Gann (1900, 1918), who found Mound 1 in this sector. Sometime between 1974, when Sidrys (1983) worked in the area, and 1979, when the Corozal Postclassic Project began investigation, earth-moving equipment had demolished the entire western portion of this sector. Investigations in the Northeast Sector, however, produced extensive Late Postclassic (Xabalxab) remains (D. Chase 1982a:189-402), indicating that most constructions visible in this sector dated to this era. Excavations in the Northeast Sector were undertaken in and about Structures 58, 69, 70, 73, 74, 77, 78, 79, 80, 81 and 89; cursory investigations were made of Structures 55, 75, 83, and 111. The artifactual remains from this sector demonstrate that this area was occupied from the Late Preclassic (Pakalpak) through the later (English) Historic Period.

#### Structure 58 and Platform 1 (Operation P3)

When first viewed in 1979, the Structure 58 locus had just been burned preparatory to planting; a relatively small structure was clearly visible on top of a larger platform, later designated "Platform 1." Pitting was in evidence on the western side of the structure and extensive quarrying had destroyed much of the western side of the platform. At their highest point, the combined structure and platform rose 1.2 m above the surrounding ground surface. A substantial amount of Late Postclassic and 19th century artifactual remains were recovered on the surface. Previously, Structure 58 was also the locus of Sidrys' (1983:156-58) "excavation 41." Corozal Postclassic Project investigations in this vicinity consisted of an axial trench through the structure and platform measuring 36.5 m in length by 1.5 m in width; one smaller areal excavation followed a terrace wall to the west of

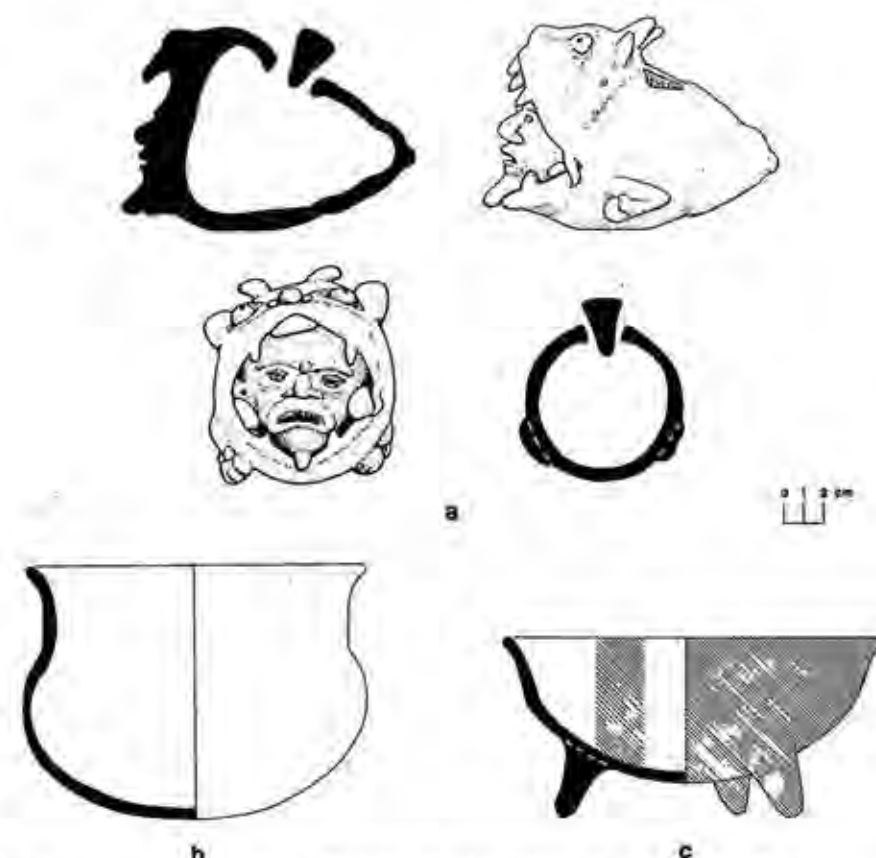


Fig 5 Cache vessels from Structure 58: a) Cao Modeled; b) Santa Unslipped; c) Rita Red.

the trench. Excellent stratigraphic control was possible due to the preservation of a series of plaster floors. Because of the Postclassic focus of the project, excavation was halted at one of these Classic Period floors throughout the bulk of the trench; however, deeper cuts to bedrock were undertaken at both the northern and southern ends of the trench. Bedrock was encountered between 1.5 and 2.0 m below the ground surface. A full summary of these investigations is available (D. Chase 1982a:189-227, Figs. 4-11 to 4-21).

The earliest evidence for occupation of the Structure 58 locus is dated to the Late Preclassic Period and consisted of a floor level, hearth, pit, and trash located in the southernmost cut. Evidence for Protoclassic occupation of the area was uncovered in the northern cut and consisted of a refuse deposit as well as a disturbed burial of an individual who was laterally flexed with a miniature stone altar resting above the head.

Evidence was also recovered for the existence of two separate Early Classic constructions at either end of the Structure 58 trench. Structure 58-Sub 1 consisted of a curving, nicely faced substructure platform which was only partially visible in the northwestern portion of the trench; it was abutted by a plaster floor. Structure 58-Sub 2 was also roughly circular in plan and located 5 m north of the southern excavation limit; it appeared to be abutted by the same plaster floor.

Evidence for three differing versions of the Late Postclassic Structure 58 were recovered in the investigations. Structure 58-3rd was built directly above the floors abutting the earlier constructions and consisted of a long, low substructure;

it was abutted by another floor to the south. This construction could be dated to the Postclassic Period on the basis of sherds sealed within its fill. Structure 58-2nd was placed above the initial Postclassic construction; a single wall and a plaster floor relating to this building were recovered in the central area of the excavation. A special deposit consisting of animal bone was placed in the core of this building prior to its construction; the erection of Structure 58-2nd is tentatively dated to about A.D. 1400 based upon a single Carbon-14 date in association with this deposit (Table 2; Beta-18076).

Abundant information relating to Structure 58-1st was recovered during the 1979 season. This construction immediately followed the use of Structure-2nd. Its U-shaped basewalls indicate that the superstructure faced south and had dimensions measuring 8 m wide and 3 m. A single line-of-stone terrace fronted the building. Platform 1, upon which Structure 58-1st rested and with which it was associated, still had a preserved southern facing consisting of upright stones. Construction of Structure 58-1st had been undertaken at some point following A.D. 1400. All artifactual indications suggest that this structure served a non-residential function.

A number of deposits, primarily consisting of burials, were associated either with the use of -2nd or the use of -3rd. In an earlier discussion these were relegated primarily to the use of -2nd (D. Chase 1982a:197-199); however, it is now evident that at least three deposits (S.D.s P3B-1, P3B-3, and P3B-8), previously suggested as being among the latest deposits at the locus associated with -2nd, were likely placed during the use of -1st. These special deposits included a cache of three vessels - a Santa Unslipped olla which covered a Rita Red dish and together encased a Cao Modeled effigy vessel (Figure 5) which held two turquoise chips and one jadeite bead - and a series of human burials whose remains were identified by cuts into the earlier plaster floors. One of these cuts contained the upright, flexed bones of an adult female who was accompanied by a jadeite and spondylus shell necklace and two copper rings (illustrated in D. Chase and A. Chase 1986a:5). Her burial locale was marked by an upright squarish stone altar which must have been visible during the use of Structure 58-1st. One other Late Postclassic burial associated with the last version of Structure 58 consisted of two supine individuals, both male with heads to the north, who were placed in the same pit and accompanied with a single chert biface ovate; this deposit was located immediately south of that of the woman and may have been associated with that interment. Two other interments may possibly be reassigned to the time of use of Structure 58-1st. The first of these consisted of the partially flexed burial of an individual with an extra skull in the area of the knees. The second was the stone-lined burial of a female accompanied by a copper bell and an inlay piece.

The latest remains from the Structure 58 locus date to the mid to late 19th century. Artifacts from this era were found in widespread surface remains on the platform itself, in a pit cutting into the Postclassic construction (and interpreted as having been a "privy"), and on the surface to the south of the platform (D. Chase 1982a:210-212). The concentrated nature of these remains, which included a substantial amount of yellow brick, indicate that a 19th century construction (or constructions) had been located here. Indeed, "Chultun 1," located immediately south of Platform 1 may actually be a well dating to this same era.

#### *Structure 89 (Operation P11B)*

A 1.5 m square test investigation was made in the vicinity of Structure 89. This area had been the locus of substantial land-clearing activity. A modern house presently caps the prehistoric constructions. While limited artifactual material

was encountered, no primary deposits or remaining architectural features were recovered (D. Chase 1982a:228-29, Fig. 4-22).

#### *Structure 69 (Operation P4)*

Structure 69 rose approximately 1 m above the surrounding ground surface. Its positioning appeared to mark the western side of a structure group which was bounded by Structure 70 to its east; subsequent investigation of Structure 70, however, indicated that this building likely faced east and that no formal plazuela group existed. Structure 69 was investigated during the 1979 season by a 15.0 m by 1.5 m east-west axial trench. Excavation revealed a complex occupation history beginning in the Early Classic Period and continuing into the mid to late 19th century. Early Classic occupation of the locus was suggested by the recovery of primary trash dating to this era (D. Chase 1982a:230-31); however, the construction itself and two flexed burials associated with it dated to the Late Classic Period. Late Postclassic occupation of the locus was also indicated by recovered artifactual material, although no associated architectural remains were found. Nineteenth century use of the locus was suggested by the presence of blue glass and Historic era faunal remains. Importantly, with the exception of the Late Classic occupation, all earlier constructions at this locus must have been made with completely perishable items.

#### *Structure 70 (Operation P5)*

Structure 70 rose approximately 30 cm above the surrounding ground surface. The excavation of an 11.8 m by 1.5 m trench in conjunction with a smaller 2.0 m by 2.0 m test in 1979 proved Structure 70 to be a single-phase Late Postclassic construction measuring 10 m in breadth by 6 m in depth (D. Chase 1982a:231-240, Figs. 4-23 and 4-24). The building faced east rather than toward Structure 69 as had originally been suspected. The substructure pad had a small 1.2 m deep frontal terrace, but no remnants of base-walls for a superstructure could be located. Construction core for this building consisted of sizeable limestone rocks rather than the small-stone studded earth found in other Postclassic construction heartings. The facings for the substructure were composed of large, roughly faced limestone blocks and indicated that the substructure would have risen some 30 cm above associated floor levels to its rear and 50 cm above those to in its front. No special deposits were recovered in the excavations.

#### *Structure 74 (Operations P6A, P6C, P6D)*

The 1980 investigations of Structure 74 consisted of an axial trench 8.0 m in length by 1.5 m in width in combination with two areal quadrants, each measuring 7.5 m by 4.0 m. The only indication of the existence of Structure 74 prior to excavation consisted of several upright stones that protruded about 5 cm above the humus; upon excavation these proved to form a well-defined slightly raised building pad that was elevated approximately 10 cm above its associated exterior floor level. Excavation also proved this building pad to be entirely Late Postclassic in construction and use (D. Chase 1982a:240-249, Figs. 4-25 to 4-28; photograph in D. Chase 1981:33). In its final form, the construction was approximately 16.7 m wide and 4.7 m from front to back; the interior surface was plastered and the construction had a double line-of-stone for its back (south) wall. The abundant artifactual remains recovered from this locus suggest that Structure 74 served a non-ritual function, probably associated with a wide array of food procurement, preparation, and storage activities (D. Chase 1982a:244).

#### *Structure 81 (Operation P8)*

Structure 81 was a relatively unusual building at Santa Rita Corozal in that the outlines of some of the walls for this multiple room building were visible as



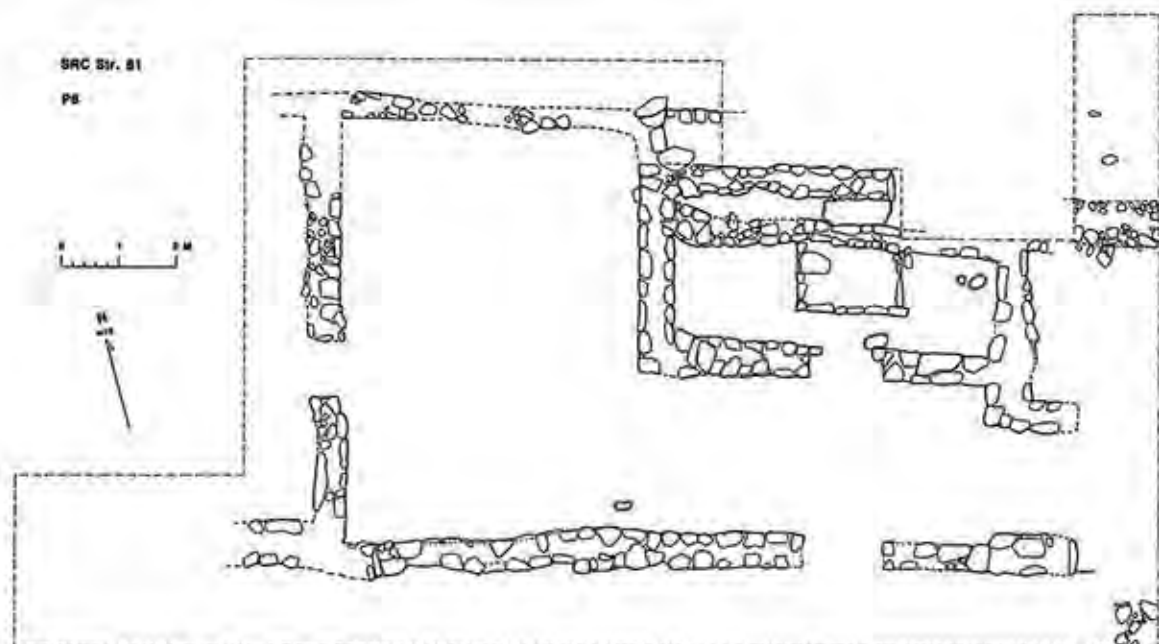


Fig 6 Plan of the area excavated in Structure 81.

mounded areas of stone prior to excavation. Upon excavation, these mounded areas were found to be collapsed stone basewalls (Figure 6). The maximum elevation of the mounded remains was 80 cm above the ground surface to the front (south) of the building. Structure 81 was excavated during the 1980 season by areal clearing of almost the entire western half of the building in combination with two trenches, one of which appeared to be axial to the building prior to excavation and the other of which was axial to the building as defined by the interior shrine (Figure 7; D. Chase 1982a:250-317, Figs. 4-28 to 4-34). The maximum depth of penetration to bedrock in the trenches was 1.2 m.

As in the case of many of the other low-lying constructions at Santa Rita Corozal, investigations proved Structure 81 to be entirely Postclassic in construction and use; construction core material, however, consisted predominantly of Terminal Classic/Early Postclassic Nalatl ceramics - presumably redeposited trash from nearby. Structure 81 had nearly the same form during its entire use-life, although there were slight modifications such as the refacing of the frontal terrace and the addition of a false back wall to the shrine; the altar in the shrine room may also have been an addition to the original building. Radiocarbon dates associated with Structure 81 form a fairly consistent set (Table 2: Penn-3073, 3075 and Beta-18081, 18082, 18083) and suggest that the major construction of the building was undertaken by A.D. 1300. The latest radiocarbon date for the building is A.D. 1320  $\pm$  80; however, this is probably from a structural beam for the building. Ceramics left on the floor of the building suggest that Structure 81 continued in use well beyond this date. The basic plan of Structure 81 was of a multi-roomed building facing slightly west of south and with a frontal terrace as well as an interior shrine (Figure 6). The structure walls were composed of a double line-of-stones set upright to form the wall outlines; presumably posts were set between these stone rows, although no postholes could be securely located. The building was approximately 36 m broad and up to 8.5 m deep. A frontal terrace projected



Fig 7 Photograph of the interior shrine and masonry altar of Structure 81.

an additional 7.7 m to the south. Painted plaster and molding pieces indicate that the construction was likely covered with painted stucco.

An abundance of remains were recovered in association with the Postclassic use of Structure 81; these include 3 special deposits as well as a building-wide scatter of ceramic vessels. The first special deposit to be placed was a cache consisting of a single vessel (D. Chase 1982a:258-59). This black slipped effigy of a bird (Figure 8a) was found below the inner back wall of the shrine; it is unique at the site in both form and slip and may have been a trade item from South America. Within the altar that was appended to the rear wall of the shrine room was an intrusive pit containing two incompletely articulated adult individuals (D. Chase 1982a:259-261). Also within the pit were pieces of numerous partial ceramic vessels, many of which fit to vessels found outside the burial, smashed on the floor of the building (ceramic vessels restricted to the burial pit itself include those shown in Figure 8g,h,t,bb). A second cache was found in an intrusive pit in the floor in front of the Structure 81 altar. Two vessels were placed lip-to-lip; inside was a modeled and painted figure (Figure 8b-d). The composite human-horned jaguar-shell figure was hollow and contained several spondylus shell beads, a jadeite mosaic piece, a small jadeite bead, and a piece of gold foil.

In addition to the special deposits, a variety of artifacts were found on the floor of the structure, including a series of arrow points and preforms indicating that

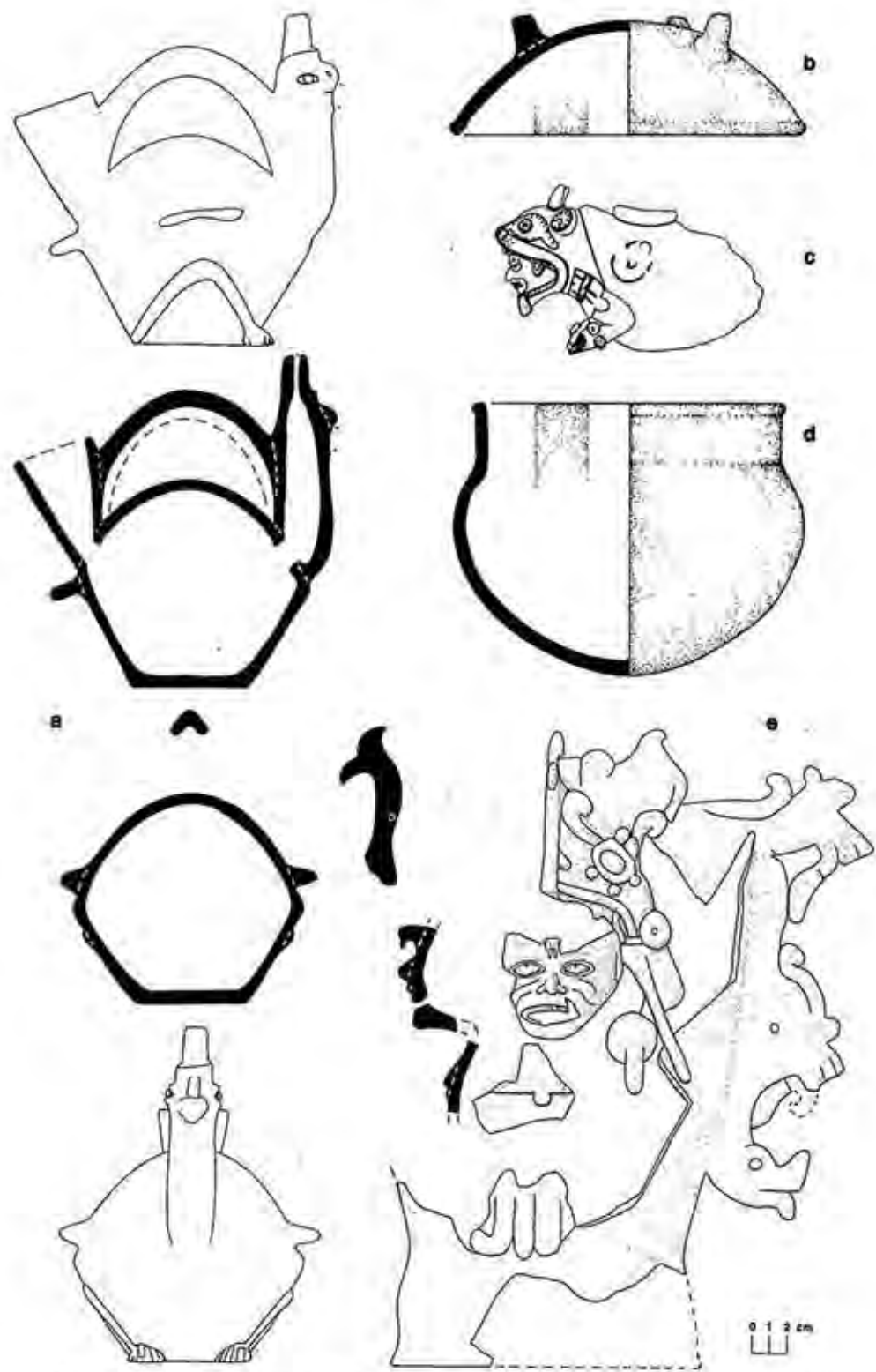


Fig 8 Ceramic vessels from Structure 81: a) Black Modeled Special; b, d) Santa Unslipped; c) Cao Modeled; d) Kol Modeled.

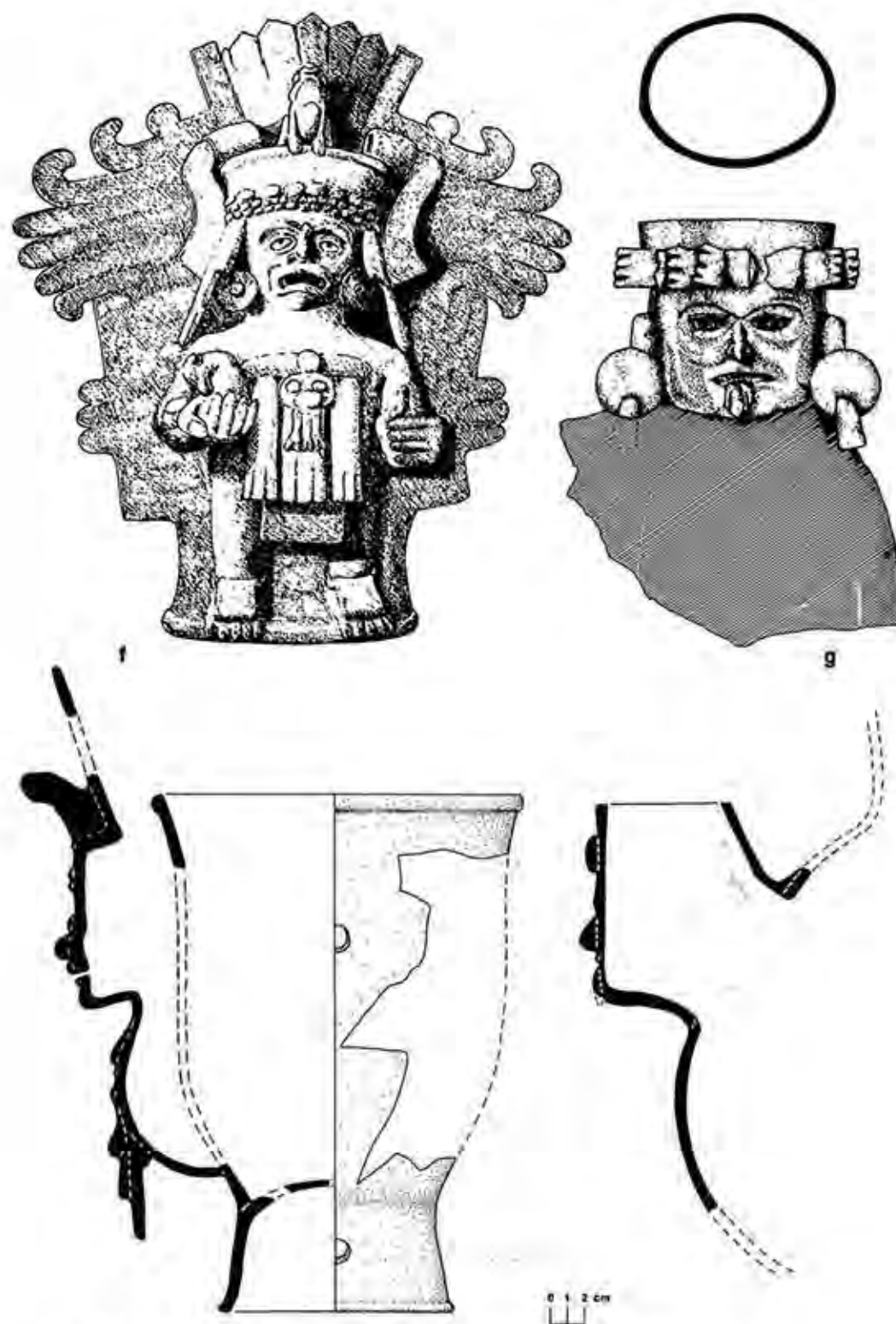
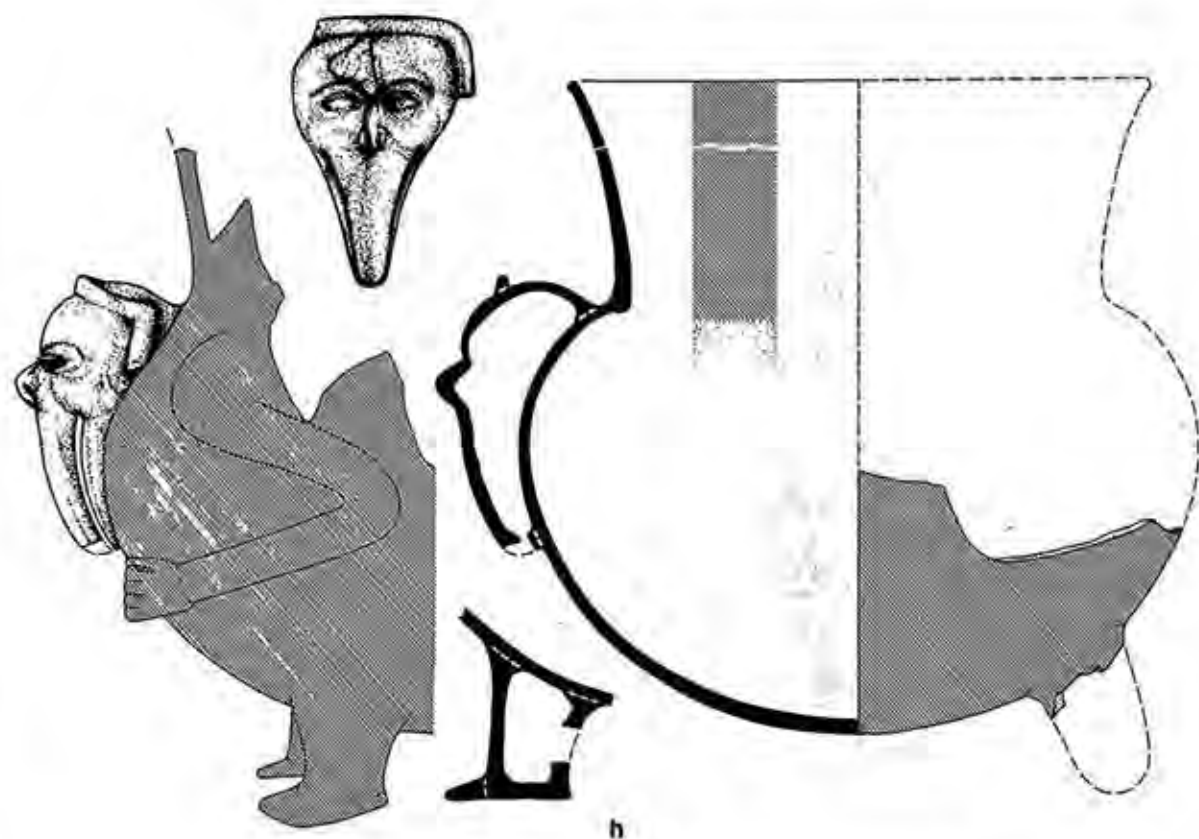
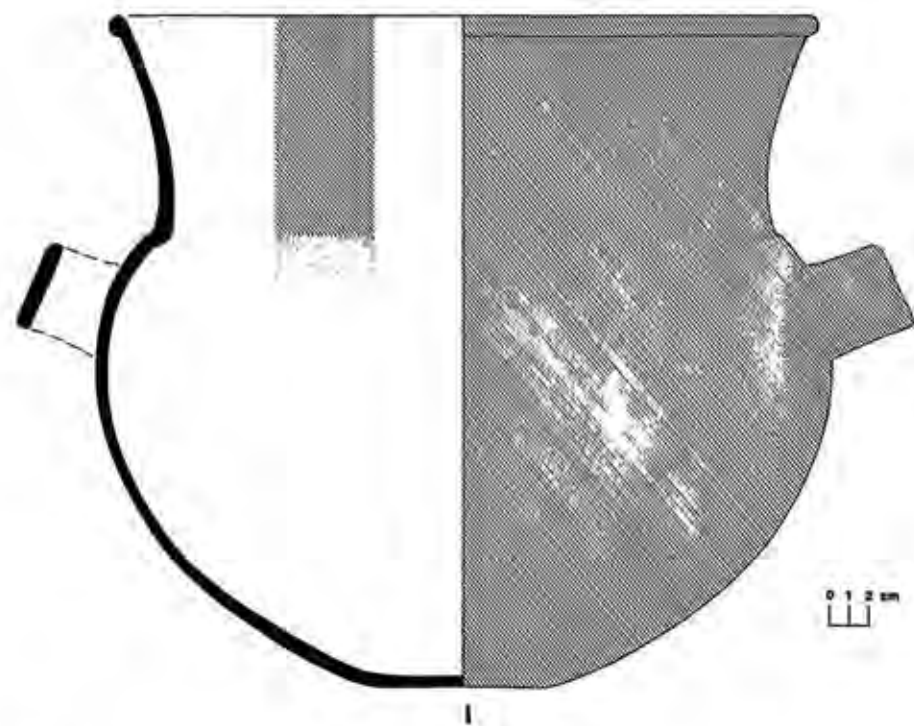


Fig 8 Ceramic vessels from Structure 81: f) Kol Modeled; g) Zanga Modeled.





h

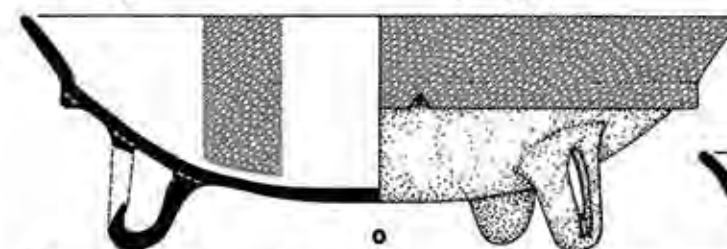


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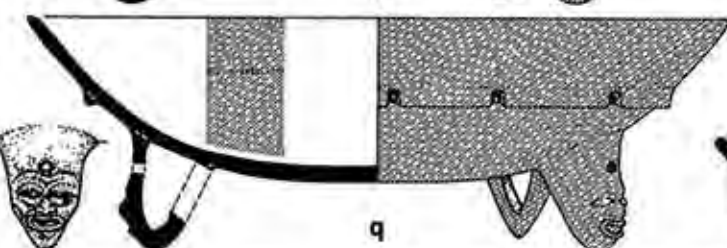
Fig 8 Ceramic vessels from Structure 81: h) Nucil Modeled; i) Rita Red.



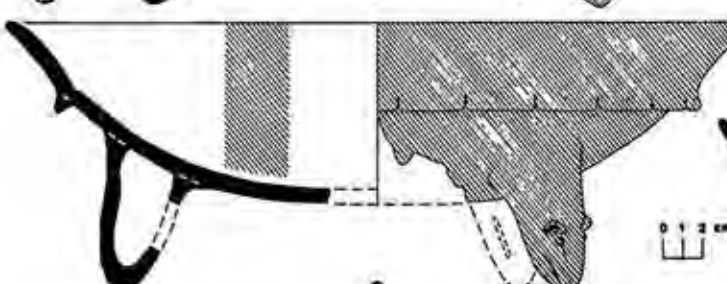
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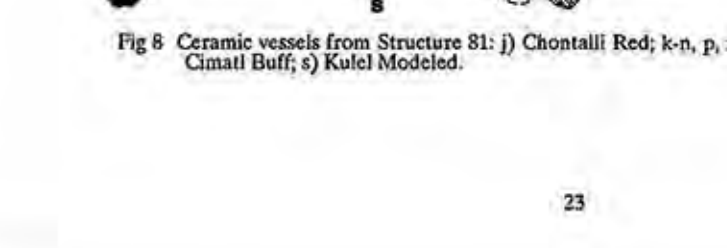
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Fig 8 Ceramic vessels from Structure 81: j) Chontalli Red; k-n, p, r, t) Rita Red; o) Manta Buff; q) Cimatl Buff; s) Kulal Modeled.

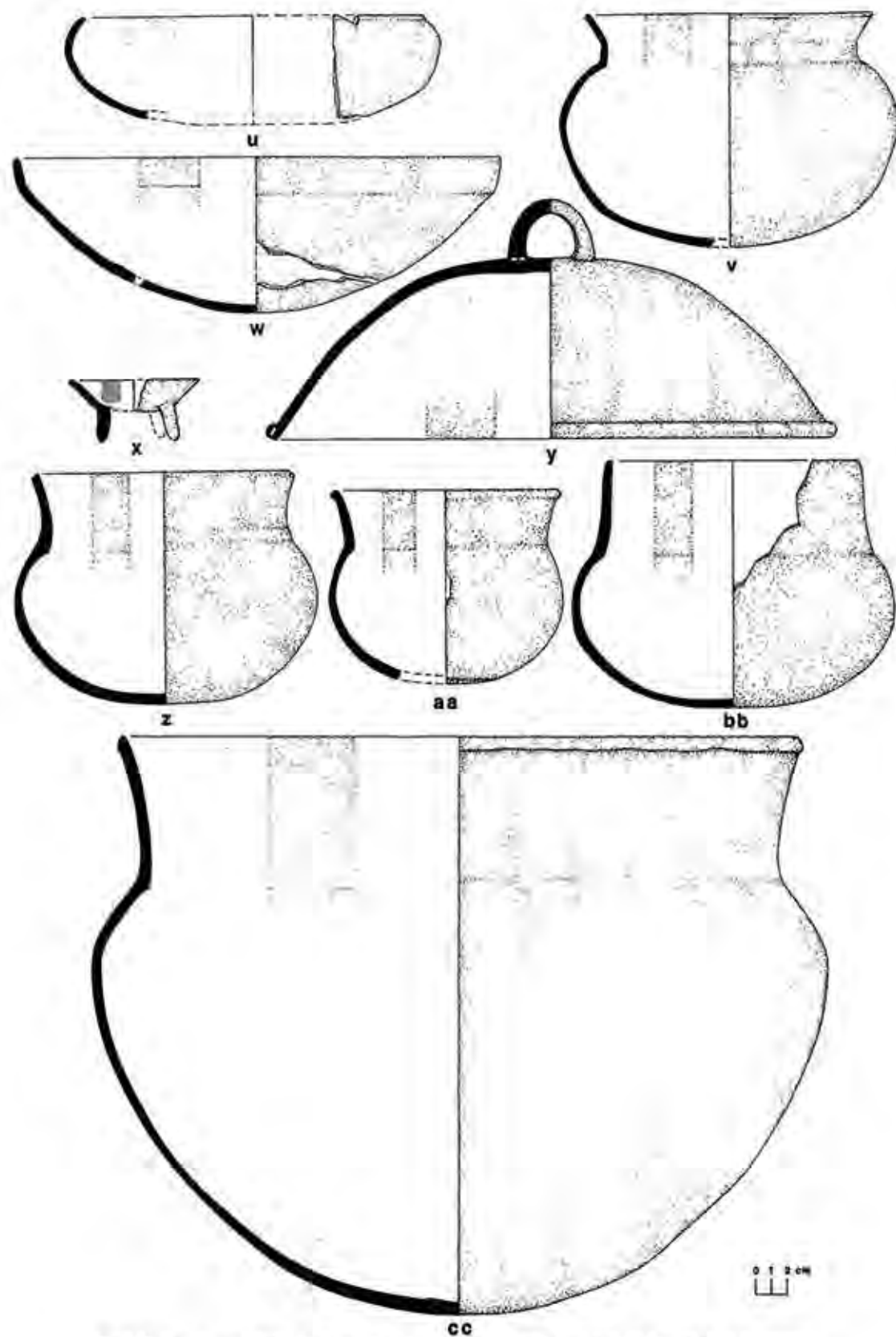


Fig 8 Ceramic vessels from Structure 81: u-w, z-cc) Santa Unslipped; x) Rita Red; y) Ayal Unslipped.

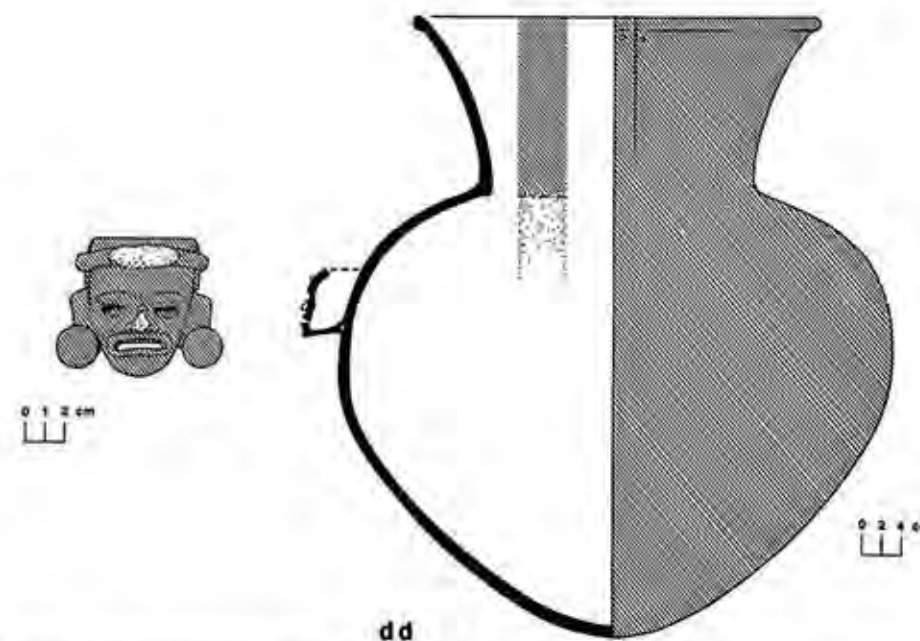


Fig 8 Ceramic vessels from Structure 81: dd) Arroba Modeled.

the manufacture of these items may have taken place at this locus (see Appendix III). Numerous pottery vessels were found smashed throughout the central area of the building floor (included in this scatter are those illustrated in Figure 8e,f,i-s,v-aa,cc-dd); sherds from certain of these vessels were also found within the altar and sealed below a floor in the passage-way behind the shrine, indicating that smashed pottery remained in situ in the building for an extended period of time and was not swept into a refuse area. Because of these indications, it is probable that there is a conflation of temporal variation in the vessels associated with this construction. Among the vessels found broken in the area of the shrine were two figure incensarios (Figure 8e,f). The building apparently combined residential and ritual functions and has been previously suggested to have been the residence of a principal or ah cuchcab (D. Chase 1982a:301-302). The interior shrine (Figure 7) - especially when considered in combination with the paired incensarios, the architectural altar, and the passage-way behind the shrine room - was likely used as a religious oracle, possibly similar in function to the talking oracle of Ix Chel at Cozumel (D. Chase 1982a:302-3; *Relaciones de Yucatan* 2:54-55; Landa in Tozzer 1941:109; Freidel 1975:Fig. 25).

#### Structures 73, 77, 78, 79, 80 and Platform 2 (Operations P6A, P6B, P6E-P6I)

Platform 2 was the most massive Postclassic construction excavated during Corozal Postclassic Project investigations at Santa Rita Corozal. It measured approximately 44.0 m by 36.5 m and was 2.0 m in height. It was surmounted by Structures 73, 76, 77, 78, 79 and 80. Investigations were undertaken in this locus during both 1979 and 1980 and consisted of trenching and wider areal clearing; detailed information on this work may be found elsewhere (D. Chase 1982a:318-402). Excavation of Platform 2 revealed that the earliest occupation of this locus was during the Late Preclassic era; extensive Early Classic Period trash, however, was also recovered beneath Structure 80. The area does not appear to have been occupied during the Late Classic to Terminal Classic Periods. The major period



of occupation for this locus appears to have been during the Late Postclassic Period, when there is evidence for several stages of construction activity and extensive re-building (D. Chase 1982a:337-340,349-350).

A series of special deposits were associated with the Late Postclassic platform. One burial of an extended, but incomplete, individual was located in construction core between Structures 73 and 80. A multiple sub-adult interment was uncovered in the axial trench through the platform; this deposit was located in direct association with three aligned stones that could have functioned as an altar (D. Chase 1982a:Fig. 4-37) and was accompanied by a variety of objects including small face cups (cf. Figure 11n), a foot cup, a small tripod bowl (Figure 11c), stone and shell beads, and obsidian fragments. In addition to this deposit, there was a combined ritual refuse area and burial area located just to the south of the platform. Here, located predominantly within a series of pits, were six flexed burials of either women or sub-adults (illustration in D.Chase 1986:Fig. 10.3); burial offerings varied from nothing to several beads of pottery or shell or jadeite, to beads and copper rings, to a series of pottery vessels (Figure 11a,d,e). Above and around these interments was an abundant deposit of discarded pottery and other artifacts including a cache of 3 small ceramic face cups (cf. Figure 11n,o). A selection of the reconstructed pottery found in association with Platform 2 may be found in Figure 11.

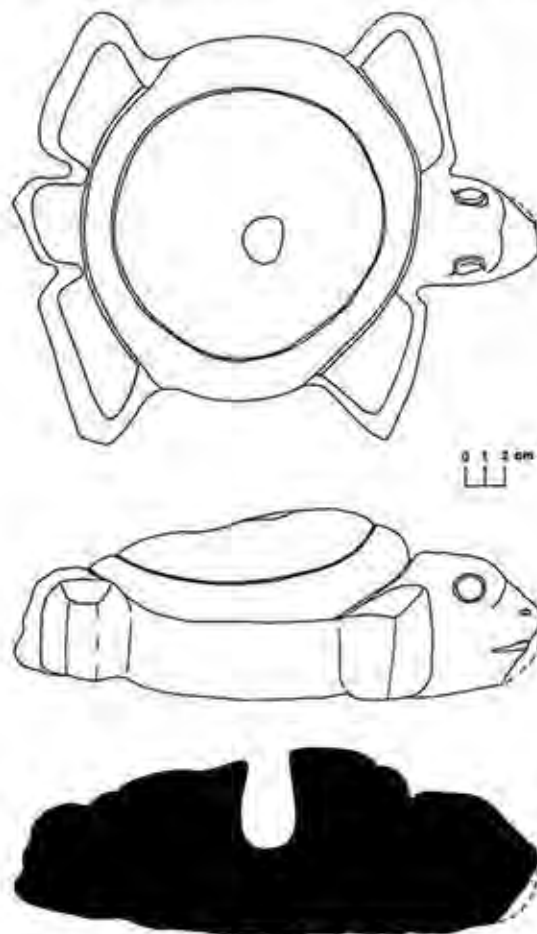


Fig 9 Limestone turtle associated with Structure 77.

Structure 73 was investigated solely by the axial trench through Platform 2 (D. Chase 1982a:351-358); it is located in the northcentral portion of this platform. As mapped, the building measured some 21.5 m in breadth by 6.0 m in depth. Two Late Postclassic versions of the structure were encountered as well as the remains of an intrusive interment containing multiple individuals (D. Chase 1982a: Fig. 4-46). In its latest form, the construction had both a front and rear platform or terrace as well as a raised interior rear room.

Structure 77 was located on the southeastern corner of Platform 2. Although disturbed prior to Corozal Postclassic Project work, investigations here produced one of the most complex Postclassic construction histories at the site (D. Chase 1982a:366-394). Excavations consisted of a 17.2 m by 1.5 m trench axial to the building. The earliest materials from the Structure 77 locus were



Fig 10 Photograph of the upright stones forming the southeast corner of Structure 79.

recovered from a sealed refuse deposit which was adjacent to the southern side of an earlier Postclassic buried building pad. The two samples of carbon from this area provided mean dates of A.D. 1328  $\pm$  40 and A.D. 1075  $\pm$  110 (Table 2: Penn-3074 and Beta-18079). Within this deposit were a variety of broken pottery vessels (Figure 4b,c,e-v), all of which were assignable to the early facet of the Late Postclassic Xabalxab complex at Santa Rita Corozal. Above this deposit were 11 other plaster floors and additional burning. Carbon-14 dates were derived from other deposits associated with the long Postclassic history of this building locus. Two of these dates are from lots associated with timespans near the medial use-life of Structure 77 and provided mean dates of A.D. 1340  $\pm$  60 and 1418  $\pm$  100 (Table 2: Beta-18078 and 18080). The later of these dates was associated with two flexed burials and two smashed Pom Modeled censers (Figure 11q). Another small C-14 sample from this locus provided a mean date of A.D. 1123  $\pm$  190 (Table 2: Penn-3076). The substantial re-flooring, radiocarbon dates, and associated ceramics make it evident that Structure 77 continued to be used into the 15th or 16th centuries. The latest version of Structure 77 was not well recovered in plan; however, fragmentary polychrome stucco was encountered in association with it and suggest that the final building was covered with mural painting much like that encountered nearby by Sidrys (1976:332-344; 1983:132-149) in his "excavation 37," presumably Gann's (1900:663-677) now destroyed Mound 1. A stone

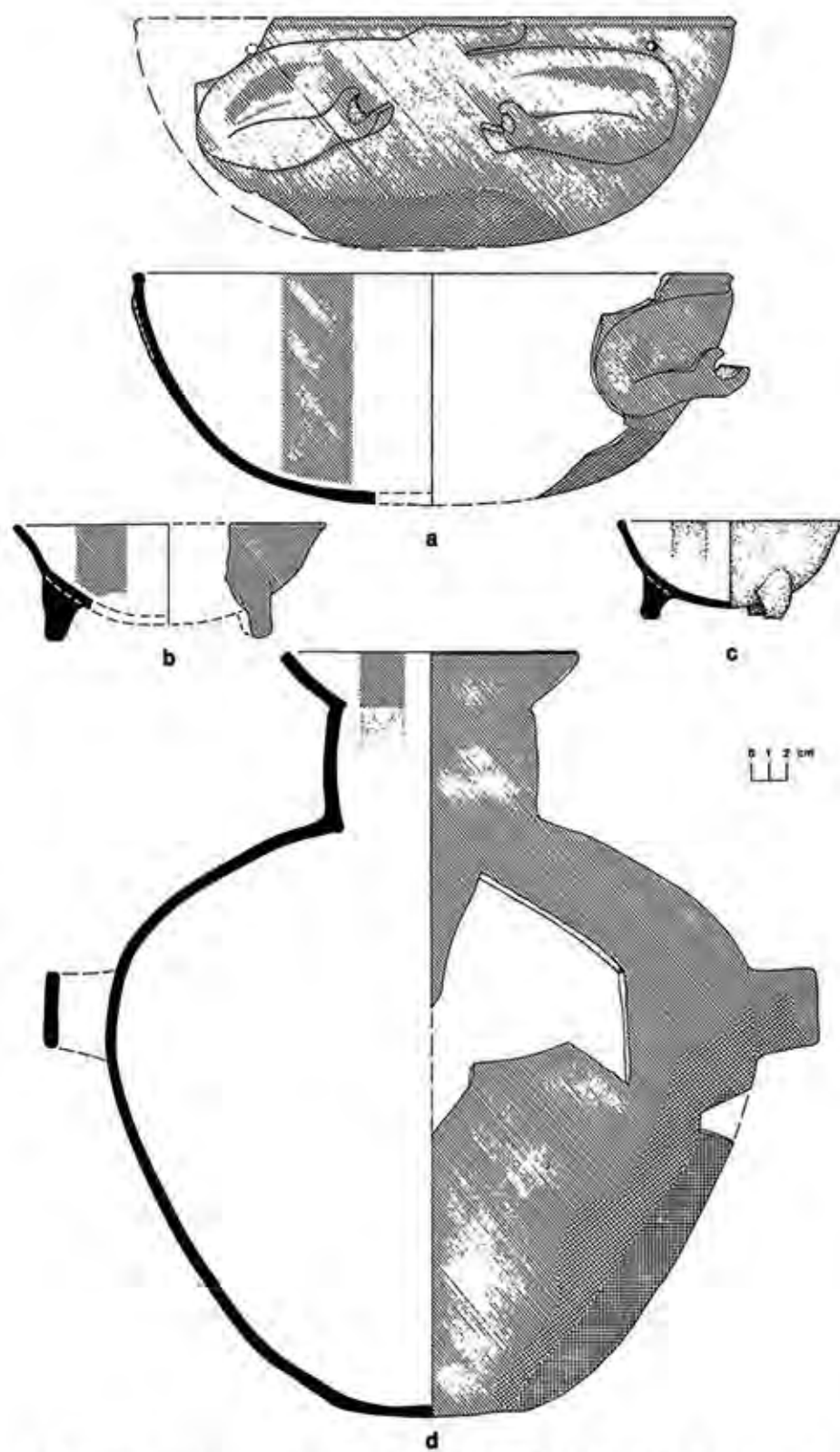


Fig 11 Ceramic vessels associated with Platform 2: a) Kulul Modeled; b, d) Rita Red; c) Santa Unslipped.

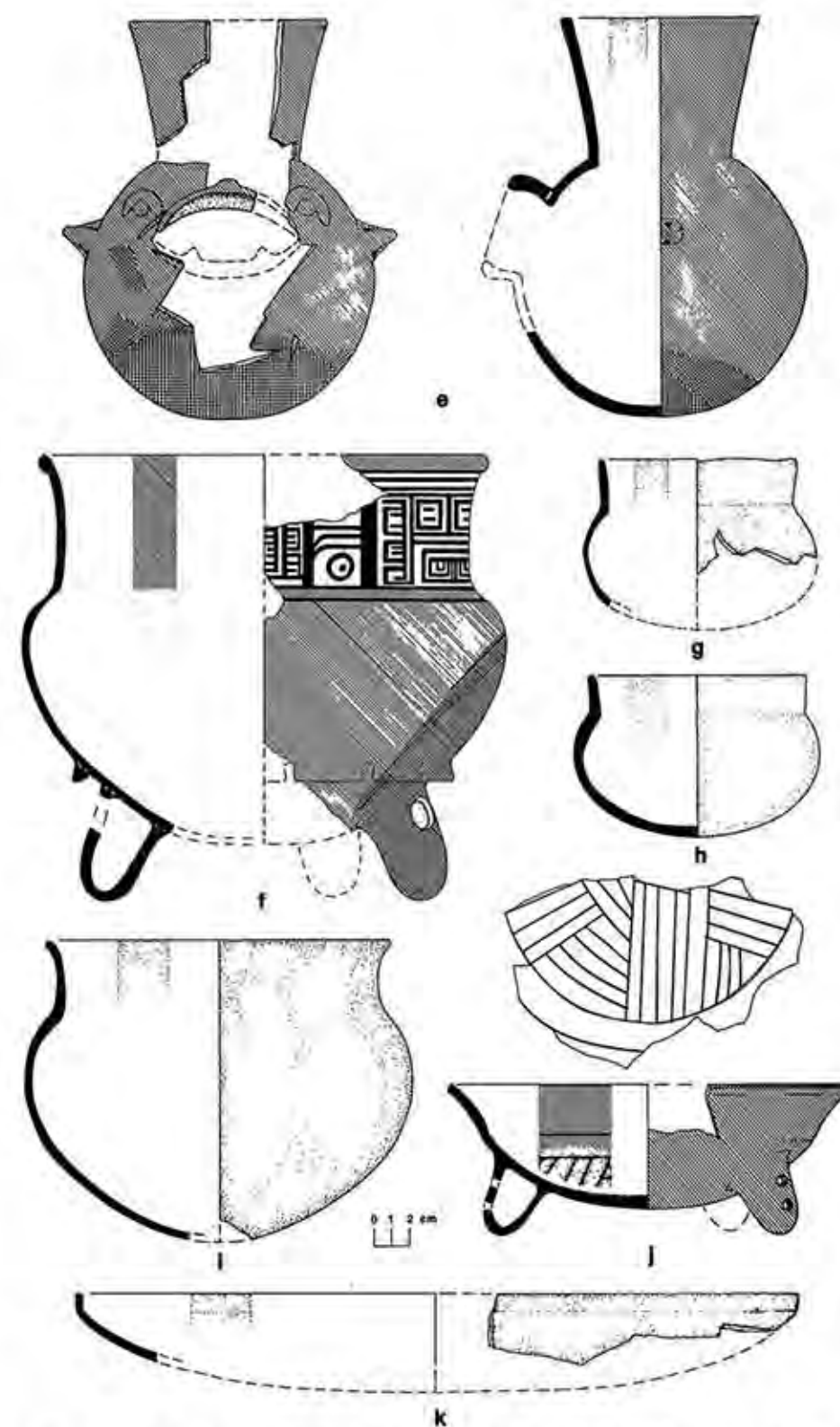


Fig 11 Ceramic vessels associated with Platform 2: e) Kulul Modeled; f) Kak Polychrome; g, h, i, k) Santa Unslipped; j) Saykum Incised.



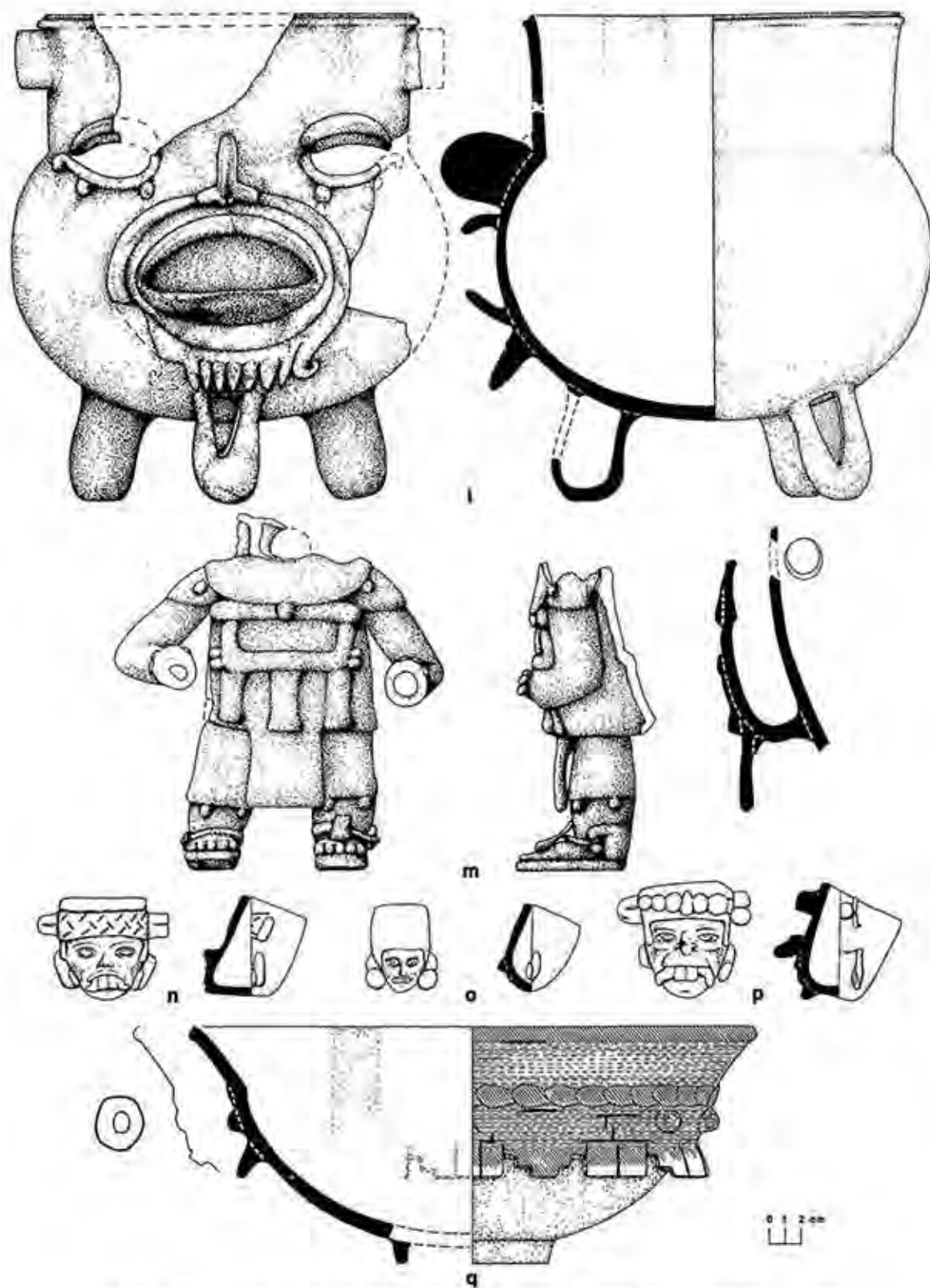


Fig 11 Ceramic vessels associated with Platform 2: l) Cohokum Modeled; m-p) Koi Modeled; q) Pom Modeled.

turtle (Figure 9), possibly an "altar figure" (Proskouriakoff 1962:331-333), and a large tinajera with a modeled face were also recovered in association with the latest version of Structure 77.

Structure 78 was located on the southwest corner of Platform 2. Investigations in the vicinity of this building revealed only the northern facing of its substructure pad and the existence of platform stairway in between and linking Structures 78 and 79 (D.Chase 1982a:359-60).

Structure 79 defined the western side of Platform 2. It was investigated by two areal excavations. One, measuring 6 m in length by 2 m in width, was placed over the southeast corner of the building and revealed a nicely constructed upright-slab substructure facing as well as part of Structure 78 (Figure 10). The other excavation was axially located and measured 6 m in length by 4 m in width; this investigation was combined with a deeper trench through the core of the construction. This central excavation revealed the same well-constructed pad found in the first excavation as well as a composite circular altar resting on the floor of Structure 78. The axial trench showed the building to be entirely Late Postclassic in date (D. Chase 1982a:395-402).

Structure 80 was located on the northernmost portion of Platform 2. The building was investigated by means of the platform-long P6E trench as well as by an areal excavation measuring 4.2 m by 1.5 m and placed adjacent to, perpendicular to, and west of the original trench so as to follow the southern facing of Structure 80. These investigations showed that Structure 80 was built in conjunction with the first Late Postclassic version of Platform 2 and continued in use throughout the lifespan of the platform (D. Chase 1982a:361-365, Fig. 4-36).

#### The North Central Sector

The North Central Sector of Santa Rita Corozal comprised the major focus of public-oriented architecture and occupation at the site during the Early Classic (Hokenhok) and Late Classic (Emelem) Periods. Although the majority of the larger mounds visible in this sector of the site date to these earlier periods, many of these also evince a significant Postclassic overlay. The North Central Sector constructions of today are a pale reflection of the far more numerous buildings that once dotted this landscape. Most of the Northwest Sector is presently underneath housing for the modern community; much 20th century earth-moving activity has altered the appearance of this sector. Although separated today, just how spatially distinct the North Central Sector was from the adjacent Northeast and North Intermediate Sectors in antiquity is open to question. Presently the modern Santa Elena-Corozal Road forms a heuristically useful eastern boundary for this sector while the bajo area immediately south of the San Antonio-Corozal road forms a southern boundary. Within this sector, Structures 7, 35, 36, 37, 39, 91, and 92 were loci of fairly intensive investigations; more limited excavations were undertaken in the vicinities of Structures 18, 23, 38, 40, 42, and 236. This research revealed occupation spanning from the Middle Preclassic (Ebeleb) era through the early (Spanish) and late (English) Historic Period.

#### Structure 7 (Operations P2A-P2D, P2F-P2I, P2L-P2N)

Structure 7 is the tallest and most massive remaining construction at Santa Rita Corozal (Figure 12). It once rose at least 15 meters above its front plaza surface. It currently forms the northern building and focal point for a group containing Structures 40 and 42. Excavations into Structure 7 were undertaken as part of Corozal Postclassic Project investigations in 1979, 1984, and 1985; this area had also been less intensively investigated by Thomas Gann (1918:67-70) and the Corozal Project (Pring 1976). Corozal Postclassic Project work included both the



Fig 12 Photograph of Structure 7 during excavation in 1984.

opening of large areal excavations and deep cutting into the heart of the construction.

Structure 7 was the locus of continued occupation and rebuilding throughout the history of Santa Rita Corozal. A looter's tunnel at the base of the structure revealed substantial well-preserved architecture pre-dating that encountered in the Corozal Postclassic Project excavations. Investigating this tunnel made it apparent that an early version of Structure 7 was in existence by at least the Protoclassic era. A test excavation at the base of the structure by Pring (1976) initially suggested occupation as early as the Early Preclassic Period, something not substantiated by the current investigations. Corozal Postclassic Project excavations in this same area demonstrated substantial re-flooring of the plaza, but documented use-related materials dating only as early as the Late Preclassic Period.

The majority of the occupation resulting in the construction of Structure 7 appears to have taken place during the Early Classic Period. Work over three field seasons indicates a long series of rebuilding efforts at this locus; however, the only well preserved architecture recovered was that relating to the buried Structure 7-3rd. This multi-room building was extensively excavated and ultimately consolidated; it is now maintained by the Belizean government. Structure 7-3rd and

Structure 7-2nd were both associated with modeled stucco facades (D. Chase and A. Chase 1986a:8-9).

Investigations into Structure 7 located a series of deposits. Besides the Late Postclassic burial intruded through the earlier steps, 3 human burials (2 of these being in tombs) and 2 caches were recovered, the latter all dating to the Early Classic Period. In fact, some of the most impressive Early Classic Period remains from northern Belize have been found at the Structure 7 locus.

The earliest of the Early Classic deposits encountered in Structure 7 was a tomb placed beneath the central room of Structure 7-3rd, a structure consisting of three tandem and two end rooms (illustration in D. Chase and A. Chase 1986a:9). Located in a cut in the floor that was later re-sealed with plaster, this chamber contained the remains of an elderly woman. She was buried with a variety of items including 5 pottery vessels (A. Chase and D. Chase 1987a:Fig. 6b), a spondylus shell, jadeite ornaments, shell beads, and 2 elaborately constructed shell and jadeite mosaic earflares.

Slightly later in the Early Classic Period, but coeval with the use of Structure 7-3rd, a tomb was placed beneath the front room of the building. This large (4.25 m long by 1.5 m wide and just over 2 m high) chamber contained the remains of an adult male accompanied by a variety of items including: 8 pottery vessels (Figure 14), 1 stone bowl (cover of A. Chase and D. Chase 1986), a variety of jadeite and shell artifacts, 3 flint spear points placed at his pelvis, 1 large flint ceremonial bar, a spondylus shell, a stingray spine, 3 large melongina, 1 cowry shell, a jadeite and shell mask (A. Chase, D. Chase, and H. Topsey 1988:56), and a very eroded codex. The combination of all these symbols suggest that this individual was a significant ruler (A. Chase in press). At the same time as the tomb was sealed within the core of Structure 7-3rd, a cache of three sets of paired vessels was placed behind the steps to the south of the tomb; each of the vessel lids had a single painted hieroglyph (D. Chase and A. Chase 1986a:12); inside were assorted items including both natural and painted and carved shells, jadeite, and stingray spines.

Prior to its being filled and encased within Structure 7-2nd, Structure 7-3rd's floors were burned and covered with smashed pottery; a final offering of incense burners (D. Chase in press b:Fig. 8) was also placed in a central wall niche in the inner room. Little is known of the complete floor plan of Structure 7-2nd as most of the building was ripped out either in the construction of Structure 7-1st or in digging that took place prior to the initial Corozal Postclassic Project investigations in 1979.

After the initial construction of Structure 7-2nd and toward the end of the Early Classic Period, a cist was cut into the core of this penultimate building and yet another special deposit was placed. A poorly preserved skeleton was buried with an impressive series of items: 9 pottery vessels (cover, *Mexicon* 3(5)); 1 stone



Fig 13 Carved bone pins found in 1979 in a burial associated with Structure 7-1st.



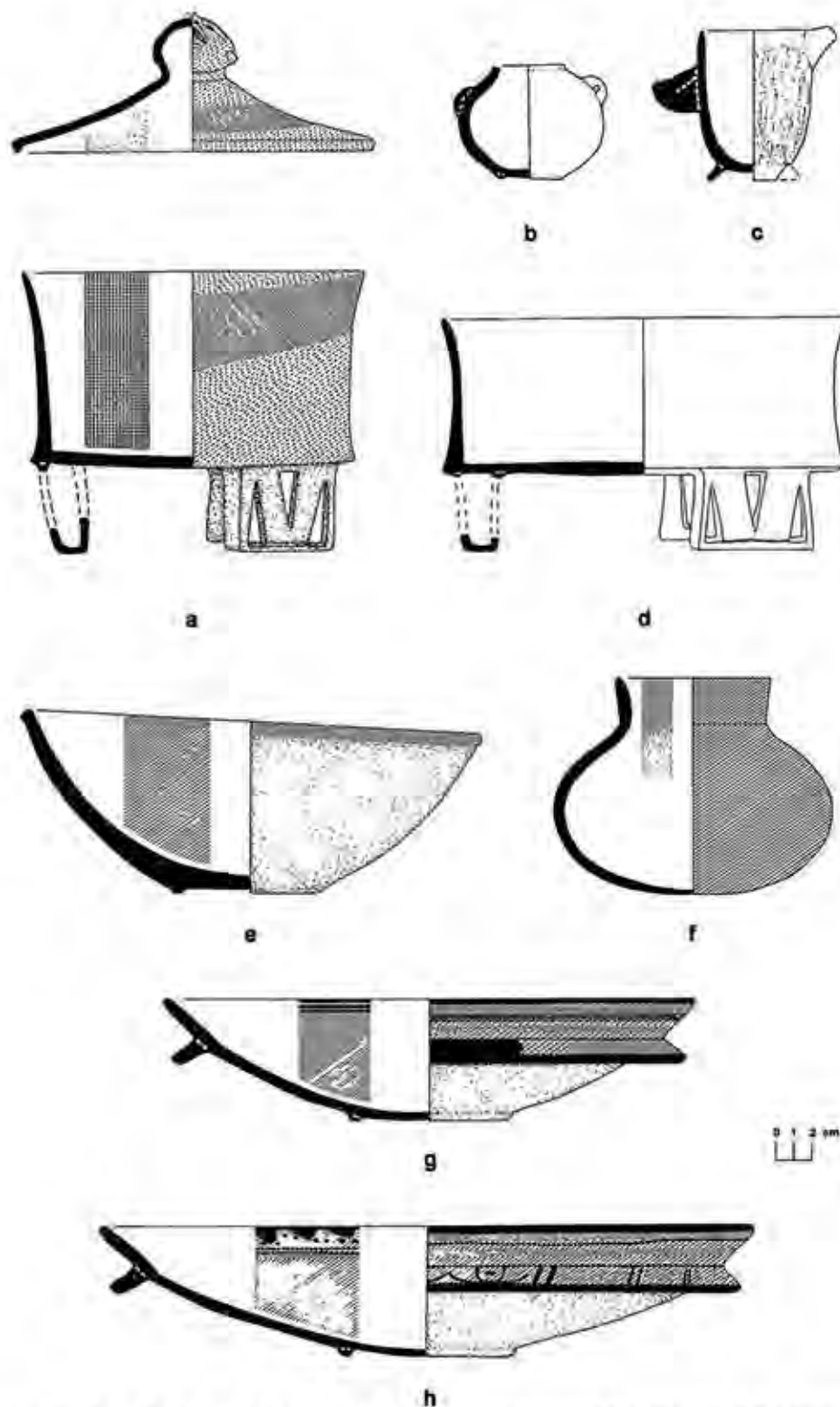


Fig 14 Early Classic Period Ceramic Vessels from a tomb recovered from Structure 7-3rd during 1985.

bowl; jadeite beads, pendants, and an earflare; numerous shell beads; carved bone pins (Figure 13), one with a hieroglyphic inscription; pink and blue painted stucco elements; a bone spindle whorl; and a cowry shell. The contents of this burial were smashed when large stones, probably once forming a rough crypt, fell in antiquity. The individual's skeletal remains were not well enough preserved to ascertain sex; however, the spindle whorl and carved bone pins both suggest that the person may have been a woman.

Very little is known of Structure 7-1st. One small piece of flooring at the summit of the mound, part of a back lower terrace, two front steps, and the rear wall of a room set mid-way up the front slope of Structure 7 were all that could be found in 1979. Investigations by Thomas Gann (1918:68-69), however, encountered a burial and a cache, apparently within the core of Structure 7-1st; his descriptions do not allow absolute delineation of these deposits as being either intrusive or as being located within the construction core. The objects that he found appear to date to the Late Classic and Postclassic Periods. Pottery recovered in association with the rear terrace of Structure 7-1st in 1979 indicate that the final formal building likely was constructed and used during the Late Classic Period.

Evidence for even later use of this locus was recovered by both Thomas Gann and the Corozal Postclassic Project. Gann (1918:68) encountered Late Postclassic material at the summit of the building and excavated a Postclassic deposit containing assorted lithics, a bead, and censers. The steps of Structure 7-1st had also evidently been cleared off during the Postclassic as numerous incensarios were deposited in this area; carbon from within one of these censers places the deposit in the earlier part of the Postclassic Period (Table 2: Beta-18068). Excavation in front of Structure 7 also produced one poorly preserved Late Postclassic flexed burial intruded through the steps.

The latest evidence of for activity in the vicinity of Structure 7 consisted of early 20th century refuse that included glass bottles and the remains of a shovel, all intruded into a series of pits that had been dug into the lower front of the structure. As the artifacts appear to be contemporary with the era that Thomas Gann worked at Santa Rita, this material and activity may represent the remains of one of his investigations.

#### *Structures 40 (Operation P15) and 236 (Operation P25)*

Structure 40 is located on the western side of Structure 7 and is joined to it by Structure 236, a low platform reused and rebuilt during the Late Postclassic Period. Structure 40 was the subject of Corozal Postclassic Project investigations in 1984; it had been previously dug by Thomas Gann (1918:67-70). A small exploratory excavation, measuring 3.1 m by 2.8 m, was placed at the summit of the structure and revealed a well-preserved plaster floor, but no associated walls. The entire area had been badly disturbed by modern earth moving prior to 1979; however, it is clear that there was once a substantial Classic Period structure at this locus. Gann's (1918:Plate 10) early photograph of this locus provides evidence for at least three construction efforts. In 1985, Structure 236 was also extensively sampled (38.1 sq. m) in an attempt to define the relationships between Structures 40 and 7. These excavations succeeded in recovering the well-preserved eastern based of Structure 40-1st and evidence of Postclassic building activity over a very disturbed earlier construction.

#### *Structure 42 (Operation P16)*

Corozal Postclassic Project investigations into Structure 42 consisted of reclearing a previously dug, but still visible, trench (Figure 2) which had diagonally cross-cut this building. This trench presumably had been made by Thomas Gann (1918:67-70). The 1984 re-excavation produced no remaining walls or

floors from the latest elevated Classic Period buildings that must have been at this locus, but did reveal earlier floors and wall stubs at the plaza level; this surface, however, was not penetrated.

#### Structures 18 (Operation P2J) and 23 (Operation P2E)

Limited investigations were conducted during 1984 in the area of Structures 18 and 23; this is an area that had witnessed extensive land clearing activities prior to Corozal Postclassic Project investigations at the site. Electricity board construction in the vicinity of Structure 18 led to the recovery of a Protoclassic vessel (A. Chase and D. Chase 1987a:Fig. 4) associated with a burial; the vessel was reconstructed and recorded, but no further work was done at this locus. Given descriptions of its configuration by Gann (1900:691), Structure 23 may actually have been composed of more than one structure; there is very little remaining to suggest the original height and form that he described. Corozal Postclassic Project investigations consisted of clean-up of the areas in the vicinity of Structure 23 being dug out for foundations for a new water tower for Corozal Town. A series of stratified levels were encountered along with substantial Terminal Classic (Natalnat) refuse (A. Chase and D. Chase 1987a:Fig. 9a). Clearly this area, now largely destroyed, once had significant occupation.

#### Structure 39 (Operation P20)

Structure 39 was investigated in 1984 by an axial trench and through areal clearing of its frontal area and plaza. Excavations encountered evidences of prehistoric activity beginning with the Early Classic Period. No Early Classic construction was found; however, a burial from this era was encountered in the basal level of the axial trench. The individual, an adult, had been interred with a large flanged dish having been placed over the skull. The substructure mass appears to have been constructed as a single event during the Late to Terminal Classic Periods. Two special deposits bracket this effort, a Late to Terminal Classic Period vessel, presumably a cache, placed within the construction core and a Terminal Classic burial placed to the rear of the construction. This burial also had a single vessel over the skull. During the Late Postclassic Period, the substructure was slightly modified. Upright stone slabs were added to the frontal area of the construction and a new double line-of-stone extension was added to the northwest. This locus also contained substantial later Historic Period remains; however, interpretation of both these later materials and the Late Postclassic occupation was hampered because of previous land-clearing activity of recent origin.

#### Structure 35 (Operation P10)

An axial trench, measuring 1.5 m by 27.4 m, was cut into Structure 35 during the summer of 1979; this trench was expanded into a wider excavation to the front and east of the structure. The earliest evidence for occupation at this locus was during the Late Preclassic Period when a series of burials, several with Sierra Red vessels (A. Chase and D. Chase 1987a:Figs. 2b and 2c), were found interred below a basal floor level. No evidence, however, for a building dating to this era was encountered. The earliest construction at this locus is securely dated to the Early Classic by a sealed crypt burial containing a single flexed adult accompanied by a flanged dish and a single jadeite bead. The best preserved construction, however, is of a later date and was cut through in order to place a flexed burial of an adult accompanied by a flanged plate of Late Classic date. Behind the back wall of this same building was Late Classic refuse. Above its floor was a burial of probable Terminal Classic date. Although no indication of a Late Postclassic building in the Structure 35 locus was recovered, it is evident that this area was used extensively during the Late Postclassic Period based on the numerous Postclassic ar-

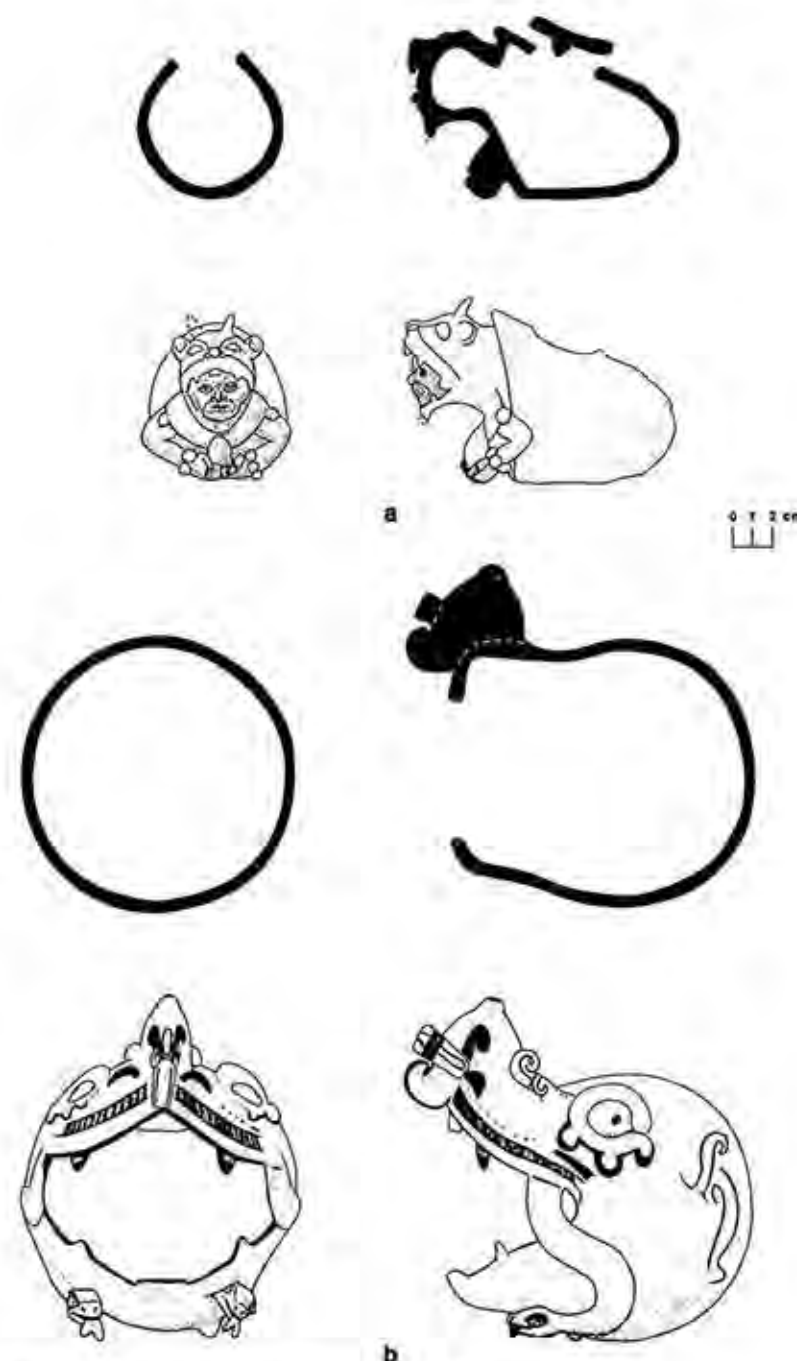


Fig 15 Cao Modeled cache vessels from within the core of Structure 36.

tifacts found in the upper levels of the excavation. The amount of this material makes it probable, in fact, that one or more entirely perishable structures existed at the Structure 35 locus during this time. Slightly north of the Structure 35 platform, two pieces of Spanish storage jars were encountered; there are indicative of the early historic occupation known for the site and also found adjacent to the Structure 7 locus (Figure 18a).



#### Structure 36 (Operation P9)

During the 1979 field season, Structure 36 was investigated by means of an axial trench measuring 12.5 m by 1.5 m (D. Chase 1982a:181-188). The structure was visible prior to digging as a small mound rising 0.6 m above the surrounding ground surface. It appears to have existed in isolation, not forming a group with any other structures visible based upon surface features. Digging went to a maximum depth of 1.1 m below the humus, at which point bedrock was encountered. These investigations produced the substructure for a single-roomed building with a frontal terrace which faced towards the east. The building itself was 2.6 m in cross-section; its frontal platform jutted an additional 4.4 m to the east. The estimated north-south width of Structure 36 is 12.6 m. The substructure was composed of from two to four courses of stone elevated approximately 0.6 m above its accompanying floor. The sloping frontal platform rose approximately 0.2 m above the front floor level and abutted the substructure. Construction and use of the Structure 36 locus were limited to the Late Postclassic Period. Very few artifactual remains were found in association with the building. Penetration of the substructure, however, yielded a construction core cache of clear Late Postclassic date. This cache consisted of two modeled and post-fire painted effigy ceramic figures (Figure 15). One figure was most likely an earthmonster and has an open mouth with serpents protruding from either edge; inside the mouth of the first figure, a second figure had been placed. This smaller figure likely represented a deity, perhaps Itzamna, whose head emerges from yet another creature - a jaguar with a snail shell body. The smaller figure was hollow and, although stoppered, had no remaining inorganic contents. The lack of use-related artifacts associated with Structure 36 - when viewed in conjunction with the small structure size, the lack of burials, and the presence of the Cao Modeled cache figures - suggest that this construction served a non-residential function.

#### Structure 91 (Operation P21)

Structure 91 is a small, low lying structure raised less than 0.3 m above the surrounding ground surface; it was not associated with any other visible structures. During the 1984 season, a 9 m by 1.5 m axial trench was excavated through the structure to bedrock, a maximum depth of 1.1 m at either end of the trench. This locus first appears to have been occupied during the Late Preclassic Period; however, the bulk of the occupation and construction here date to the Late to Terminal Classic Periods. Within the trench, substructure foundations were uncovered for a building that measured 4.6 m from front to back; within the core of this construction were three special deposits, all human burials. One interment consisted of a stone-lined cist containing a Terminal Classic vessel (A. Chase and D. Chase 1987a:Fig. 9b) and portions of an upper torso. The other two burials were composed of individuals extended on their backs with their heads to the north; one of these was also associated with a stone-lined cist and a Late Classic vessel (A. Chase and D. Chase 1987a:Fig. 6b).

#### Structure 92 (Operation P24)

The Structure 92 locus was believed to represent a Maya construction based upon a slight 0.2 m rise in height above the surrounding ground surface; building form and orientation could not be assessed prior to excavation. Excavations consisted of both areal clearing and deeper penetration; clearing excavations were continuously expanded to follow the especially amorphous Late Postclassic structure outline. Bedrock was found at a depth of no more than 0.5 m below the humus. The earliest occupation at the Structure 92 locus dates to the Preclassic Period and consists of both a building platform and burials; three of the burials date to the Late Preclassic Period, while a fourth contained Middle Preclassic



Fig 16 Photograph of Cao Modeled cache vessel found in Structure 37; height ca. 17 cm.

pottery (Figure 38c) and jadeite beads. Following this Preclassic occupation, the area was seemingly not inhabited again until the Late Postclassic Period. At this time an edifice of some sort was constructed at this locus, although its precise plan was difficult to ascertain; artifactual remains associated with the Postclassic occupation include a pair of smashed incense burners; the lack of associated household refuse is suggestive of a predominantly non-residential function for Structure 92 during its final use.

#### Structure 37 (Operation P22)

Structure 37 formed a major locus of investigation during the 1984 season. The structure was elevated nearly 1 meter above the surrounding ground surface, but, as with Structure 92, its form and orientation were difficult to ascertain before excavation began. Investigations included the clearing of two areas, one measuring 6 m by 3.8 m and the other 4.5 m by 3.6 m; an axial trench, measuring 14 m by 1.5 m, provided deeper penetration of the locus, reaching a maximum depth of 1.15 m. Excavations were taken to bedrock in the eastern portion of the trench and to sealed floor levels elsewhere. Non-penetration of these earlier floors without doubt decreased the Preclassic sample for this locus; nevertheless, an extremely complex occupation history was revealed. In addition to constructions and re-floorings dating from Late Preclassic, Late Classic, and Late Postclassic eras, excavation uncovered 2 caches and 9 burials.

The earliest defined occupation of the Structure 37 locus appears to have been during the Late Preclassic Period when there is evidence for a rounded construction and 3 burials; including one with multiple vessels. Rebuilding activity took place during the Late Classic Period at which time additional burials were placed; the majority of these individuals were buried individually, either in extended or flexed position, with head to the north, and associated with a single vessel.

Significant effort was placed on investigating the Postclassic occupation in the Structure 37 locus; nevertheless, the precise form and function of the Late Postclassic version of Structure 37 is difficult to ascertain. There was clear architectural evidence for only one wall of the building; this was a partial double-line-of-stone wall located roughly parallel to and north of the axial trench. While building form was impossible to discern, two caches indicate the probable importance of this locus during the Late Postclassic Period. One cache was located at the southeastern limits of the last building pad and consisted of a modeled diving-

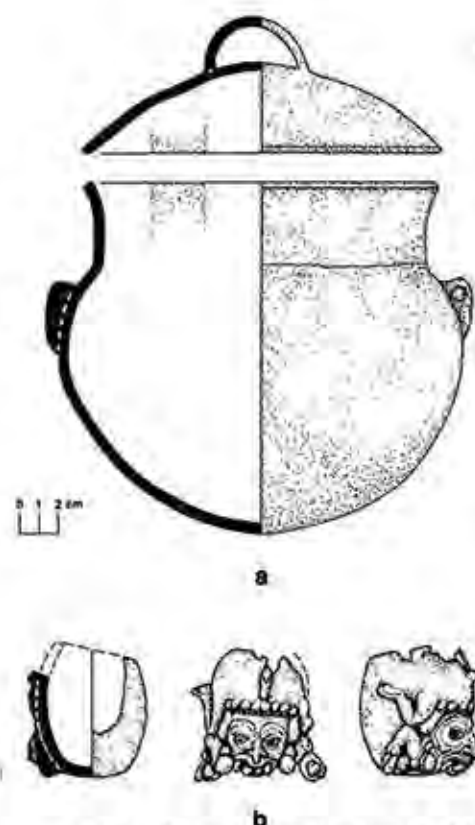


Fig 17 Cache vessels from Structure 37: a) Santa Unslipped; b) Kol Modeled.

present in the artifactual record; pieces of 19th century pottery and glass were located in a number of the upper levels of the excavation, particularly in the southern portion of the mound. This later occupation may in fact be responsible for the poor preservation of the Late Postclassic building.

#### Structure 38 (Operation P35)

Like many of the ancient structures at Santa Rita Corozal, Structure 38 has been greatly modified by modern activity. The structure is now surmounted by a house. During the 1985 season, a car-port was being constructed next to the house and on the eastern side of the mound. During digging of foundation trenches, much pottery and some human bone was encountered. Because of this, some salvage work was undertaken at the locus. Specifically, two burials were partially recovered as were sealed samples of materials from within the construction trenches. What was uncovered merely hints at what had once been at this locus; predominant periods of activity appear to have been the Terminal Classic, Late Postclassic, and late Historic Periods. One of the burials, dating to the Late Postclassic Period, was somewhat unusual in containing a complete turtle carapace, perforated for suspension, as a burial offering.

#### The North Intermediate Sector

No investigations were undertaken in the area designated as the North Intermediate Sector. Although Thomas Gann excavated several structures in this zone, very little now remains in this area which lies between the North Central and South Intermediate Sectors. Much of the North Intermediate Sector is comprised

figure ceramic cup (Figure 17b) associated with 3 pieces of stingray spine. A second cache was dug into an earlier floor and consisted of an unslipped urn and lid (Figure 17a) which contained a combination diving-earthmonster figure (Figure 16). This inner pottery vessel, however, still maintained much of its polychrome post-fire paint. It also served as a repository for other smaller objects, including spondylus shell, jadeite, and metal - including one small piece of gold foil. This latter cache is the best preserved of all those found during the Corozal Postclassic Project investigations; the only other cache figure with comparable paint preservation was found in Structure 81. The cache form is important in terms of interpretations concerning the significance of caching practices at the site. The fact that the Postclassic construction itself might easily have been overlooked (as might many of the others excavated between 1979 and 1985) must serve as a cautionary note in discussions about the Late Postclassic (see below and D. Chase in press a). Later evidence of occupation of this locus was also

of very low land, or bajo, which is seasonally inundated with water. Higher land, however, exists at its eastern extreme in conjunction with the coastal bluff which rings Corozal Town. Modern construction activities, however, have served to remove any visible structures from this area.

#### The South Intermediate Sector

Demarcated by bajo to its north and roughly by the Corozal Community College road to its south, the South Intermediate Sector of Santa Rita Corozal was an area of intensive excavation during 1984 and 1985. The settlement for this sector fades as one goes inland towards the west and terminates in the higher bluff that overlooks Corozal Town to the east. It is suspected that earth-moving activities have been undertaken on both the eastern and western fringes on this sector, especially given the number of chultuns which occur independent of any visible architecture. In general this sector provides ample archaeological evidence for Late Preclassic (Pakalpak) and Protoclassic (Mocolmoc) occupation, with Protoclassic occupation tending to concentrate in the sector's eastern part, along the bluff. While no Early Classic (Hokenhok) occupation was recovered, Late Classic (Emelem) and Terminal Classic (Natalnat) occupation was found throughout the zone. Without doubt, however, the Late Postclassic (Xabalxab) occupation far exceeded that of earlier populations; some of the most important Postclassic deposits located at Santa Rita Corozal are from the South Intermediate Sector. Excavations within this sector took place in and around Structures 6, 156, 159, 160, 162, 166, 167, 179, 181, 182, 183, 189, 212, 213, 214, 215, 216, and 218; Postclassic remains were encountered in all of these loci.

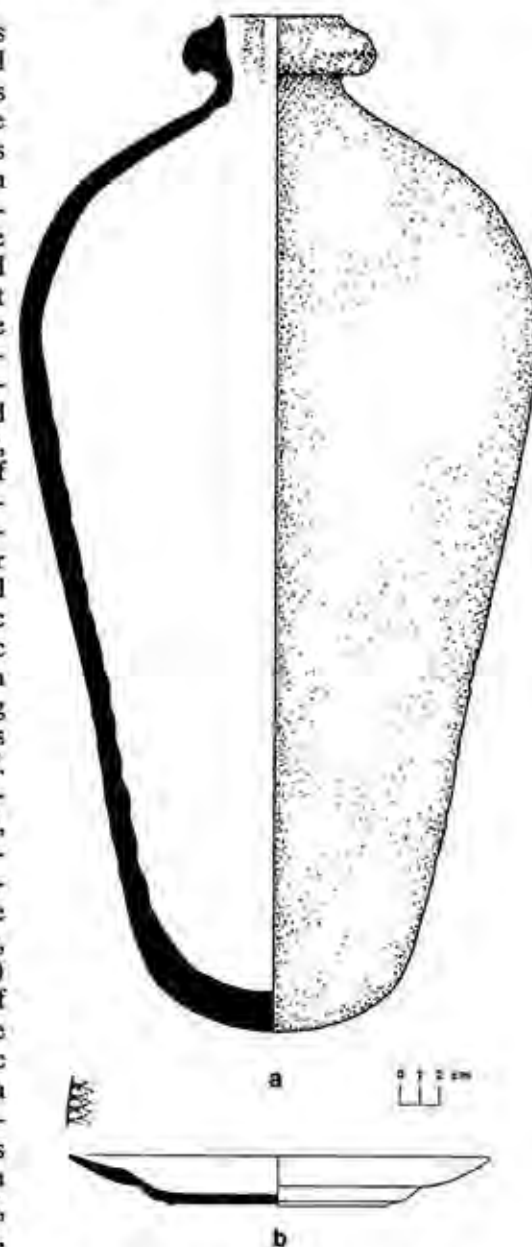


Fig 18 Historic Period vessels from Santa Rita Corozal: a) Spanish olive jar from the vicinity of Structure 7; b) Pearlware plate from Structure 156.



### Structure 156 (Operation P18)

Structure 156 investigations were undertaken in 1984 and included both areal clearing and deeper cuts. The building itself had been placed on the southern edge of a large low-lying platform; while it was raised about 0.50 m above the platform, the platform itself rose an additional 0.85 m above the surrounding ground level. A total area of 198.5 sq m, encompassing the visible Structure 156 and much of its contiguous platform, was exposed through areal excavation. A 1.5 m by 18 m trench, dug to a depth of 1.2 m in some places, also penetrated Structure 156 and revealed earlier occupation dating to the Late Classic era. The areal exposure revealed three overlapping constructions, which dated to the Terminal Classic, Late Postclassic, and late Historic Periods. In some cases it was difficult to distinguish what was constructed or deposited at what time, especially given the proximity of the architectural constructions. While little information could be gathered concerning the Late Postclassic building(s), the Historic Period building, located immediately west of the earlier constructions, revealed foundations that measured 6.30 m deep by at least 7.00 m long; to some extent, these remains are reminiscent of late 16th century construction practices recorded for Puerto Real, Haiti (Ewen 1988:45). Extensive debris dating to the mid-nineteenth century (Figure 18b) was recovered in association with the paired row of large stone foundations. The Classic Period building was fairly well preserved on its western side and was 4.00 m deep with nicely faced walls 2.20 m thick; these walls rested on plinth which protruded an additional 0.10 m. This earlier edifice had an estimated overall length of approximately 7.50 m; its eastern extent had been severely disturbed by both presumed Postclassic building activity and a series of burials. An extensive garbage deposit dating to the Terminal Classic era was located along the western side of the Classic Period building. Postclassic debris, including a disturbed cache, was found overlying and to the east of this same building. Five burials were recovered in association with the Structure 156 locus. One of these, an extended individual with head to the north, was sealed beneath earlier constructions below the colonial building foundations. The other four interments, all consisting of extended individuals with heads either to the west or the south, had been placed barely beneath the ground surface in stone-lined cists that disrupted the earlier Classic Period building. These latter four burials date from either the very Late Postclassic or the Historic era.

### Structure 159 (Operation P19A) and Chultun 13 (Operation P19D)

Immediately north of the Structure 156 platform lies another large platform supporting a series of buildings. This northern platform rises 0.80 m above the surrounding terrain; Structure 159 rises an additional 0.30 m above the platform surface on its western side. Investigations of the Structure 159 locus in 1984 opened up 112.5 sq m of area and witnessed the excavation of two deeper trenches into both the platform and the building. These investigations revealed an extremely complex construction history extending from the Late Preclassic to Late Postclassic eras. The latest building representative of Structure 159 consisted of stone base walls approximately 1.00 m wide and dating to the Postclassic era; this construction was 6.10 m wide and over 12.00 m in length. Penetration of this building and its adjacent platform revealed a series of stratified floors and 10 burials. These interments ranged in date from the Late Preclassic through Late Classic eras; most were associated with pottery vessels.

Just north of the Structure 156 platform, an open chultun was excavated. Chultun 13 descended over 2.50 m into the bedrock with a main chamber measuring roughly 3.40 m in diameter. Artifactual debris associated with the chamber included a complete bone rasper and Protoclassic ceramics.

### Structure 160 (Operation P19B)

Across the platform from Structure 159 and facing that edifice was what appeared to be another low building rising 0.15 m above the surface of the platform. A total of 56.00 sq m of the Structure 160 locus was areally exposed; the depth of the excavation reached 1.20 m in some instances. Although Postclassic debris was scattered over this area and some metal was recovered, it was not possible to isolate the Postclassic construction with which they were associated. A single flexed burial accompanied by a mano and assignable to the Postclassic was recovered to the east of Structure 160. Unlike the Structure 159 locus, nothing earlier than the Classic Period could be isolated in the Structure 160 excavations.

### Structure 162 (Operation P23A)

Rising 1.50 m above the surrounding ground level, Structure 162 was easily visible. Although no formal deposits were recovered in this locus, a huge amount of Late Postclassic trash was encountered as well as a somewhat disturbed line-of-stone building immediately south of the mound itself and extending up onto its front slope. Although almost 110 sq m were areally exposed in the Structure 162 locus, the mound itself was not fully penetrated because of time limitations.

### Structure 166 (Operation P23B)

A small line-of-stone construction (Figure 19) was discerned to the southwest of Structure 162. Once cleared of bush, Structure 166 rose about 0.30 m above the surrounding terrain. The entire building was areally exposed during the 1984 season. A 1.50 m wide by 6.00 m long trench bisected the construction and was dug to bedrock, some 0.70 m below the surface. Structure 166 measures 3 m in length by 2.70 m in depth; it can probably be labeled as a "shrine" (for a definition, see Freidel and Sabloff 1984:40,46). A large number of ceramic beads and fish weights were associated with this small edifice. Within the core of the building and on axis to it were an incensario head (Figure 22a), a long stemmed arrow point, and two multiple burials. The 4 individuals beneath the rear wall of Structure 166 were set upright and associated with a greenstone celt and chert tools. The other multiple burial was set to the front of Structure 166 and was disturbed by looters prior to full recording; it appears to have been comprised of 3 individuals and a mano fragment. No earlier occupation was found at this locus.

### Structure 182 (Operation P28)

During the 1985 field season, one other building located on a low platform was investigated. Structure 182 and its platform rose a total of 0.35 m above the surrounding terrain. As mapped in relation to its underlying platform, the structure appeared to face north. When it was excavated, however, Structure 182 proved to have a circular foundation and to have likely faced west (Figure 20). A north-south trench through Structure 182, in fact, demonstrated that the platform and

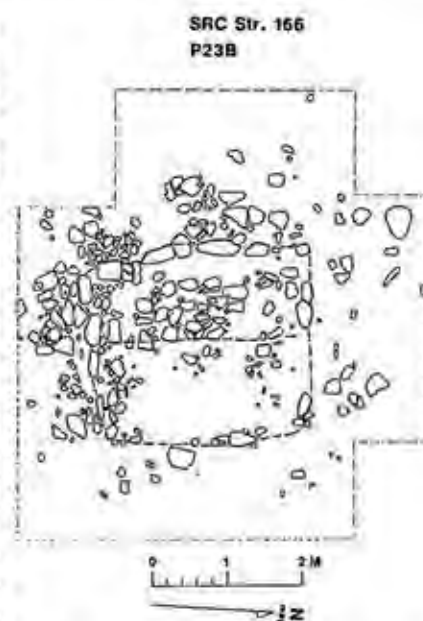


Fig 19 Plan of Structure 166, a Postclassic shrine.

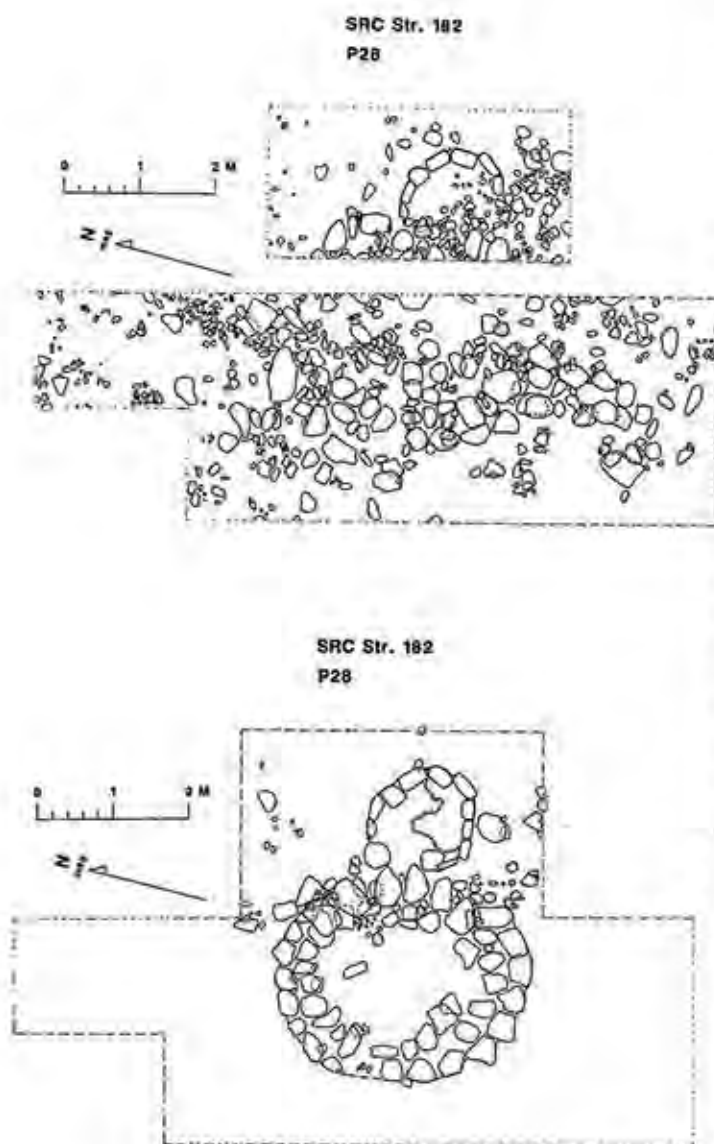


Fig 20 Plans of Structure 182: upper plan shows structure with overburden; lower plan shows the structure itself.

having a diameter of 1.40 m was appended to the east side of the building. A single ceramic mask (Figure 21c) was found in the core of the Late Postclassic construction; red slipped vessels (Figure 21a,d) and pieces of effigy incensarios (Figure 21b) were found smashed about the outside of Structure 162. Included in the stone scatter above the Postclassic construction was a large rectangular stone carved in the shape of a snake's head. Excavation of the smaller circular feature found it to be capped by a plaster flooring and to have surmounted the flexed burial of a single individual who was accompanied by 4 bone spindle whorls.

the structure were not part of the same construction effort; the construction of the platform dated to the Late Preclassic and Protoclassic eras, while Structure 182 was entirely assignable to the Late Postclassic Period. A circular building pad dating to the Late Preclassic era was found just above bedrock, but buried within the platform supporting Structure 182. The coring of this platform also yielded a Late Preclassic burial with a single vessel and a Protoclassic burial with two vessels and two carved shell beads (D. Chase and A. Chase 1986a:6).

The Postclassic construction at the Structure 182 locus was represented by oval foundation walls measuring 2.80 m by 3.40 m; another circular feature

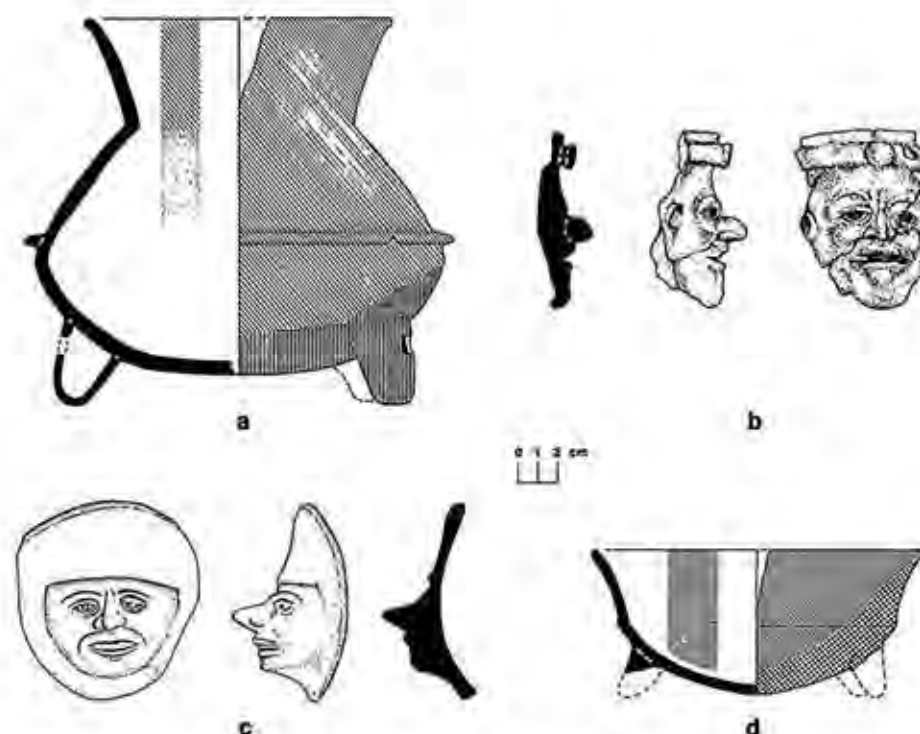


Fig 21 Ceramic vessels associated with Structure 182: a, d) Rita Red; b, c) Kol Modeled.

#### Structure 212 (Operation P27)

In an area that had been previously disturbed by both modern activities and possibly by Thomas Gann was an obvious platform associated with a series of buildings. Structure 212 was the southernmost construction on this low platform; together the building and the platform were raised 0.30 m above ground level. The locus was excavated both areally and by means of a trench; a total of 30 sq m were exposed, in some places to a depth of 1.30 m where bedrock was finally reached. Earlier construction efforts, relating to the platform were found to the north of Structure 212. Associated with this earlier platform were three burials, all of extended supine individuals with their heads to the north; one had its head covered by a Late Classic pottery vessel.

The Late Postclassic building had been set astride this earlier platform. The base walls for Structure 212 indicated that the edifice had measured 3.20 m in depth by 3.80 m in length; a front stoop, measuring 0.50 m by 1.40 m, was appended to the northern side of the building. The rear wall of the Postclassic construction had been set over a smashed set of effigy incensarios and what at first appeared to be a hollow cavity. Investigation of this cavity revealed the burial of a flexed individual set at the edge of a largely filled-in chultun. This chultun was completely excavated to a depth of over 5 m below the current ground level; early facet Late Postclassic (Xabalxab) materials were found at its bottom (Figure 4a,d).

#### Structures 167 (Operation P34A) and 179 (Operation P34B)

A large low platform, rising about 0.4 m above ground level and supporting a number of constructions, was investigated during the 1985 season. Two low buildings were areally exposed and a large amount of Postclassic trash was recovered in conjunction with these excavations.



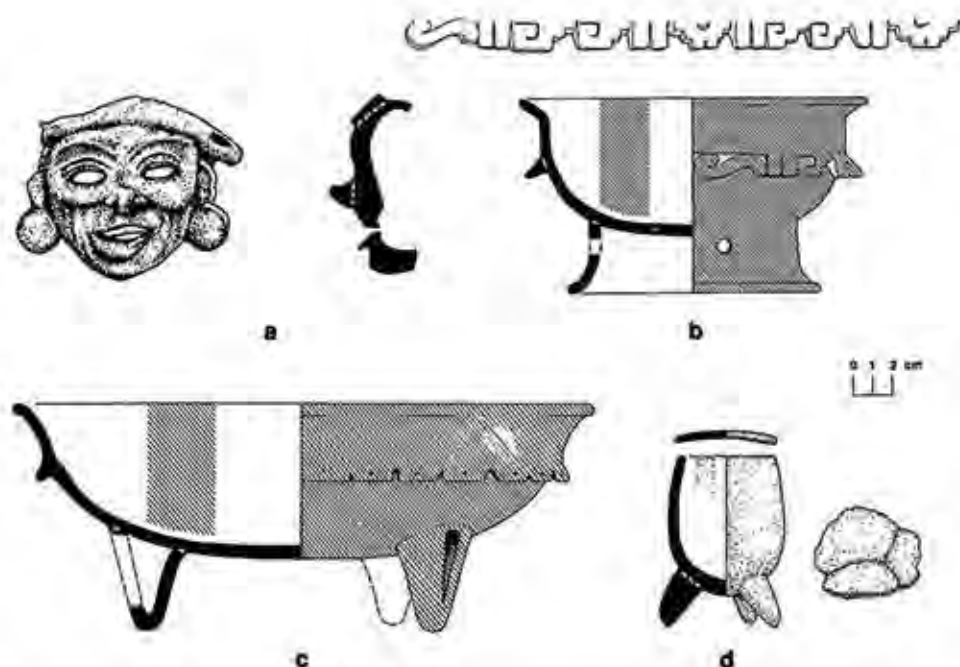


Fig 22 Ceramics from the South Intermediate Sector: a) Kol Modeled; b, c) Kulal Modeled; d) Santa Unslipped.

On the northeast corner of this platform, Structure 167 was encompassed within a 37.4 sq m areal excavation. Although the northern part of this construction had been disturbed, the building was easily delimited by its readily noticeable line-of-stone pad. This 0.4 m high construction was 4.2 m deep and at least 6.0 m in length; it was trenched to an earlier floor level that existed at about the same height as the platform summit. Clearing of the structure revealed an almost complete red slipped plate (Figure 22c).

Opposite Structure 167 on the western side of the platform, a faint 0.08 m rise was detected on the summit of the platform. An areal excavation of some 77.4 sq m revealed a very indistinct building that was at least 3 m deep by over 5 m in length that may have had a tandem plan. As in the Structure 167 locus, the building and the platform upon which it rested were entirely different in date. While a plethora of Late Postclassic trash was associated with the building off the western side of the platform, minimal penetration of the uppermost platform floor produced the remains of two extended individuals, both with their heads to the west and each associated with a Terminal Classic vessel.

This non-correspondence between structure and platform construction and use is borne out by a number of excavations in the South Intermediate Sector (Structures 156, 159, 182, 212) and seems to form a general pattern of widespread Postclassic reuse of earlier occupation locales, especially if these were somewhat raised. However, at least the same number of Postclassic peoples were also presumably settling in areas that were not utilized in earlier times. Were Postclassic constructions not located on these earlier, raised platforms, it would have been exceedingly difficult to see many of them as they often protruded little, if at all, above normal ground level.

#### Structure 6 and Chultun 12 (Operation P31)

Thomas Gann (1900:683-685) was the first to excavate in the Structure 6 locus; he described finding a very impressive Postclassic cache containing 19 objects, mostly modeled figurines similar to those found in Structure 183. He (1900:683) also noted a "extensive" quarry 50 yards south of the structure. When relocated by the Corozal Postclassic Project, it was apparent that fully half of "Structure 6" was missing. Given its approximately correct distance from Structure 7, the presence of what may have been a quarry the correct distance to the south of the building, and the non-existence of anything else in the area fitting Gann's description, the edifice was re-identified as Structure 6. Excavations confirmed the Postclassic date of the construction.

As the western half of Structure 6 was completely gone, an areal excavation of 71 sq m was placed over the eastern half of the building, which rose 0.75 m above the ground level. A 13 m long by 2 m wide trench was also placed as close to the missing western half of the building as possible; this excavation penetrated to a depth of 1.2 m where bedrock was located. While no formal deposits were found, a huge amount of Postclassic trash was recovered in the areal excavation. Foundation walls for an earlier Classic Period building were found in the trench, indicating that the earlier construction at this locus had been 7.4 m wide.

Immediately north of Structure 6 lay a chultun. In hopes of recovering primary garbage from within this feature, it too was excavated during the 1985 season. Although almost no artifactual material was found in association with it, Chultun 12 proved distinctive in several respects. Rather than the usual round chamber, Chultun 12 had two rectilinear rooms linked together by another rectangular antechamber (4.25 m in length). Below its circular opening through bedrock, it also had a stairway leading down to the lower chambers, the floors for which were 2.4 m below the bedrock surface. It is not possible to place this unusual construction securely in time, but it surely must have been noted by the Postclassic inhabitants of the area.

#### Structure 181 (Operation P36)

East of Structure 6 and possibly forming a plaza with it and Structure 180 was the low-lying Structure 181, rising an almost imperceptible 0.2 m above the terrain. While areal excavations opened up 62.5 sq m of this construction, it was impossible to readily define the Postclassic construction in and amongst the stone scatter. As with Structure 6, Structure 181 was also associated with a large amount of Postclassic trash. A 9 m long trench through the construction hit bedrock 0.9 m below the surface, but also uncovered a set of foundation walls separated by 6.3 m and presumably representing an earlier construction at this locus responsible for the slight rise of Structure 181 above the terrain.

#### Structure 213 (Operation P26)

Structure 213 is the northern anchor for a Postclassic plazuela group that included Structures 214, 215, and 216. When the area was first mapped in 1984, it was the only construction that was noted in this area. Intensive clearing of brush and leaves south of the Structure 213 locus, however, led to the tentative identification of Structures 215 and, ultimately, 216 as buildings, something later confirmed by excavation. The easternmost plazuela building, Structure 214, was largely invisible, being represented initially by a single stone that protruded above the ground surface; excavation, however, revealed an identifiable line-of-stone building (Figure 28).

Structure 213 was readily visible without excavation and had been the locus for stone-robbing. Although Structure 213 itself rose only 0.2 m above the platform on which it rested, the northern extent of the platform in the Structure 213 locus

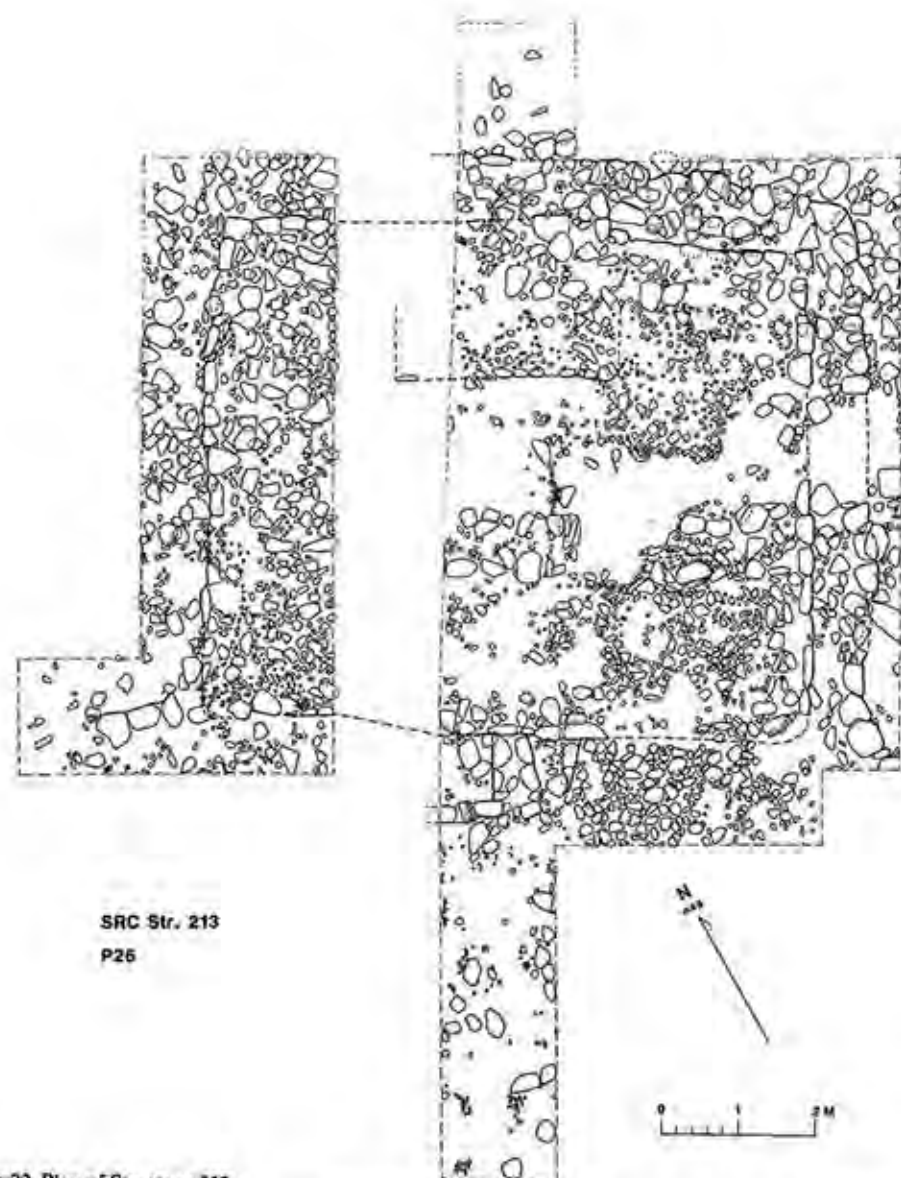
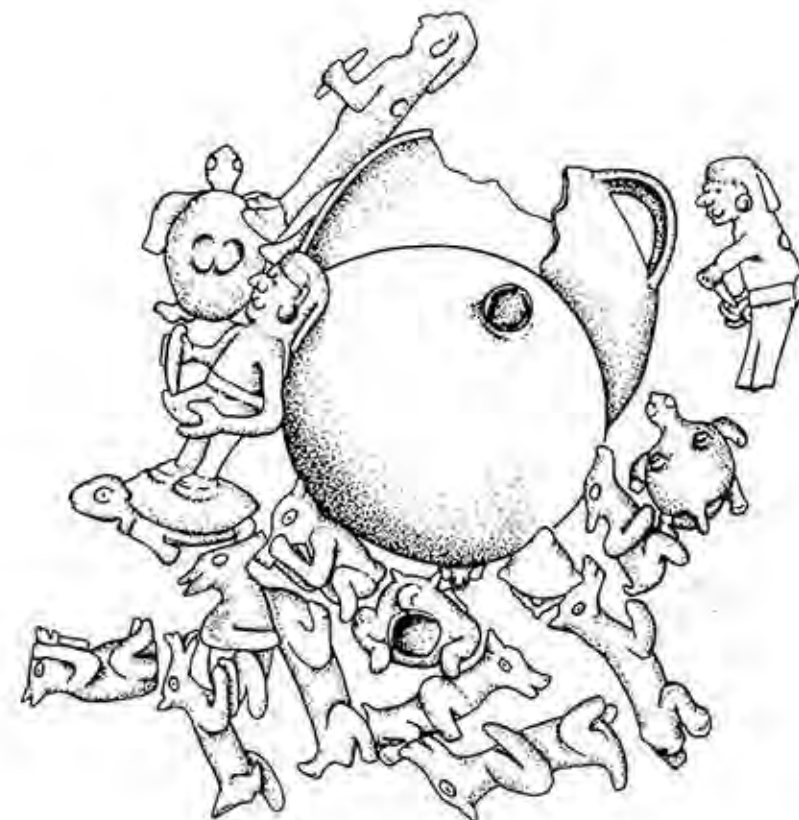


Fig 23 Plan of Structure 213.

rose 0.9 m above the surrounding terrain. With the exception of a balk that was left in place, the entire construction was exposed by means of 83.8 sq m of areal excavation (Figure 23). A trench measuring 15.1 m by 1.5 m in length was also placed so as to bisect the Postclassic edifice; it was dug to a depth of 1.1 m at which point a sterile brown clay was found, probably indicating that this locus had been an area of bajo at some point in the past. As revealed through excavation, Structure 213 was a raised stone construction measuring 6.1 m from north-to-south by 8.0 m from east-to-west. A front stoop protruded 1.1 m to the south of the building.

A series of impressive deposits were found in association with Structure 213. Within the core of the building itself a Postclassic figurine cache was located just above the underlying sterile matrix. As found, the figurine cache consisted of 4 deer, 4 dogs, and 4 pisotes placed south of a lidded urn; four bacab figures, stand-



a

0 2 4 cm



b

Fig 24 Plan of Structure 213 figurine cache: a) lidded urn with exterior figurines; b) nested figurines within urn. North to the top of the page.



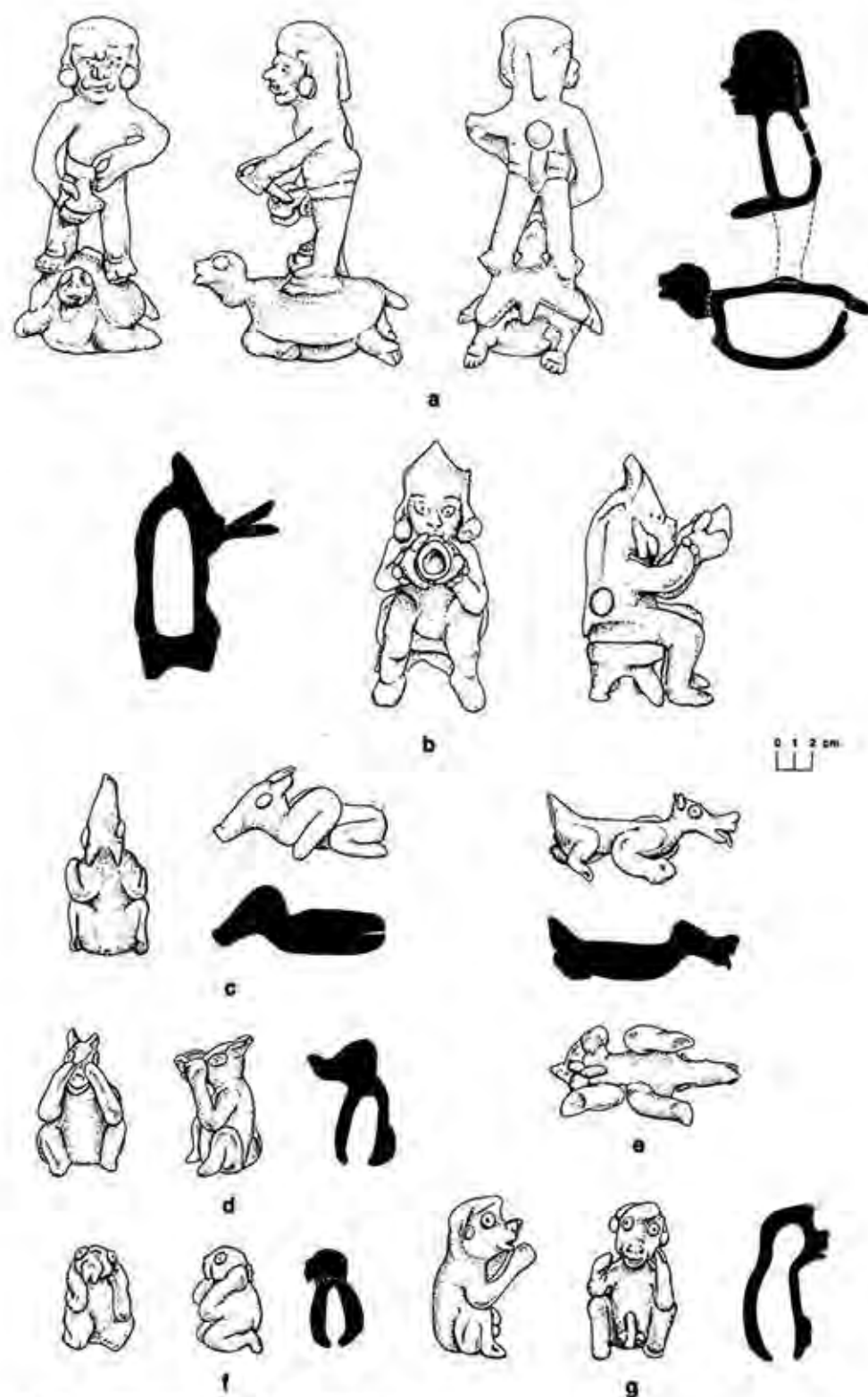


Fig 25 Representative figurine types from the Structure 213 figurine cache.

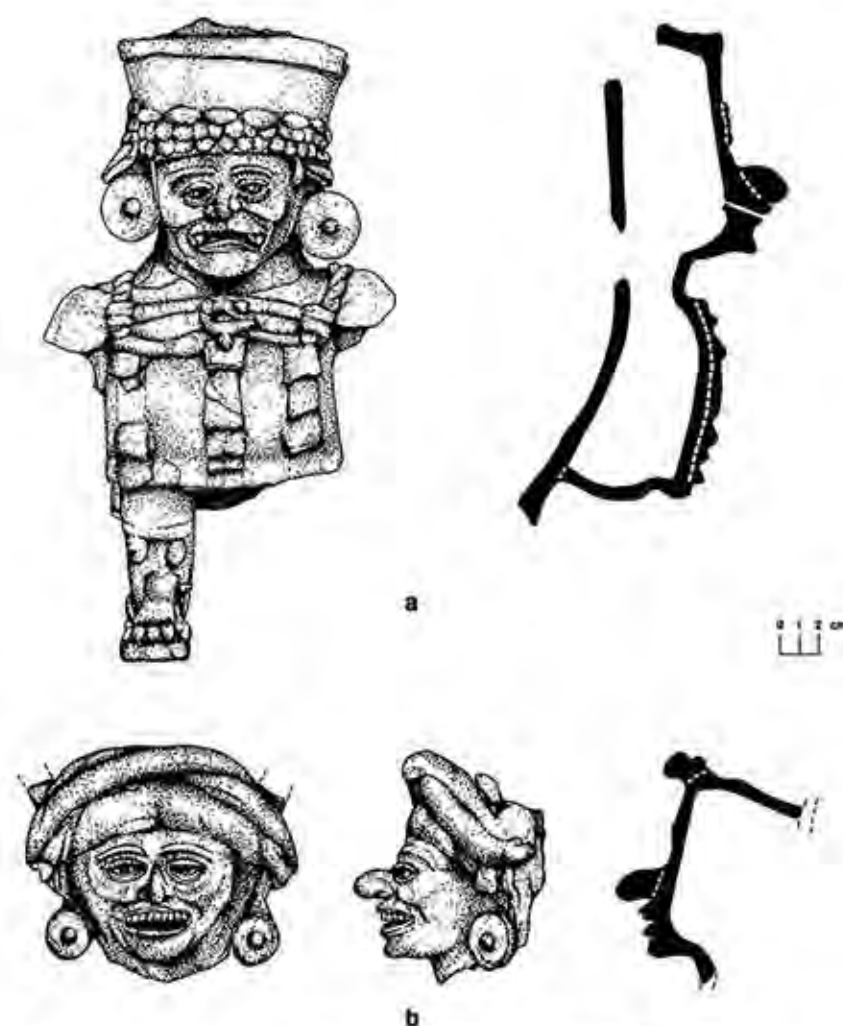


Fig 26 Kol Modeled incensarios from an interment in the front stoop of Structure 213.

ing on turtles and performing penis-perforation, were located around this same lidded urn, presumably with directional significance (Figure 24a). This outer assemblage of 16 figurines (Figure 25a,c,d,e) was physically separated from an inner grouping of 9 figurines (Figure 25b,f,g), which were contained within the lidded urn. Unlike some of the other caches at Santa Rita (such as those in Structure 37 and 183), the lid was not specifically prepared to go with this urn; instead, the lid was composed of a presumably reused ladle censer with its handle removed. The 9 figurines within the urn (Figure 24b) included 4 male monkeys, 4 female creatures, and 1 human figure sitting on a throne and blowing a conch shell. Beneath the seated figure, a single triangular piece of jadeite was located along with 4 small shells.

Excavation within the stoop of the building produced a mass burial consisting of five individuals, who, for the most part, were flexed and set upright. Five jadeite beads accompanied this interment, presumably one for each individual. Near the top of the human bodies and intermixed among the bones were parts of two effigy incensarios, the torso of a male and the head of a female (Figure 26).

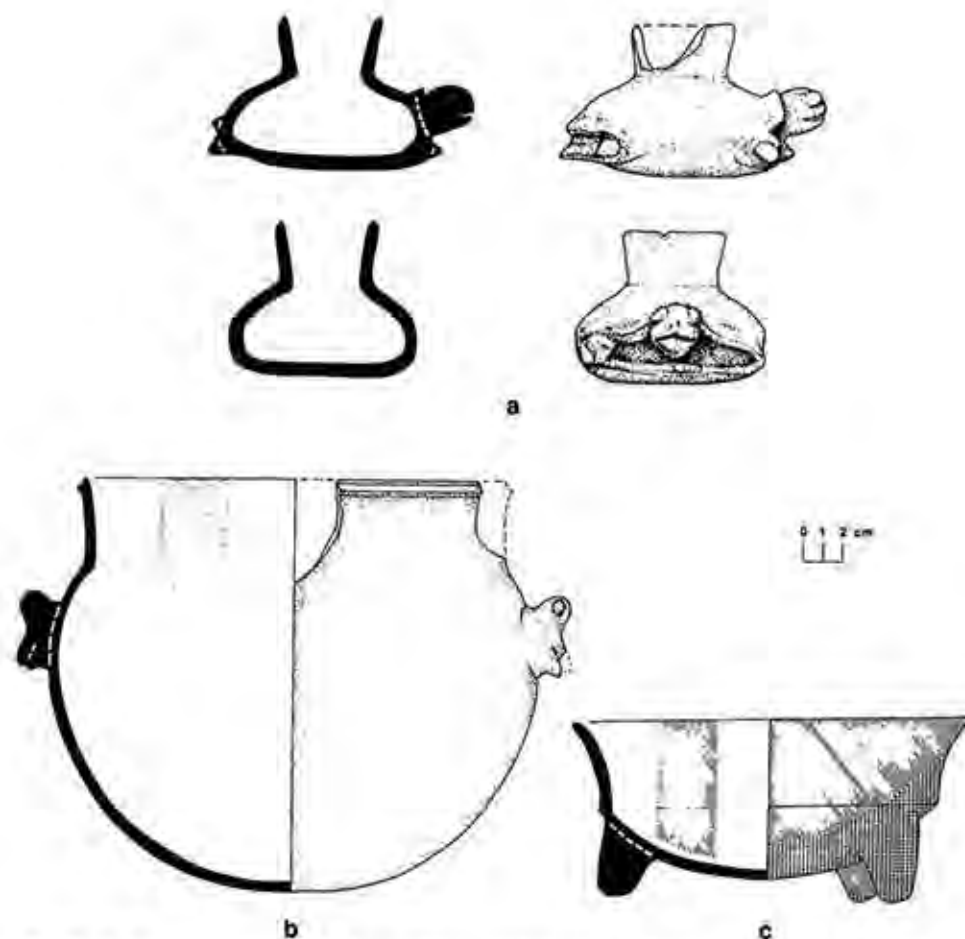


Fig 27 Cache vessels found to the front of Structure 213: a) Cao Modeled; b) Santa Unslipped; c) Rita Red.

This whole deposit had been sealed by rock slabs, upon which yet another human skull had been placed.

One other interment and two other caches were found to the front of Structure 213. The interment was located at the southernmost end of the Structure 213 trench in the plaza area and consisted of a single supine individual with head to the north accompanied by a pottery bowl of Late Classic date. Unlike the burial, the caches are securely dated to the Late Postclassic era. One cache consisted of an effigy turtle vessel (Figure 27a) set into the plaza fill; it contained two small jadeite beads. The other cache consisted of an urn (Figure 27b), similar to that found in Structure 37, which had been capped by an inverted red slipped bowl (Figure 27c). Interestingly, the red slipped bowl was fitted into the neck of the urn, rather than covering it. This second cache contained the remains of what had been complete, and at one time live, turtles as well as two beads, one of jadeite and the other of spondylus shell.

#### Structure 214 (Operation P32)

Completely invisible on the surface, Structure 214 was only revealed after 59.7 sq m of areal excavation and, then, only by lines-of-stone which formed a rectangle measuring 3 m in width by over 8 m in length (Figure 28). A 5.6 m long

trench through this construction almost immediately found sterile soil, but did reveal a pit which had been dug into this underlying matrix and which contained a single human long bone. Almost no artifactual material was found in association with this building.

#### Structure 215 (Operation P29)

After intensive clearing, a slight rise of less than 0.2 m initially indicated the presence of Structure 215 as the southern edifice for a plazuela group containing Structures 213, 214, and 216. A 44.8 sq m areal excavation revealed a well-defined stone-lined pad; trenching Structure 215 confirmed that the edifice dated to the Late Postclassic Period and that no earlier constructions had existed in this locale. As exposed, Structure 215 measured 5.4 m east-west by 4.5 m north-south.

Four deposits were encountered in association with Structure 215, one cache and three burials. The cache consisted of a small footed cup covered by a large sherd (Figure 22d) and placed almost at the midpoint of the building. The three burials all dated to the Late Postclassic era and were located to the rear of Structure 215. One interment of a single flexed individual seated upright had been placed into the sterile matrix beneath the building. The other two burials were each composed of two individuals and were placed within the core of the construction. All of these latter individuals were flexed and on their sides. One set of



Fig 28 Photograph of the excavated Structure 214.





Fig 29 Photograph of the double upright interment associated with Structure 216.

individuals consisted of a male and female accompanied by a single bone bead, while the other set of individuals consisted of two males.

*Structure 216 (Operation P33)*

Appearing as a very low natural hillock, Structure 216 rose gradually to a total height of 0.4 m. Almost 200 sq m of Structure 216 were exposed by means of areal excavation. An east-west trench, 14.1 m long by 1.5 m wide, was additionally excavated to a depth of approximately .5 m; two suspected features were additionally investigated by smaller trenches. The results of these investigations were the identification of what must have been a Postclassic multi-room building buried under almost 0.2 m of sterile humus; based on the recovered lines-of-stone, the overall Postclassic structure must have been about 22 m long and 11.7 m wide. Two small shrine areas were identified within this construction and both were tested. One shrine was approximately 2 m square and located at the northern extent of the construction, while the other was 1.7 m long by 1.2 m wide and located within the middle of the building. The deeper trench also revealed the existence of a deeply buried Classic Period construction which was 9.4 m in depth. Extensive artifactual scatters were found on both the southern and northern edges of Structure 216. The southern part of Structure 216 would, in fact, appear to have been utilized for the knapping of flint arrow points.

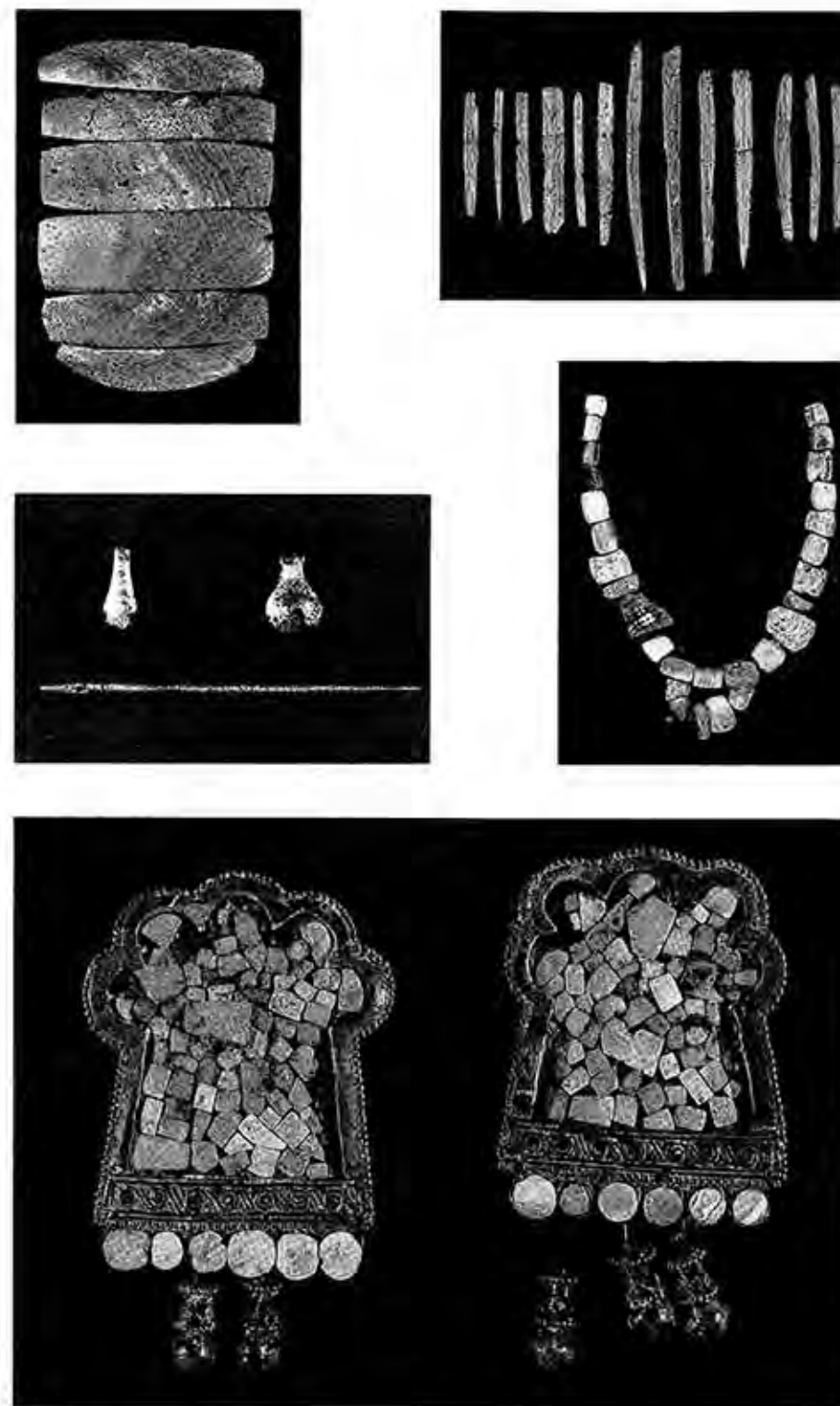


Fig 30 Items from the Structure 216 interment: spondylus bracelet, upper left; stingray spines, upper right; copper clasps and needle, middle left; spondylus and jadeite necklace, middle right; gold and turquoise earplugs with obsidian backing, bottom. Upper items are approximately half-scale; earplugs are approximately life-size.

Only one formal deposit was found in association with Structure 216 and this was located on axis to and beneath the central shrine. It consisted of the upright, flexed interment of two males (Figure 29) who were accompanied by a host of items (Figure 30). Set before the males was a compacted mass of red hematite. From the artifacts accompanying the two individuals, it was determined that the northern one had been the primary one of the pair. The southern individual was perforated with a series of stingray spines and with a copper needle almost 13.8 cm in length; he was elderly and sickly at death as indicated by the extensive calculus build-up on his teeth. The northern individual had a single stingray spine set within his pelvis. Around his neck was a jadeite and spondylus shell necklace; around his left wrist was spondylus shell bracelet. In his earlobes, he wore a set of gold and turquoise earflares set on obsidian backs (ca. 5 cm in height); originally 6 gold bells (1.4 cm in height) dangled below each of the earflares, attached to the obsidian backing. Both individuals also appear to have been wrapped or bundled in death with each bundle being associated with a copper clasp; elsewhere in the literature, these clasps have been identified as "tweezers" (Gann 1918:71-72; Proskouriakoff 1962:389). From the positions of these objects in the Structure 216 interment, it would appear that their function was not as tweezers, but rather as clasps to hold or finally pin the presumed cloth wrapping.

#### Structure 183 (Operation P37)

At first believed to be an isolated construction, Structure 183 was not identified as defining the southern side of a low platform until its entire vicinity had been cleared of brush and leaves. While the platform rose 0.25 m near Structure 183, the building itself was elevated only 0.15 m above the surrounding terrain. The entire plan of the construction was revealed by means of just over 82 sq m of areal excavation (Figure 31; photograph in D. Chase and A. Chase 1986a:15); the entire

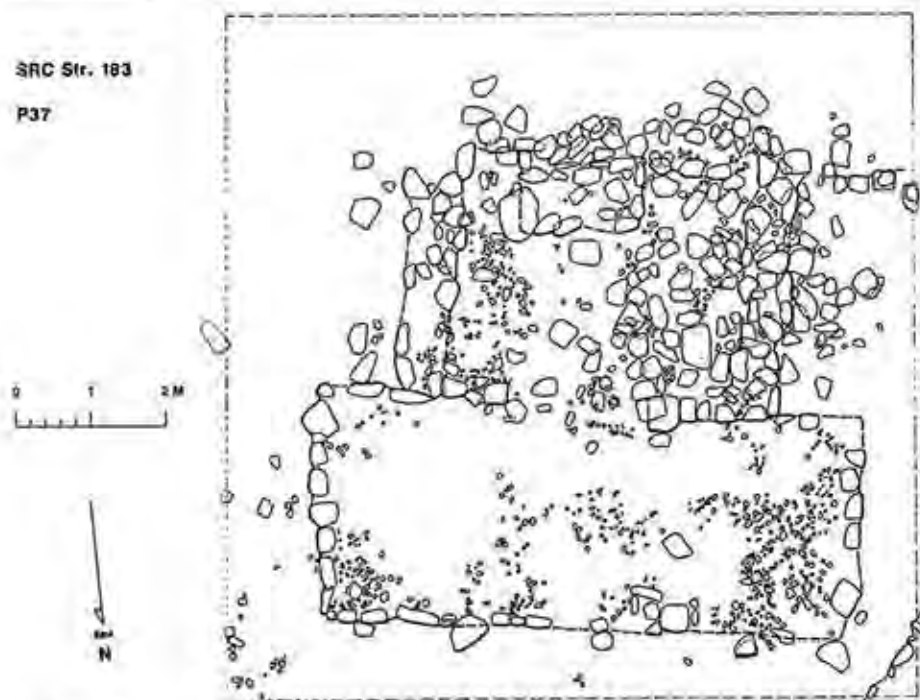


Fig 31 Plan of Structure 183.

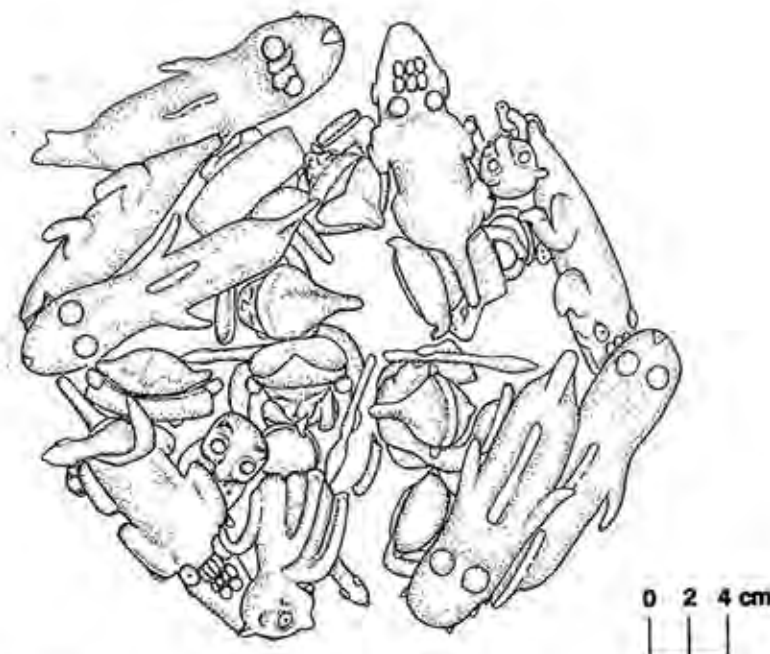


Fig 32 Plan of Structure 183 figurine cache. North to the top of the page.

structure was additionally trenched to bedrock along its north-south axis, or to a depth of about 0.90 m.

Directly beneath Structure 183, little artifactual material was found that was indicative of earlier occupation; however, the remains of postholes which had intruded into bedrock were found at the bottom of the trench. These postholes formed a building plan which ran diagonally to the Postclassic Structure 183 and was, therefore, earlier in date; how much earlier could not be determined. A smaller 3.5 m long by 2 m wide excavation in the plaza to the front of Structure 183 found plentiful earlier remains, including ceramics going back to the Late Preclassic and Protoclassic eras as well as the burial of a supine individual with head to the north accompanied by 1 whole (A. Chase and D. Chase 1987a:Fig. 7a and D. Chase and A. Chase 1986a:13) and 1 partial Late Classic vessel; interesting from a methodological perspective is the fact that no Postclassic remains were recovered in this excavation.

The form of the Late Postclassic building representing Structure 183 was not visible upon the surface prior to investigation; excavation, however, revealed an easily visible tandem-room building defined by upright line-of-stone construction. The front room or "pad" of Structure 183 was broader than the rear room, measuring 7.2 m in length by 3.1 m in depth; it was represented by a single line-of-stone raised pad. The rear room of Structure 183 appears to have been bounded at one time by a double line-of-stone wall. This rear room was 5.8 m broad by 4.0 m in depth. A doorway was clearly visible where the front and rear rooms connected and a slightly raised altar was appended to the inner southern wall of the rear room. The remains of other line-of-stone constructions were also uncovered near the western extent of the Structure 183 excavations.

Areal clearing within Structure 183 revealed that 2 smashed effigy censers, one representing an individual on a jaguar, had been included in the fill of the rear room. Two formal deposits were encountered in the axial trench. The first con-



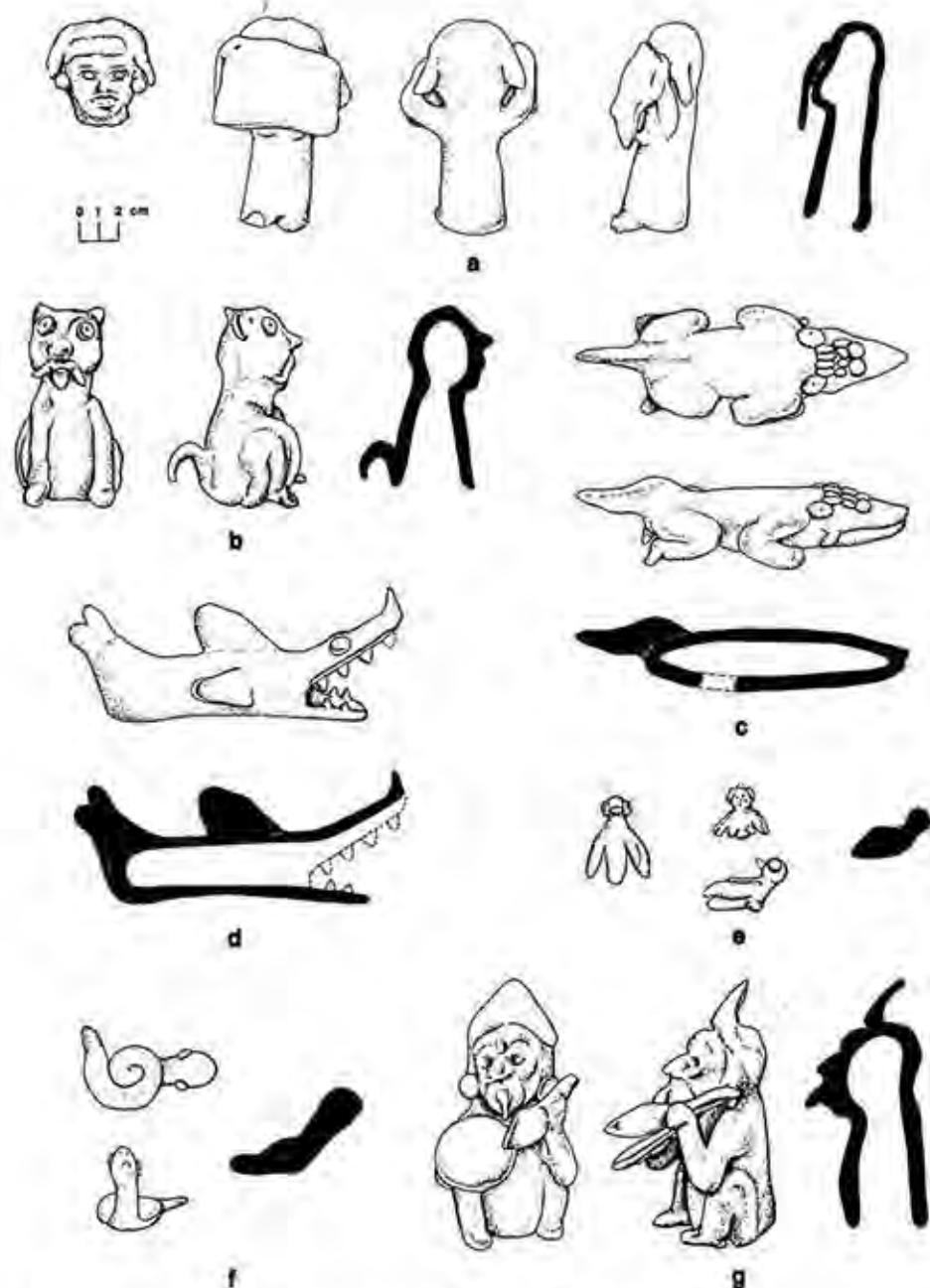


Fig 33 Representative figurine types from the Structure 183 figurine cache.

sisted of a mass inhumation of 3 individuals (1 female and 2 unidentified as to sex) deposited beneath the central doorway just above bedrock; a single vessel (Figure 22b) appears to have been placed immediately above these bodies and 3 bone spindle whorls were intermixed with the bone. The second deposit was a cache that had been placed immediately in front of the rear altar. This deposit consisted of 28 figurines carefully placed in a large lidded urn. As with the Structure 213 cache, the figurines were arranged with directional significance, although there

was no one central figure in the Structure 183 cache (Figure 32). As found, 4 warriors with spears and shields were set pointing outward toward the cardinal directions; the 2 warriors to the east and west had human faces (A. Chase and D. Chase 1987a:Fig. 13) while the other 2 had "god" faces (Figure 33g). Between each set of warriors was a woman, also facing outward, holding a veil over her face (compare Figure 3 found by Gann with Structure 183 Figure 33a). These primary 8 "human" figures were then surrounded by 4 jaguars, 4 alligators, 4 sharks, 4 snakes, and 4 "birds" (see Figure 33 for a representative illustration of each). The substantial amount of loose carbon that was found sealed within the urn was dated to the approximate time of European contact at Chetumal (Table 2: Beta-18087).

#### Structure 218 (Operation P38)

The platform supporting Structure 183 rose approximately 0.2 m above the terrain just to its west and then blended into level ground. A small excavation was made west of Structure 183 in order to test this area of "vacant terrain." It succeeded in finding well-defined lines-of-stone immediately under the ground surface and was therefore expanded into an excavation which eventually encompassed some 166.5 sq m and revealed Structure 218, a building roughly 6 m broad by 15 m in length (Figure 34). Based on the many lines-of-stone that were visible in this excavation, Structure 218 must have been multi-roomed. A large amount of



Fig 34 Photograph of Structure 218 after areal excavation.



Fig 35 Cao Modeled cache vessel from Structure 218.

trash and some smashed vessels dating to the Late Postclassic era were found in association with this construction; a horse spur and a piece of majolica were also found in the vicinity of the structure, indicating that it may have spanned the contact period. As at many of the loci at the site, there was also a scattering of later (English) Historic remains.

A 2 m wide trench was dug through the east-west axis of the construction. This deeper penetration showed that Structure 218 was a single-phase building effort. In the eastern extent of the trench, however, earlier fill materials dating to the Late Preclassic era were found. Three formal deposits, dating to the Late Postclassic Period, were recovered in the core of Structure 218. The first was an isolated, unstoppered cache figure consisting of a hollow shell with human face encircled by a jaguar and its paws (Figure 35); this ceramic vessel was set directly into the ground at the eastern extent of the building. Within the front part of the building, again on axis, were found two superimposed interments. The upper interment was of a single female set flexed and upright; she was accompanied by the full jaw of a peccary (the small fish and deer remains mentioned in Appendix IV were likely included in the dirt fill about her by accident); 2 copper bells (Figure 36 upper left and lower right) and 1 "silver" bell (Figure 36 lower left) were also



Fig 36 Bells from South Intermediate Sector; approximately life-size. Lower left bell is silver; all others are copper. Upper right bell is from Structure 189; the others are from Structure 218.

scattered above her. Immediately beneath her, but clearly a separate event, was the mass interment of 3 individuals, all flexed and upright.

#### Structure 189 (Operation P30)

Situated by itself, in no apparent relationship to any other constructions, Structure 189 rose approximately 0.55 m above the normal ground level. Areal exposure of the Structure 189 locus revealed a Postclassic construction with upright slabs of stone defining a raised substructure and with a double stairway, separated by a central balk, on its eastern side (Figure 37). The building platform measured 7.7 m from front-to-back by 6.7 m from side-to-side. An axial trench, measuring 13.2 m in length by 1.5 m in width and excavated to a depth of about 1 m, bisected the construction demonstrating that the Postclassic construction had been set directly over a Late Preclassic and Protoclassic locus of activity. A single upright individual had been buried beneath the front stair balk when the Postclassic building was erected; similarly, a cache of two spear-points had also been placed on the northern side of the building. Late Postclassic debris associated with the building included a copper bell (Figure 36 upper right).

The Structure 189 locus produced a series of earlier deposits immediately under the modern ground level or immediately under the Postclassic construction. These included 3 hearth areas and 6 flexed burials, all dating to the Late Preclassic or Protoclassic era; a total of 12 vessels accompanied these earlier interments



Fig 37 Photograph of Structure 189.



(one is shown in D. Chase and A. Chase 1986a:6). One of the hearths produced enough ash and carbon for a radiocarbon date (Table 2: Beta-18086). The resultant date, however, is far too early (by at least 2000 years) for the associated context and is perhaps suggestive of the problems that have been inferred for other Preclassic radiocarbon dates in northern Belize (D. Chase 1983; Andrews V in press).

#### The Southwest Sector

The Southwest Sector of Santa Rita Corozal has its northern limit just south of the road connecting the Community College to Corozal Town and extends south along the bluff and west into the village of San Andres. Much of this area has been disturbed by modernization. It is possible that Santa Rita Corozal's southern limit at one time extended all the way to the Corozal Airport, where bulldozed mounds on top of the bluff, and in association with Terminal Classic ceramic materials, were noted in 1979. Temporally, the Southwest Sector of Santa Rita Corozal contains some of the earliest materials yet encountered at the site. The Corozal Postclassic Project recovered Swasey-era (Hammond et al. 1979; Kosakowsky 1987) materials in Structure 134 during the 1980 season; Gann (1918:Fig. 24) found equally early materials in this general vicinity. Only three structures were investigated in the Southwest Sector: Structures 134 and 135 in 1980 (D. Chase 1982a:403-406) and Structure 154 in 1984. Although the occupation associated with these three constructions generally dated earlier than the Late Postclassic Period, some Late Postclassic remains were recovered in association with the excavations and also in other surface collections, such as that of Structure 127.

#### Structure 134 (Operation P12)

Situated on the eastern side of a small platform, Structure 134 had been slated for demolition for a proposed soccer field as it was believed to be a natural hillock. In order to demonstrate that it was a Maya construction, a small 15 m long by 1.5 m wide trench was placed over its east-west axis; this entire trench was ex-

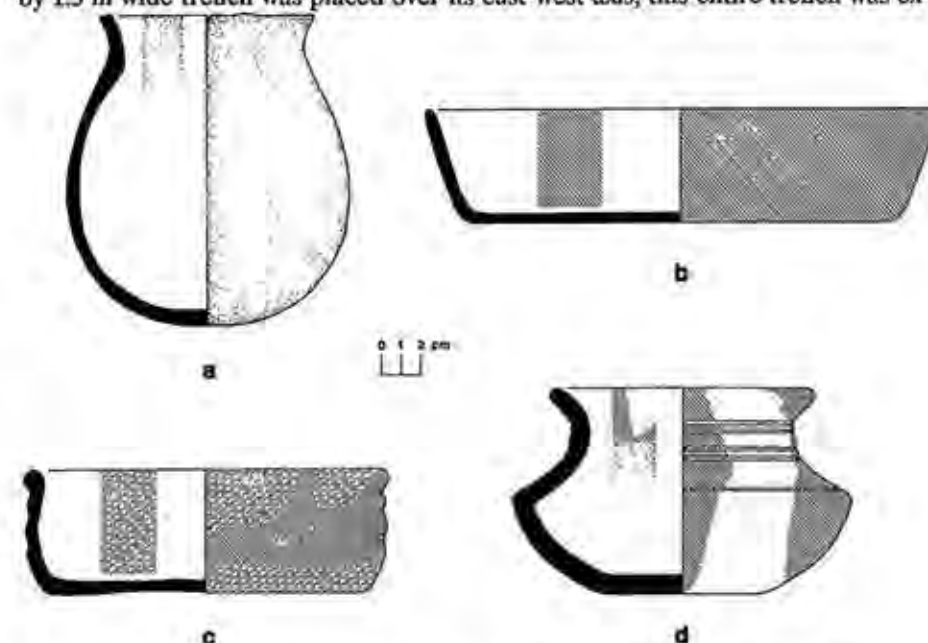


Fig 38 Middle Preclassic Ebefeb vessels: a, b, d are from Structure 134; c is from Structure 92.

cavated to bedrock, some 2 m below the present ground surface. Evidence for minimally 4 different buildings and 2 major rebuilding efforts were recovered at this locus along with 22 burials which spanned the entire gamut of the Preclassic era and extended up into the Late Classic Period. Some Postclassic debris was found in the humus layer in the western extent of the trench.

Fourteen ceramic vessels accompanied the 22 burials. In terms of ceramic break-down, 2 burials could be assigned to the Late Classic, 3 to the Early Classic, and 8 to the Preclassic Period. Well-defined stratigraphy aided in the seriation of the Preclassic interments. Two interments may be clearly positioned as among the earliest yet recovered in the Maya area (D. Chase 1981:26, 1982a:404, 1983; D. Chase and A. Chase 1986a:6; A. Chase and D. Chase 1987a:Fig. 2a); 6 others stratigraphically demonstrated a blending of Swasey and Mamom traditions (Figure 38a,b,d) until a clear Late Preclassic horizon is reached (D. Chase 1982a:404). Subsequent excavation and analysis of the Santa Rita Corozal materials have borne out this conclusion. Six other deposits, 5 hearths and 1 cache of pomacea shells, were also recovered during excavation. An attempt to run a carbon sample (Table 2: Beta-18084) from an early burial was not successful.

#### Structure 135 (Operation P13)

Structure 135 is located east of Structure 134 across a low-lying area; as it too was to be impacted by the proposed soccer field, it was also excavated in 1980. An 18.8 m long by 1.5 m wide trench was placed over its east-west axis and an additional area measuring 5.7 m by 4.8 m was areally exposed immediately south of the initial trench; two other smaller tests were made for building corners. As a result of these investigations, parts of two subsequent building plans dating to the Early Classic and Late Classic eras were recovered and occupation for the Structure 135 locus was found to be limited in span to the Early Classic through Terminal Classic eras. While the later building had been constructed during the Late Classic era based on 3 associated burials (2 flexed and 1 extended), its latest use was during the Terminal Classic Period based on trash deposited west of the building. The earlier construction was clearly of Early Classic date and was associated with 3 flexed interments which had been placed in front of the building; one of these interments was accompanied by a Dos Arroyos Polychrome dish (A. Chase and D. Chase 1987a:Fig. 6c). The plan of the earlier building was unusual in that it had a clearly defined antechamber and a circular inner chamber encased within a square outer building (photograph in D. Chase and A. Chase 1986a:7); to some extent, the plan of Structure 135-2nd is similar to the plan of building recovered by Willey et al. (1965:Figs. 20 and 21) in Mound 1 at Barton Ramie. The Late Classic building was only visible as the basal portion of a north-south wall associated with foundation trenches that penetrated the earlier construction. Nothing dating later than the Terminal Classic was found at this locus.

#### Structure 154 (Operation P17)

Structure 154 was investigated briefly in 1984 by an axial trench measuring 21.85 m in length by 1.5 m in width. The mounded building rose about 1.6 m above ground level. The entire excavation was dug to bedrock, generally about 0.5 m below the ground surface, but in one place as deep as 1.75 m below ground level. Excavations proved the structure to be largely a single-phase effort dating to the Late Classic Period. Two deposits were found, one a cache of a single vessel and the other a badly preserved Late Classic burial in the hearting of the building.



Fig 39 Skulls buried within Structure 200.

#### The Bay Sector

A cluster of buildings (Figure 53), some eroding into the bay, were evident at the southern limits of modern Corozal Town. At one time, the site of Santa Rita Corozal must have minimally extended to these structures (D. Chase 1982a:406-407). This conclusion is borne out by the repeated discovery of Maya burials in the southern part of Corozal Town whenever new buildings are erected, leading modern inhabitants of this area to refer to their community as "Skeleton Town." Both Gann (1900, 1918) and Sidrys (1983:159) have noted the archaeological remains here. These remains must have been extensive in the past. Many are now destroyed and lie beneath modern buildings, while others lie under the waters of Corozal Bay, having been submerged due to tropical storm activity and gradual beach erosion; a similar situation is also seen at Cerros across the bay (Freidel 1978, 1986:xiii). Only one small excavation was carried out by the Corozal Postclassic Project in the Bay Sector (D. Chase 1982a:407-410).

#### Structure 200 (Operation P14)

Almost half of Structure 200 had washed into Corozal Bay when it was excavated in 1980. A 1.5 m by 1.5 m excavation in the middle of Structure 200 was placed over a human skull that was eroding into the bay. This excavation revealed that the original skull was accompanied by a second one (Figure 39). At a lower level, but directly beneath these two skulls, the flexed, seated-upright burial of a

woman was encountered. Although excavation had to be halted because of the water table, enough artifactual materials were recovered to indicate that the burials were of Postclassic date. Because of the small size of the investigation, no real information was recovered about the plan or function of the associated construction.

#### Santa Rita Corozal and the Lowland Maya Postclassic

While Santa Rita Corozal evinced significant earlier occupations, the site reached its apex in the Late Postclassic Period. During this time Santa Rita Corozal was a thriving center with its highest population, its most dense settlement, and its most widespread trade networks. Because of the existence of extensive Postclassic remains at Santa Rita Corozal and because the Corozal Postclassic Project focused on the Postclassic Period, a substantial data base exists that can be used to assess the protohistoric Maya. There is an abundance of evidence for late Maya activities at Santa Rita Corozal beyond the day-to-day necessities. Indeed, this data base can be used to check ethnohistoric statements about the Maya, to refine models for interpreting the organization of Postclassic society, and to provide a standard for viewing cultural change. The subsequent sections outline Santa Rita Corozal's contribution to numerous subjects pertinent to the Late Postclassic Period - from the settlement's identification as Chetumal to interpretations concerning continuity and disjunction with the preceding Classic Period.

#### Santa Rita Corozal as Chetumal

One of the topics pertaining to Santa Rita Corozal that has engendered substantial discussion is its identification as the late Maya provincial capital of Chetumal. While the site's contributions to Maya archaeology do not hinge upon its identification as Chetumal, such a correlation is important as it makes Santa Rita Corozal the only securely identified and excavated protohistoric Maya provincial capital of the Northern Lowlands (see Andrews 1981 for a review of historic archaeology in Yucatan). Maya political organization at the point of European contact was composed of a series of Maya territories or provinces with somewhat variable internal structuring (Roys 1943: 11). The Maya territory of Chetumal was located on the east coast of the Yucatan Peninsula within the modern countries of Mexico and Belize; the capital of the province had the same name (Roys 1957). Chetumal was once bordered on the north by the province of Uaymil; however, the two territories later were combined as the province of Chetumal by the Spanish. The northern boundary of the pre-conquest territory (and the southern boundary of Uaymil) has been correlated with Lake Bacalar in Mexico (Roys 1957:159); the southern boundary of Chetumal has been the subject of more controversy (Roys 1957: 159-160; Jones 1983:66; D. Chase 1986:374-76), but may have extended as far south as Lamanai in Belize. It is unclear from the ethnohistoric materials how far back in time this province can be traced.

The general location of the capital city of Chetumal or *Chactemal* (Scholes and Roys 1948:82) was on Chetumal Bay on the east coast of the Yucatan Peninsula. Chetumal itself was said to have contained 2000 houses (Oviedo 1851-55:book 32,chapter 6). The province as a whole was a producer of both cacao and honey (Oviedo 1851-55:book 32,chapter 6) and was very active in trade (Scholes and Roys 1948:317). It was also the home to the Spaniard Gonzalo Guerrero. Shipwrecked in 1511, Guerrero stayed with the Maya of Chetumal as a war leader (*nacom*) rather than return to the forces of the conquistadors (Scholes and Roys 1968: 82).



Identification of the location of the capital of Chetumal is based upon a series of less than perfect descriptions of travel to and beyond the town. In 1531 Alonso Davila (1533) led an expedition to Chetumal. He reached the settlement by first going to Bacalar by means of an overland route; from Bacalar he went by river, presumably the Rio Hondo, to the Bay of Chetumal. At the junction of the river and the bay was a small town. Beyond the bay and three leagues along the coast was Chetumal. Although Davila's description does not indicate whether he went north or south after reaching the bay, many scholars (Scholes and Roys 1948: 83-85; Thompson 1972; Scholes and Thompson 1977:43-45; D. Chase 1981, 1982a:571-573; Jones 1984) have favored a southern movement into present-day Belize based upon a 1618 trip by two friars (Cogolludo 1867-68, book 9, chapter 6) and the fact that if Chetumal were located north of present-day Chetumal, an overland route, rather than a riverine route, from Bacalar should have been possible (J. Thompson 1972: 6).

Most of the information on historic settlements in northern Belize is based on a trip made by Friars Bartolome Fuensalida and Juan de Orbita in 1618. Their original account has not been located, but was rewritten into a history by Lopez de Cogolludo (1688: book 9, chapters 4-10) during the middle of the 17th century. Fuensalida and Orbita were on their way to Tayasal in the Peten of Guatemala. As with Davila, upon leaving Bacalar, they went down a river, assumed to be the Rio Hondo, to the bay. From the mouth of this river they journeyed for three leagues to the place where Chetumal had once been located; all that was left at this point (ca. 1618) was a single farm. From this ranch they continued to the town of Uaitil and then to the mouth of what was likely the New River. They used this river to travel inland to the New River Lagoon; after this, they went overland to Tayasal. The Fuensalida and Orbita account, in placing Chetumal between the New River and the Rio Hondo, and three leagues beyond the mouth of the latter river, would correlate the ethnohistorically known Chetumal perfectly with the location of the archaeological site of Santa Rita Corozal.

A further source of information on the location of Chetumal may be found in the work of Gonzalo Fernandez de Oviedo y Valdez (1851-55: book 32, chapter 6). Oviedo did not visit Chetumal, but derived his information from individuals who had been on expeditions to the area. His general history, completed by the middle of the 16th century, contains a description of Chetumal as almost surrounded by water and located two leagues from the sea (1851-55, book 32, chapter 6). This description has been taken by some to suggest that Chetumal was located north of the Rio Hondo in what is now Mexico (see for example, Gann 1927:26-27). Frequently overlooked, however, is the fact that Santa Rita Corozal's heaviest settlement is on the bluff at some distance from the bay (see Figure 41) and that the site has water not only to its east (the bay), but also to its north (Four Mile Lagoon).

Prior to Davila's arrival in Chetumal, the Maya had abandoned the town (Chamberlain 1948:103); the tactics of abandonment and subsequent guerilla warfare were among the typical Maya defenses against the Spanish (Chamberlain 1948:233). Davila established a town called Villa Real in the vicinity of Chetumal. He and his group of just over fifty men and 13 horses used this as the base for their campaigns during the next one and a half years. The Maya of Chetumal, however, continued to wage war against the Spaniards, causing their numbers to decrease by one-fifth as well as causing the loss of over half of the horses (Oviedo 1851-55: book 32, chapter 6). Toward the end of 1532, Davila's group dismantled the church and abandoned Villa Real (Chamberlain 1948:120) and headed south towards Honduras in canoes rigged with sails.

The province of Chetumal was severely stressed by Davila's stay; this was due both to the introduction of European diseases and to the Maya's own efforts to

destroy their resources rather than leave them to the Spanish (Chamberlain 1948:233-34). The area was further disrupted by the conquest of the area led by Gaspar Pacheco and his sons from 1543-1545. The combined effect was that the once heavily occupied region became nearly depopulated by the middle of the 16th century (Chamberlain 1948:235). It is unclear whether Chetumal was ever formally re-occupied as an urban center after this era. Scholes and Roys (1948:84) make reference to its possible occupation in 1582. By the time that Fuensalida and Orbita passed by Chetumal in 1618, however, as noted above, all that remained of this once populous city was a single ranch.

While the identification of Santa Rita Corozal as Chetumal can be supported by the historic descriptions, given the sometimes vague nature of the historic accounts, archaeological information must also be considered. Archaeological evidence for determining the location of Chetumal consists of data relating to two basic time horizons, the Historic and Late Postclassic (or protohistoric) Periods. On the Historic horizon, it is known that the Maya abandoned Chetumal in A.D. 1531 and that Davila's settlement of Villa Real was occupied for only one and a half years. Villa Real was home to a very small group of people compared to ancient Chetumal - just over fifty men accompanied by 13 horses. The short span of occupation and the small number of inhabitants, in conjunction with the fact that the church was dismantled prior to abandonment, suggest that archaeologically recoverable material remnants of Villa Real should be minimal. Likewise, any post A.D. 1532 early Historic re-occupation would not likely leave abundant remains, especially given the apparently ephemeral nature of later settlement and modern proclivities for land-clearing. Protohistoric or Late Postclassic Maya Chetumal was, in contrast, a thriving center containing over 2000 houses. It exported cacao and honey and had a reputation as controlling long-distance trade interests. Thus, archaeologically, Late Postclassic Chetumal should clearly date to the point of contact (1531) and should show proof of being large and prosperous, as well as every indication of being the most important settlement within the province.

Both the Historic and Late Postclassic archaeological remains support Santa Rita Corozal's identification as Chetumal. As expected, only sparse indications exist of occupation for the early Historic era. Several finds are of probable 16th century date, such as majolica, non-diagnostic olive jar sherds, and a horseshoe. There is also an olive jar of Goggin's Middle "A" form (Figure 18a); these jars are not precisely dated, but generally range between A.D. 1570 and 1770 (Goggin 1960:28; Deagan 1987:31-32). Other artifacts are clearly historic in date, but with the exception of the subsequent 19th century materials, their dating is less certain. There are no glass beads or other Spanish trade items; this is precisely the situation that would be expected archaeologically from a Spanish settlement that was hostile to the Maya as opposed to settlements such as those at Lamanai (Pendergast 1981a, 1985b) and Tipu (Jones, Kautz, & Graham 1986) where there were attempts to missionize the Maya.

Late Postclassic Santa Rita Corozal, in contrast, is the largest Postclassic site within the region in terms of area and population. Even the most conservative estimates (D. Chase in press a) suggest the existence of over 8,000 inhabitants in a site area of slightly more than 4 square kilometers. Santa Rita Corozal also contains terminal Postclassic occupation as is evidenced by both radiocarbon dates (Table 2) and overlap of Santa Rita Corozal pottery with late pottery at other documented Late Postclassic to Historic sites such as Lamanai (Graham 1987a; see also the subsequent discussion of Postclassic chronology). Corozal Postclassic Project excavations at the site have produced concrete proof of long-distance trade in both exotic items and necessities during the Postclassic era (D. Chase and

A. Chase in press). The widespread and well developed caching practices at Santa Rita Corozal may also suggest the settlement's role as territorial capital (D. Chase 1985b:233; 1986).

In sum, the preponderance of both the archaeological and ethnohistorical data supports Santa Rita Corozal's identification as the location of ancient Chetumal. As such, the site should be representative of at least one type of organization present within a regional capital at the time of European contact.

#### The Organization of a Late Postclassic Lowland Maya Community

Although it is difficult to establish the organization of a prehistoric community based upon archaeological research, such has frequently been attempted by archaeologists both within and without the Maya area. Perhaps the greatest number of efforts have taken place outside of Mesoamerica, particularly in the American Southwest (Longacre 1968, 1970; J. Hill 1970). Research on Lowland Maya spatial or social organization has consisted primarily of settlement pattern studies (Ashmore 1981a) and been largely in reference to Classic Period Maya (Haviland 1966, 1968, 1981, 1988; Puleston 1973; Fash 1983). While there have been notable attempts to derive Classic Period social organization primarily from archaeological remains (Bullard 1960, 1964; Haviland 1970, 1972, 1988; Kurjack 1974; Willey 1956; Willey, Bullard, and Glass 1955), archaeology, and particularly Late Postclassic archaeology, has failed to serve as part of a critical methodology to evaluate either the continuities and discontinuities among modern and prehistoric Maya or the reliability of ethnohistoric accounts. Some authors directly apply ethnographically derived interpretations of social organization to the Classic Period data (Vogt 1964, 1968, 1983). Discussions of Lowland Postclassic social organization have usually been limited to general statements of possible ethnohistoric applicability (see specifically, Pollock et al. 1962). There have been far too few efforts to use a "direct historic approach" to bridge the gap from ethnographies of contemporary Maya to ethnohistoric descriptions of contact period Maya to pre-conquest Late Postclassic Maya and from there back to the Classic Period.

While the problems involved in using archaeology alone to determine spatial or social organization are substantial (cf., Allen and Richardson 1971), a methodologically prudent juxtaposition of archaeological and ethnohistoric data for the Protohistoric Period Maya allows certain aspects of Postclassic Lowland Maya society to be rigorously examined (D. Chase 1982a:570-593; D. Chase and A. Chase 1986b). Investigation of the Late Postclassic Maya organization at Santa Rita Corozal has been structured around the examination of three pivotal topics - site (spatial) organization, ritual organization, and social organization. For each of these topics two opposing, although not necessarily mutually exclusive, models were derived in order to guide archaeological research. As these heuristically useful models represent contrasts within a behavioral continuum, it was expected that the recovered archaeological data would not prove the existence of one model or another throughout the Maya Lowlands, but would instead permit a more precise definition and interpretation of the organizational diversity found among the Late Postclassic Maya of Santa Rita Corozal.

#### Site Organization

Two opposing models for Lowland Maya Postclassic site organization can be derived from the ethnohistory; these can be loosely termed as "concentric" as opposed to "sector." The concentric model of the city is generally attributed to Burgess (1925) who developed it to describe urban growth from the center outward. In his model, the industrial areas and slums were located in the centers, with elite residential areas located further out. Much earlier, however, Bishop Landa (Toz-

zer 1941: 62) provided a converse, but nevertheless concentric description of a Maya town:

Their dwelling place was as follows: - in the middle of the town were their temples with beautiful plazas, and all around the temples stood the houses of the lords and the priests, and then (those of) the most important people. Thus came the houses of the richest and of those who were held in the highest estimation nearest to these, and at the outskirts of the town were the houses of the lower class.

It is Landa's concentric model rather than Burgess' that is most often used to describe Precolumbian centers.

In contrast, Ralph Roys (1943:62-63; 1957:7-8, 1965:664) provided evidence that Maya towns were subdivided into wards each of which was lead by an *ah cuchcab*. This "sector," "subdivision," or "barrio" model of site organization is presently utilized in some form or another for both the Postclassic Maya Highlands (Carmack 1977; Wallace 1977) and central Mexico (Calnek 1972, 1976). The groups of people living in a Yucatec Maya ward or *cuchteel* were apparently not solely members of a single lineage group, as census lists show various patronyms within any one ward (Roys 1943:63, 1957:7). This model suggests an organization in which elite and ruling individuals did not all live in the site center, rather, at least some of those higher status individuals lived dispersed throughout the site. Two different kinds of sector models can be projected (following D. Chase 1986) each of which has a vaguely parallel terminology in urban geography. The first, a "dispersed sector" model, involves the distribution of elite within the community, but with no clear single, central focal point; this model is similar to the "multiple nuclei" model of Harris and Ullman (1945). The second, "focal sector" model, calls for a dispersed elite, but with a clear central focal point in the site plan; a similar pattern has been advanced as a "sector" model by Hoyt (1939). Both of these versions of the Precolumbian sector model are somewhat at odds with those described by urban geographers for modern cities in that neither assumes that subdivisions were directly correlated with socio-economic factors.

Variables which may be used to test the validity of these two contraposed models include the location, distribution, and grouping of various kinds of architecture and associated features (specifically, primary deposits) at the site. Ashmore (1981b: 460) has pointed out that implicit in the Precolumbian concentric model is the notion that "increasing distance from the settlement core should correlate with a linear decline in social status; in archaeological terms, this gradient should be detectable in quality of architecture and artifacts in residential groups."

Divergent interpretations of the arrangement of Classic Period Maya sites have been made using similar variables. While Arnold and Ford (1980; Ford and Arnold 1982) have argued that Classic Maya social organization, as seen in the architecture at Tikal does not fit a concentric model, their arguments have been questioned both by Haviland (1982), who did not believe that all the possible variables at Tikal were considered (e.g., artifacts, burials, and special deposits), and by Folan et al. (1982), who stated that the concentric model best fits the recovered archaeological data from Coba. Ashmore (1981b:461-462), however, using data from Quirigua, stated that the concentric model is incorrect "at least as an invariant form;" she also pointed out that Bullard's (1960, 1964) "minor centers" "constitute undeniable local anomalies in a concentric - model wealth gradient." J. Michels (1977) has used Classic Period data from Kaminaljuyu to argue that this site was organized according to a barrio or sector model. Others (A. Chase and D. Chase 1987b:57-58) have pointed out not only that the concentric model does not fit the site organization of Classic Period Caracol, but also stressed that the search for a single organizational principle for all Maya sites may neglect significant variations among them. Marcus (1983:206) suggested that the different



patterns might reflect social and political distinctions among centers. Emphasizing the continuum between the two identified models, Kurjack and Garza T. (1981:298) have noted that in the Northern Lowlands "Maya settlement patterns did incorporate principles that embodied" a variety of different "ideas: concentric zoning, barrio divisions, extended boundary communities, dispersed rural populations, as well as compact settlement."

Research at Santa Rita does not support the Precolumbian concentric model for site organization. Elaborate residences and potential administrative areas do not cluster at the site center, but rather are dispersed at the site. The most elaborate burials also cluster with the elaborate residences away from the midpoint of the settlement (see, for example, the excavation summaries and map locations for Structures 81 and 216). Presumed lower status residential areas, marked by less elaborate construction or even by the absence of non-perishable construction remains, are located within short distances from presumed high status residences. Elaborate Postclassic caches also occur throughout the site. All of these factors suggest not only that a concentric model is not viable for Santa Rita Corozal, but that some variant of the dispersed sector model must be appropriate. However, while disproving the concentric model is relatively straight forward from an archaeological perspective, delineation of sectors themselves is a far more difficult matter. The sectors defined in this report and used to facilitate investigation at Santa Rita Corozal were somewhat arbitrarily defined at the beginning of the project based upon repetition of structure types and drop-off in constructions due to modern land moving activities. Subsequent analysis suggests that the boundaries between these defined sectors were not likely to have been recognized by Santa Rita Corozal's ancient inhabitants. Additionally, certain architectural plans, such as multiple room residences, once thought to be very limited in their distribution, were discovered to be more common than originally suspected. Thus, items such as multiple room buildings can not automatically be assumed to equate with the residence of an *ah cuchcab* or *principal* and simply counted so as to determine the number of subdivisions present at a site. However, investigations do show contemporary variations in certain material remains or depositional patterns in spatially disparate parts of Santa Rita Corozal. Patterned regularity in the distribution of caches in particular supports the idea of ritual or ideological divisions of the town, as the various kinds of Late Postclassic caches cluster in different parts of the site (see D. Chase 1985a, 1985b, in press b, and the subsequent discussion of ritual organization for amplification).

The non-fit of Landa's concentric model at Santa Rita Corozal has clear implications for earlier research, especially as it can be shown that the concentric model does not aptly describe Late Postclassic Mayapan (D. Chase 1986, in press c). While D. Rice (1988:237-238) has indicated possible fits of Landa's concentric description with Postclassic island sites in the Peten, he elsewhere notes that the island settlement is very different from mainland sites. Non-concentricity of Postclassic sites in the Peten is also seen in the settlement around Lake Peten (A. Chase 1979:99, 1982:1229-1236, 1985a:39; D. Chase and A. Chase 1986b:25). Thus there is a widespread non-fit of extant the extant Postclassic archaeology and the Precolumbian concentric model. If the model does not match patterns from these Late Postclassic sites, then it can hardly be assumed that such a model will fit the significantly earlier Classic Period sites. Part of the controversy over concentricity versus non-concentricity of Maya sites may reflect an emphasis on overall architectural mass or density by one group of investigators as opposed to a focus on the distribution of presumed high status architectural compounds by others. In fact, recent studies of sites with apparent concentricity in terms of volume of architectural mass are finding little correlation between structure volume or area

and distance from the site center, such as would be implied by Landa (Ringle and Andrews V 1988:189-190; Ashmore 1988:160-161).

The implications of the contrast between the sector and concentric models in the realms of economic, social, and political organization are substantially less clear. In terms of settlement patterns, the models are reflective of the politics of dispersion as opposed to those of nucleation (cf., Freidel 1981b). Freidel (1981b:377), in emphasizing the residential dispersion of the Maya from the Late Preclassic through the Late Postclassic Periods, noted that "Maya production was apparently as dispersed as Maya residence" and that, therefore, the "management of the economy by governments must have focused on control of distribution" rather than on control of production. The archaeological extension of this observation should be that local production loci should be evident within each subdivision of any site; over-production of a single product within one subdivision could imply possible elite control over production and possibly different socio-economic classes. Alternatively, sectors of the site might have been occupied solely by members of extended lineage groups, although the ethnohistoric evidence suggests that this was not strictly the case during the Historic Period (Roys 1957). Occupational specialization has been suggested for the Classic Period Maya (Adams 1970 and Becker 1973, but see Ashmore 1988:162-165), however, no socio-economic neighborhoods were recovered at Mayapan (Freidel 1981b:377) and although certain activities such as lithic production are widespread at Santa Rita Corozal, no socio-economic neighborhoods have yet been isolated. Sector divisions did exist at Santa Rita Corozal, but these were ritual, and presumably not socio-economic in nature. While still not the predominantly described organizational pattern for the Maya, such barrio-like divisions recently have been noted for other sites (J. Michels 1977; Ashmore and Wilk 1988:17) and may have even further antiquity in the Maya Lowlands given evidence from Preclassic Cerros (Cliff 1988:220-221) of distinct sectors or neighborhoods that do not reflect occupational or status segregation.

#### Ritual Organization

Opposing views concerning the nature of preconquest Maya religion may be derived from ethnohistoric data. Certain descriptions given by Landa (Tozzer 1941) indicate that a regulated directional and calendric model would best describe the ritual organization of the Postclassic Lowland Maya. These descriptions would suggest that religion was an important integrating device during the Late Postclassic Period. This is particularly evident in the rituals associated with the *Uayeb* or Maya New Year (Tozzer 1941:135-149) when directional and calendric symbolism in religious ceremonies and in the placement of ritual objects serves to unite the various parts of the settlement (see also M. Coe 1965 and D. Chase 1985a). This integrative regulated model of Maya religion can be opposed to a model of dissipated individual worship, frequently cited in reference to the Postclassic Maya (Proskouriakoff 1955; J. Thompson 1970); this latter model has also been derived from Landa's work (Tozzer 1941: 110):

They had such a great quantity of idols that even those of their gods were not enough; for there was not an animal or insect of which they did not make a statue and they made all these in the image of their gods and goddesses.

The *Relaciones de Yucatan* (1898:1:52) also make reference to the widespread practice of idolatry, and imply that it was extremely variable and non-regulated in its distribution:

The common people also had private idols to whom they sacrificed, each one according to his calling or occupation which he had.

Research at Santa Rita Corozal, however, has found substantial evidence to support the regulated directional and calendric model of ritual organization. Archae-

ological variables that were used for testing the validity of either model consisted primarily of caches, censers, and their distribution; also significant was associated iconography that could be recovered from the modeled pottery.

Late Postclassic Period effigy censers occur in two different contexts at the site, either smashed and discarded over a large area or at several different loci or broken in situ and reconstructible. Reconstructible and/or iconographically identifiable paired censers were found in both the Gann and Corozal Postclassic Project investigations (for illustrated examples, see Structures 81 and 213 - Figures 8e,f, and 25; paired censers also occur in Strs. 2, 5, 6, 7, 17, 25, 92, 183, 212, and 182 - the face of one is shown in Figure 21b). Of the figure pairs encountered in Corozal Postclassic Project work, one was generally more complete than the other. The iconographic features associated with these figures are not unique to a single structure locus, as would be expected if there was dissipated, individual worship; instead, they repeat themselves. This patterned deposition was initially understood to suggest that the figure incensarios served as important markers of calendric ritual, possibly as katun idols (D. Chase 1985a,b). This association was based on a description by Landa (Tozzer 1941:166-69) of katun idols serving as markers of the passage of time; each idol was worshiped for the full katun, but was paired at times with either the preceding or following katun idol as part of a transfer of power. Subsequent research at Santa Rita Corozal confirms the paired associations and repetitions; and, although the precise order of this repetition has not yet been deciphered, a calendric association for at least some of these censers seems likely. The continued collection of one almost complete and one more fragmentary effigy from each deposited pair is also suggestive of katun idols, especially as Landa indicated that the older idol eventually fell into disuse and was taken away. Some Classic Period support for the association of paired censers and katuns may be found in investigations at Caracol. Here, a pair of smashed censers were found directly below Altar 16, a giant ahau altar that distinctly marks a katun (A. Chase and D. Chase 1987b:24; D. Chase in press b).

A variety of Late Postclassic caches were recovered from Santa Rita Corozal: 7 from Gann's work and 15 from Corozal Postclassic Project investigations. Like the paired incensarios, these caches also vary in a standardized way, containing assorted combinations of beads, lithics, metal artifacts, pottery vessels, and modeled ceramic figures. The most distinctive caches from Santa Rita Corozal contain one or more modeled ceramic figures depicting animals, humans, and/or deities. The contents and placement of these caches suggests cyclical and directional deposition (D. Chase 1985b) rather than depositional patterns reflective of occupational, personal, or family religious practices, particularly when considered in conjunction with ethnohistoric information.

Historic accounts of Maya religious practices describe various kinds of offerings - including incense, food, jadeite, beads, human blood, and various combinations (see Tozzer 1941: 315-321 for an index) - and make it clear that once made, such offerings could no longer be re-used (Tozzer 1941:166). While some of these offerings were removed from circulation by their placement in caches, ethnohistoric description of caching is far from common. Landa (Tozzer 1941:143, 165) makes clear references to caching by describing offerings "made between two platters;" this kind of offering was in fact made during one of the *Uayeb* rites. It is his detailed description of events during these New Year's rites (Tozzer 1941: 138-149) that, with certain of the Maya codices, elucidated the function of certain Maya caches (D. Chase 1985a, 1985b, in press b). Landa's description of these ceremonies and the corresponding pages in the Madrid codex can be correlated with caches at the site. During each of the four known yearly ceremonies, the associated ritual has certain similarities: idols were moved from one part of town to

another; sacrifices and offerings were made; and dances took place. However, there are distinctions in the specific offerings, deities, and activities during each of the different years. In the initial work, a suggested correlation of caches with each of the *Uayeb* ceremonies was made based upon the presence of figures representative of the offerings or activities mentioned for that year. While each of the years may have archaeological representations (D. Chase 1985b), during two of the years - Kan and Muluc - Landa's descriptions were so specific as to allow detailed comparison between the caches from Santa Rita Corozal and the Madrid Codex.

According to Landa (Tozzer 1941:139-143), in Kan years, a man or a dog was sacrificed by being thrown from a high place. Following this the victim's heart was removed and then offered between two vessels to one of the idols; an angel descended to receive the sacrifice. The angel is mentioned more than once during Landa's description of Kan rites, elsewhere (Tozzer 1941: 141) an angel is placed upon a statue of *Bolon Dzucab*. This angel was "a sign of water and that this year was to be good;" it was painted and "frightful to look upon." Correlation between Landa's text and page 35 of the Dresden codex include the day name (Kan), the direction (south), a bound victim falling downward above a temple, and a diving god. Two caches were suggested as being archaeological representations of the Kan rituals: one from Structure 81 (Figure 8b-d) and one from Structure 58 (Figure 5; D. Chase 1985b:228). The correspondence between these caches and the described rites consisted of the two lip-to-lip vessels encompassing the offering and an inner modeled and painted composite figure that could well fit the description of the "frightful" angel. Both cache figures could be interpreted as either "a sign of water" or "that this year was to be good." The inner figures had a deified human head protruding from either a horned jaguar or bee mouth; the body of the figure was spiraled and cone shaped suggesting either a shell or a bee. Both caches were located in the Northeast sector of the site. Correspondence was also suggested between the angel, diving bees, and the bacabs (D. Chase 1985b: 228).

Among the key features of Muluc year celebrations (Tozzer 1941:144-45) was an east to north movement of idols, offerings of cloth, dogs, squirrels, and assorted dances (war, women, and stilt). Page 36 of the Madrid Codex offers correlations in the direction mentioned (east) and in depictions of cloth, foot-steps to indicate dancing, an individual on stilts, and weapons. A number of Santa Rita Corozal caches were suggested as matching the ethnohistoric descriptions and the codices (D. Chase 1985b:229-230). These caches, encountered by Thomas Gann, were primarily in the intermediate areas of the site (Structures 6, 24, and 26). They all contained multiple modeled and painted figures inside an urn with a lid. The figures, usually found either in combinations of 4 or 1, included warriors, women with cloth over their faces, jaguars, deer, pisotes and/or dogs, snakes, birds, penis perforators, sharks, alligators, monkeys, and other human or god-like characters. Overlaps with the ethnohistory and codex depictions included the warriors, the women with cloth over their faces, and the pisote or dog-like figures; the penis-perforators may possibly be correlated with what appears to be a sting-ray spine on page 36 of the codex (D. Chase in press d).

Based on the deposits recovered during 1979 and 1980 in combination with those recovered by Gann, suggestions were also made of correlations among caches and the other *Uayeb* rites (D. Chase 1985a,b); however, such associations were less secure archaeologically. None of the site distributions matched the directions cited in the ethnohistory; however, this does not negate the associations, especially as the major portion of the *Uayeb* ceremonies took place within the town. During the 1984 and 1985 seasons of the Corozal Postclassic Project, an



attempt was made to locate additional caches to see if the initial correlations could be verified. An additional 10 Late Postclassic caches were found. These latter finds reaffirm the spatial clustering of certain cache types, specifically those associated with Muluc years; two of these multiple figure caches were encountered (Structures 213 and 218; Figures 24 and 32). The majority of the other caches were not as easily placed. Work in Structure 37 produced a modeled and painted diving god inside an urn with a lid (Figures 16 and 17a); this cache may possibly overlap with the Kan years. If so, it extends the distribution of these caches through much of the northern portion of the site. Other caches either consisted of non-effigy vessels, or were placed directly in fill and not inside other vessels, meaning that their associations and functions may have been somewhat different. Of those with iconography, one from Structure 213 is of a turtle (Figure 25a), perhaps also suggesting a bacab; however, bacabs were noted for more than just the *Uayeb* rites. Another cache from Structure 218 contains the human-god, jaguar, snail imagery of the caches from the Northeast Sector (Figure 35); however, its execution is distinctive with some iconographic variations; these variations and its placement in directly fill could indicate a differing association. Of all of the caches excavated by the Corozal Postclassic Project, those from northern and southern-facing buildings were most easily correlated with either the Kan or Muluc years. It therefore may be posited that the buildings facing these two directions were more likely to have been used for caching associated with New Year's rites; why this should be the case, however, is presently unknown.

That there are no absolute correlations with all of the *Uayeb* years is to be expected. Landa's descriptions are uneven and he may well have confused some of the key archaeological offerings. Excavations at Santa Rita Corozal also were focused on the North Central, Northeast, and South Intermediate Sectors; although not likely, it is possible that additional caching patterns might once have taken place in other portions of the site. Even those caches that can be associated with specific calendric rituals show some overlap with others that are not well identified; it is suspected that there may have been a need to combine aspects of the old and the new year in some caches. It is also likely that many of the offerings did in fact overlap between the years of the *Uayeb* rites as well as with other non-New Year ceremonies; the caches also may have represented *Uayeb* ceremonies combined with longer intervals of time such as hotuns (D. Chase 1982a:301).

Regardless of the problems inherent in the precise correlation of either Late Postclassic caches with specific ceremonies or effigy censers with specific katuns, the interpretation that caching and effigy censers were part of regulated calendric ritual is clearly demonstrated. This conclusion has widespread implications for the nature of the ritual organization of Postclassic communities and wider Maya society. The tenets of the dissipated, individual worship model were used in the past to argue for the breakdown of Postclassic Maya society (J. Thompson 1966, 1970; Proskouriakoff 1955). More recently, this disparate model has been utilized as a partial foundation for the secularization and mercantilization of Maya society during the Postclassic Period (Sabloff and Rathje 1975b; Rathje 1975; but see Freidel and Sabloff 1984: 192) and has been used to suggest that there was little continuity between the Classic and Postclassic Periods. On the other hand, the existence of a regulated, directional, and calendric system of ritual organization may be taken to imply that religion was utilized to unite the community in common ceremonies and perhaps even to celebrate the identities of specific communities. This model also connotes a fundamentally different Postclassic Maya society than that implied in a model of dissipated, individual worship, for it emphasizes, following Freidel (1981a:330-331), that "it may well be that the Postclassic governments of Chichen Itza and Mayapan were more theocratic than those of

the preceding Classic era." Just as the model of dissipated worship may imply disjunction, the regulated model may conversely stress continuity with the preceding Classic Period in calendric ritual. Also, whereas one model would be consistent with the integration of wider Maya society through secular elites, the other would likely involve integration by mechanisms such as fairs and pilgrimages, that stress regional identification (Freidel 1981b). This latter viewpoint has some ethnohistoric verification (Tozzer 1941; D. Chase in press c). Analysis of caching practices at Santa Rita Corozal does in fact indicate that strong continuities exist between the Classic and Postclassic Maya (D. Chase in press b and below).

#### *Social Organization*

It has frequently been stated that there were at least three distinct groups and/or strata among the Postclassic Maya - elite, commoners, and slaves (Tozzer 1941: 26, 62; Roys 1965). Such a view of Maya society presupposes the existence of clear subgroups within the population based upon heredity. For the purposes of analysis at Santa Rita Corozal, this disjunctive model was contraposed against a gradation model of Maya social organization, for despite the emphasis on the elite-commoner-slave division of Maya society there were suggestions that these divisions were not always clear cut. For example, members of some occupations - such as merchants - might derive from either the noble or commoner group (Roys 1943:33,34,51). There was also a term for people who were neither nobles or commoners, but somewhere in between - *azmen uinic* or "medium men" (Roys 1943:34; Martinez Hernandez 1929:69). The disjunctive model characterizes hierarchical communities with little vertical fluidity, but would allow for sharp divisions within Maya society along the lines of occupation and/or descent. Alternatively, the gradation model would suggest that absolutely rigid and/or discrete groups did not characterize Maya society and that Postclassic social organization was, to a large extent, fluid. Under this latter model, a lack of discontinuous groupings could indicate that Maya society more closely approximated an urban class system where social differentiation is based on wealth as well as prestige; alternatively, verification of the gradation model (in conjunction with other data) might be interpreted by some as partial confirmation of the existence of a chiefdom rather than a state.

Each of the models has different implications for the social organization at Santa Rita. The disjunctive model is indicative of a society based on hereditary inequality. This model is at least partially consistent with the theocratic view of Maya society and with the known Classic Period elite dynasties in the Southern Lowlands. The gradation model is indicative of a Maya society that was fluid and in which individuals could change (achieve) status, perhaps along a work ethic; however, this model does not preclude the existence of a theocracy. Each of these models conditions the interrelationships between Late Postclassic religion, politics, and economics at Santa Rita Corozal through limiting access and participation in these realms.

The research variables utilized to test these two models at Santa Rita Corozal included the distribution and associations of a variety of archaeologically recoverable features such as residential units, workshop areas, and refuse deposits. Also especially important were burials, their location, and their contents (cf., Brown 1971, 1981; O'Shea 1984:187-255). The recovery of all of the necessary variables, however, was hampered by the fact that all Postclassic housing at Santa Rita Corozal is virtually "invisible" based on surface remains and that the presumed lowest status housing, in particular, was never possible to delimit prior to excavation. In addition, there were different standards for human burials even within a single architectural group that presumably represent related individuals;

thus, it seems likely that determination of status cannot be made using individual burial remains, but must instead consider all available burial, structural and artifactual information.

Initial work at Santa Rita Corozal could not differentiate social statuses within the archaeology (D. Chase 1985a). Subsequent research has provided additional evidence, but has far from resolved the question of Late Postclassic social structure at the site. Analysis focused on structure groups and associated materials and deposits rather than on individual structures or burials. Separation of structure groups was attempted based upon architectural composition and upon the presence of "elaborate" architecture - specifically, at least one multiple room building. This was then viewed in combination with associated burial and/or refuse burial data. When this was done, two extremes became apparent. On the lower end of the spectrum was evidence of occupation based upon substantial Late Postclassic refuse, but with no clear architectural remains (for example, Structures 35 and 69); when mounding was present, this was found to be due to the later use of earlier constructions. These occupation locales were generally not associated with burials. At the other extreme were elaborate constructions of multiple room buildings, generally with an enclosed shrine, as well as associations with other kinds of buildings (for example, the groups containing Structures 81, 213, and 183). These groups had particular artifactual associations including incense burners and large numbers of chert and obsidian arrow points. Burials within these groups generally contained the full range of variation that was present within the Late Postclassic sample - from those with sacrificial victims and impressive burial offerings, to multiple interments with few artifacts. It is also clear that aspects of Late Postclassic religion were confined to certain segments of society, as suggested by a limited distribution of censers among the more elaborate residential groups. In addition to these two identifiable extremes, investigations revealed a sample of structure groups that were in between, but closer to the more elaborate groups (for example the Structure 167-179 group and the Structures 6, 181, and 182 group). Burials, if present, did not usually have the same "opulence," and there were occasionally slightly different artifactual associations. Thus far, these "in between" groups have been noted from only one part of the South Intermediate Sector.

In sum, it is difficult to clearly identify statuses in Late Postclassic Santa Rita Corozal; only the extremes of occupation are easily distinguishable. Thus, it is hard to prove or disprove either the disjunctive or gradation models. Of the two models, a rigid three "class" distinction is virtually impossible to identify archaeologically; however, both heuristic models are most likely too simplistic to adequately parallel the intricacies of Late Postclassic social organization.

#### **Santa Rita Corozal in Regional Perspective**

Santa Rita Corozal does not exist in a vacuum, but rather exhibits relationships with a variety of contemporary sites and peoples in northern Belize, the Maya lowlands, and in wider Mesoamerica. Consideration of Santa Rita Corozal in a regional perspective mandates consideration of a series of issues. First among these are temporal relationships, for unless it is evident which settlements are contemporaneous at any particular point in time, comparisons become meaningless. Once temporal connections have been established, then a variety of cultural questions on a Late Postclassic horizon may be invoked, such as the relationships among Santa Rita Corozal and other Maya and non-Maya sites, the feasibility of identifying territorial boundaries for the province of Chetumal, and/or the connections between art style and peoples - especially in the Structure 1 murals.

The temporal parameters at Santa Rita Corozal have been established by means of both stratigraphic excavations, carbon-14 dating (Table 2), and cross-dating to other excavated sequences. For some periods, such as the Preclassic, precise dating is difficult. There is controversy over the dating of the earliest remains in northern Belize for a variety of reasons (see the discussion of Structures 134 and 189, as well as D. Chase 1983; Potter et al. 1984; Andrews V in press). On a later horizon, dating for the early facet Late Postclassic remains at Santa Rita Corozal cannot be firmly established, even though stratigraphic precedence is clear. Samples of the same deposits of small burnt grasses and twigs associated with a midden dating to the early facet of the Late Postclassic run at two different laboratories have yielded dating that does not overlap at a 1-sigma factor (Table 2: Beta-18079, Penn-3074). Other carbon-14 dating, however, establishes the late facet Postclassic remains at Santa Rita Corozal as existing no earlier than about A.D. 1300 (Table 2: Beta-18081, 18082, 18083; Penn-3073, 3075) and as continuing until Spanish contact (Table 2: Beta-18087). The fact that carbon-14 dates cannot securely anchor the earlier facet Postclassic remains at Santa Rita Corozal (and at other sites) points to the technique's inability to definitively solve certain critical questions relative to the Maya (see also A. Chase 1986).

In examining the transition from the Classic to Postclassic eras, the Santa Rita Corozal sequence evidences a regional tradition that has previously been referred to as "Terminal Classic/Early Postclassic" because of the inability to separate these two arbitrarily named eras. While a similar situation has been noted at Lamanai (Pendergast 1986; Graham 1987a), the ceramic complexes at Lamanai and at Santa Rita Corozal are different in that Lamanai appears to follow the San Jose tradition (J. Thompson 1939) while Santa Rita derives from a completely different background (A. Chase 1986:121-124), evidencing the intense regionality that is seen in northern Belize during this era. The Santa Rita Corozal ceramic complex for this transition era, known as the Natalnat Ceramic Complex is extremely similar to the Ikilik Ceramic Complex defined for Nohmul (D. Chase 1982b) and characterized by double-mouth water jars (A. Chase and D. Chase 1987a: Fig. 9a; Sidrys 1983) and ties to assemblages in the Northern Lowlands (D. Chase and A. Chase 1982). At Santa Rita Corozal, the Natalnat ceramics underlie many Postclassic loci, occasionally existing as redeposited middens as in the case of Structure 81.

For Santa Rita Corozal, the unresolved question is the exact relationship between Natalnat ceramics and the early facet of the succeeding Xabalxab Ceramic Complex. Are the two coeval or, is there a temporal separation? The answer is clouded because of the scarcity of primary deposits dating both to the early facet of the Xabalxab Ceramic Complex and the Natalnat Ceramic Complex. The stratigraphic priorities, however, are well established. Late facet Xabalxab ceramics must have been in existence at Santa Rita Corozal sometime after A.D. 1300 and definitely by A.D. 1350 based on a series of radiocarbon dates from Structure 81. Dates from the Structure 77 locus would indicate that the early facet Xabalxab dates must be from before A.D. 1300; no good dating exists for the Natalnat ceramics underlying late facet Xabalxab materials at the Structure 81 locus. Interestingly, a partial Puuc Slate vessel occurs with the early facet Xabalxab ceramics from a garbage deposit deep under Structure 77 (Figure 4v). The early facet materials from under Structure 212 do not occur with other ceramics. Other early facet materials were found within the structure fills of edifices such as Structure 58, but are of mixed association. The Structure 81 core contains no early facet Xabalxab materials in the extensive Natalnat deposits. Thus, whether Natalnat and early facet Xabalxab were successive or overlapped in time cannot be firmly established.



While the Natalnat and Ikilik ceramic assemblages are almost identical, they are not well known outside of the sites of northern Belize (Sidrys 1983: 221-226). Colha and Lamanai participate in a different ceramic tradition during this transitional era. This suggests that part of the problem in interpreting this era is due to a cacophony of cultural factors that may or may not have temporal correlates. At Colha, misnamed Tulum-related materials are dated to immediately after the collapse (Valdez and Adams 1982; Valdez 1987); at Lamanai, they are dated to between A.D. 1350 and 1450 (Pendergast 1981a; Graham 1987a). Obviously some temporal problems exist (see A. Chase 1986) and these temporal problems have impacted on archaeological interpretations. Sidrys' (1983:226) dating for the Buyuc Striated double-mouth water jar, a crucial component of both the Ikilik and Natalnat Ceramic Complexes, would indicate complete overlap with the Colha Tulum-related sample, but non-overlap with the Lamanai Tulum-related sample. If the Santa Rita carbon-14 dates can be utilized, Tulum-related pottery must date prior to A.D. 1300, indicating no overlap for this material with the Lamanai dates. As overlaps exist between the Ikilik (and, by extension, Natalnat) and the Cepech, Sotuta, and Hocaba Ceramic Complexes of the Northern Lowlands (D. Chase and A. Chase 1982), and as some overlap can be distinguished between early facet Xabalxab and Hocaba, dated to 1200 to 1300 (Smith 1971), it would ultimately appear that Natalnat and early facet Xabalxab are to some degree successive in time.

Relationships between Santa Rita Corozal and other Late Postclassic sites remain virtually unchanged from earlier discussions (D. Chase 1982a, 1986). As in other phases at Santa Rita Corozal, pottery in particular provides a well-studied indicator of temporal relationships and interactions. Santa Rita Corozal's late facet Xabalxab Ceramic Complex (D. Chase 1984) overlaps temporally with the Tases Complex at Mayapan (A.D. 1300-1450) and there are similarities in ceramics between the two sites; specifically, relationships are seen in certain forms of Mayapan Red and Rita Red as well as in many of the modeled and post-fire painted ceramics (particularly, Chen Mul Modeled). However, there is far from a one-to-one correlation between the ceramic complexes of the two sites. Some, but not all, of the differences between the pottery of the two sites may be due to the continued existence of Xabalxab into the 16th century.

Besides being noted from other locales in Northern Belize (Yakalche - Pendergast et al. 1968; Cerros - Scarborough 1980; various - Sidrys 1983), Santa Rita Corozal ceramics also show overlap with those from Lamanai on the New River Lagoon (Graham 1987a: 91-95). Here, however, the parallels between the two sequences are more problematic. At Lamanai there are four phases pertinent to this discussion. The Terminal Classic/Early Postclassic phase shows minor overlap with Ikilik and Natalnat, but is without the emphasis on some of the main features of these complexes, such as double-mouthed jars. The Buk Phase begins either in the 11th or 12th century; it shows virtually no overlap with either early or late facet Xabalxab material. The Cib Phase dating from A.D. 1300 or 1350 to 1450, contains Tulum-related remains; as such, it shows ties to early facet Xabalxab remains dated prior to A.D. 1300. Yglesias Phase ceramics, dated from A.D. 1450 to 1700, are much more similar to Santa Rita Corozal ceramics than any previous remains at Lamanai; however, there are clear differences in support forms, vessel breaks, and other modal characteristics. Based on the Santa Rita data and on the fact that Xabalxab and Yglesias overlap for only a short span of time (late facet Xabalxab is dated between A.D. 1300 and 1532), it is suspected that the majority of the illustrated Yglesias material from Lamanai dates from post A.D. 1532. Differences between the two complexes include a general lack of large effigy censers at Lamanai, while such items are present at Santa Rita Corozal in even the latest constructions (e.g., Structure 183). However, Yglesias censerware

is similar to Cohokum Modeled censers (Figure 11 l) also present at Santa Rita Corozal. Santa Rita Corozal has, in fact, a more varied series of censers than other Late Postclassic sites (cf., Figure 11 l-q); this difference may be functional or may indicate problems with sampling, as two of the Santa Rita Corozal censer types were found predominantly at one locus.

Santa Rita Corozal Xabalxab materials evince little overlap with ceramics just north in Quintana Roo at the sites of Ichpaatun and Tulum (Sanders 1960); sherds from pottery of this form occurs smashed in fills or broken in association only with early facet Xabalxab. It is probable, then, that Tulum (Paybono) Red ceramics begin as early as the Early Postclassic - this is supported by the Tulum-related vessel forms and sherds at Colha, misdescribed as "Augustine Red" (Valdez and Adams 1982, Valdez 1987). This suggests that much of the construction at Tulum may precede Santa Rita Corozal and that this may account for architectural differences between the two sites. Such a sequence was also suggested by Lothrop (1952:6).

Santa Rita Corozal shows no clear overlap with the central Peten traditions (A. Chase and D. Chase 1983, 1985; P. Rice 1987) or with nearby sites such as Tipu (Graham 1987a). Augustine, Paxcaman, and Topoxte Red are all outside of the Santa Rita Corozal ceramic tradition. Similarities extend solely to the use of red line-work on Topoxte pottery (Bullard 1970; P. Rice 1987:157-161), although Santa Rita Corozal vessels tend to have more geometric patterns.

Comparison of Santa Rita Corozal with other sites within its immediate vicinity in northern Belize is made difficult by the lack on in depth work at these other Late Postclassic sites, although investigations by Raymond Sidrys (1983) suggest that Late Postclassic occupation was extensive. Santa Rita Corozal by virtue of its size, density, and deposition of numerous ritual objects has obvious significance within this region. By virtue of the quantity of excavations undertaken and because of its status as a probable protohistoric capital, Santa Rita Corozal is on a comparative level with such sites as Mayapan, Tayasal, Topoxte, and Lamanai. Of these major Postclassic sites, Mayapan is somewhat earlier and a capital of all of the northern territories; its archaeological remains, therefore, can be expected to be somewhat distinctive. Topoxte and Tayasal both have been suggested as the location for the capital of Tayasal (A. Chase 1976, 1982, 1985a; Jones, Rice, and Rice 1981; D. Rice 1986); of the two locales, Tayasal has seen more excavation (A. Chase 1983). Lamanai is not noted as a capital in ethnohistory, but may have been one, based on its impressive archaeological remains, possibly on a horizon after the abandonment of Santa Rita Corozal. When viewed in terms of the recovered information from these other Postclassic centers, Santa Rita Corozal provides an extremely complex and rich archaeological picture.

Late Postclassic architecture at Santa Rita Corozal is characterized predominantly by base-wall constructions consisting of either single or double lines of stone. Raised platforms for single structures or multiple structures are rare, but do exist. There are no colonnaded structures at Santa Rita Corozal as exist at Mayapan, however, there are multiple room constructions and perishable roof supports could well have produced tandem plan constructions. The sole example of a masonry roofed construction is Structure 1. Masonry altars and altar figures appear to be correlated with administrative groups and certain of these have been tentatively identified as having boundary significance (D. Chase 1985a). As at Cozumel (Freidel and Sabloff 1984:183-185,192), isolated shrines may in fact reflect integrative units for the larger community. This architectural complex places Santa Rita Corozal firmly within the Late Postclassic building tradition found within the Northern Lowlands; however, the lack of columns and masonry roofed buildings suggests closer affiliations with Belizean sites (see D.Z. Chase

1986 for further discussion). This may have a bearing on political relationships among the provinces, but may also be further complicated by inability to fine-tune dating within the period, as is the case with Tulum and Santa Rita Corozal.

Elaborate caches are a predominant feature of three Late Postclassic sites - Santa Rita Corozal, Mayapan, and Lamanai. The lack of correspondingly large samples from other sites may be due to the greater effort spent in excavation of these sites, or perhaps more likely, to the role that caching played in late Maya culture. It has been suggested that caching may have been a significant aspect of rituals keyed not only to integrating a single community, but also outlying settlements. If this were the case, then it would be expected that caching would be more common in territorial capitals, or at least, important towns. Interestingly, the three sites mentioned all fit this model.

What emerges from the Santa Rita Corozal data is a complicated picture of the Postclassic. There are clear overarching ties among sites in items such as base-wall construction techniques and effigy censerware, but at the same time there is strong regionalization. This regionalization is what would be expected with territorial organization of the Maya described at contact (D. Chase 1986:367-377); ceramic relationships and other architectural differences may well indicate political alliances and/or popular lines of communication during this period. Nevertheless, all indications are that Santa Rita Corozal was a full member of the overall Maya cultural tradition within the centuries just prior to European contact. Thus, the next question that must be broached is: how does Santa Rita Corozal fit into a wider Mesoamerican perspective?

#### The Mixteca-Puebla Style and the Murals of Structure 1

Perhaps Thomas Gann's (1900: 663-677) most cited findings at Santa Rita Corozal were the murals he encountered in Structure (or, in his notation system, "Mound") 1. Structure 1 was located 580 yards northeast of Structure 7 and consisted of a building facing north with well preserved walls on all but its southern side. Gann recorded and published complete drawings of the intact portions of the north and west walls (Figure 40), but only partially recorded the east wall before it was destroyed by local inhabitants; the south wall was not standing. Gann's discovery is extremely important because it combines clearly Maya hieroglyphs with figures thought to be more Mexican or Mixteca-Puebla in style; these murals have become a frequent point of discussion (see for example: Andrews IV 1943:78; Kubler 1962:205; Long 1919; Miller 1973, 1985, 1986; Nicholson 1960; Quirarte 1974, 1982; J. Thompson 1965:348).

Despite this long-standing interest in the Santa Rita Corozal murals, however, dating and interpretation has varied substantially from those who sought to place the murals on a Toltec horizon to those who viewed the murals as Late Postclassic in date. Part of the confusion over the dating of the murals was due to the imprecise associations described by Gann; of the pottery sherds he found, Gann (1900:664) notes only that some were "roughly made, others nicely decorated with geometric devices in red, black, and yellow; a few were glazed." Gann suggested a 14th or 15th century date to the murals.

Further work at Santa Rita Corozal has provided additional information on the Structure 1 dating. It is likely that the murals were sealed by a later building (D. Chase 1982a:34) and not merely by a protective covering as Gann (1900:665) proposed. Given the dating of other constructions at Santa Rita Corozal, such a rebuilding would likely indicate original use prior to the 16th century. Excavations of the remains of the Structure 1 platform by Raymond Sidrys (1976:332-344) provided a carbon sample yielding a date of A.D. 1425  $\pm$  40. Additionally, fragments of polychrome murals excavated by the Corozal Postclassic Project in

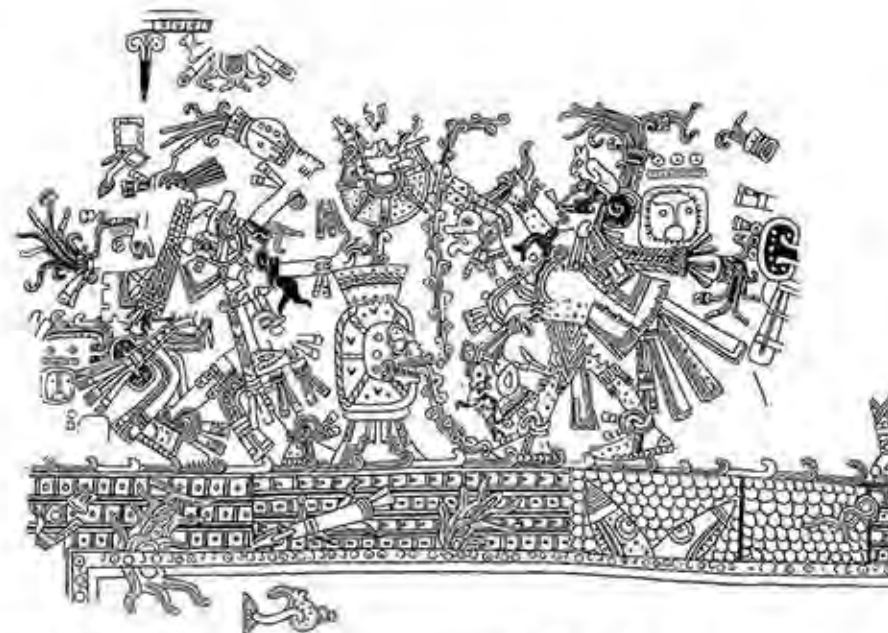


Fig 40 Murals from the west wall of Structure 1 recovered by Thomas Gann.

Structure 77 (D. Chase 1982a:36, 381) were found in the core of the final construction at this locus, presumably datable to the 15th or 16th century, but definitely built after A.D. 1300. Finally, as Gann himself notes, there are abundant cache and censer figures at the site that replicate iconographic elements found in the murals; these are securely placed in the Late Postclassic. A safe range of dates for the murals, then, would be between A.D. 1350 and 1500; perhaps a 15th century dating would be most appropriate. The Santa Rita Corozal murals are often compared with those from the site of Tulum on the Quintana Roo coast (see for example: Kubler 1962; Nicholson 1960; Miller 1973, 1982; Quirarte 1982). However, as noted previously (D. Chase 1982a:36), general features characteristic of Late Postclassic ceramics at Tulum (Sanders 1960) occur early in the Late Postclassic sequence at Santa Rita Corozal - probably during the 13th century (see Figure 4). Thus, although the archaeological materials from Structure 1 can not be directly identified from Gann's report, general archaeological associations would suggest that the Santa Rita Mound 1 murals were slightly later in date than those at Tulum.

The style of the Santa Rita murals, often referred to as "Mixteca-Puebla," has been combined with a somewhat nebulous reference in Scholes and Roys (1948:385) to affirm Putun or Acalan control of the site during the Late Postclassic era (J. Thompson 1970:78, 1972:9; Quirarte 1982). There are problems with both this historic interpretation and the art historical assignments. The historic interpretations are based upon an section in the Paxbolon-Maldonado Papers which lists a brief history of the rulers of Acalan. In this brief history is an indication of tribute imposed on Chetumal by the ruler Pachimalahix of Acalan (Scholes and Roys 1948:385). This particular entry is unfortunately somewhat vague and has been blown out of proportion. Scholes and Roys (1948: 86) suggest that Acalan did not conquer Chetumal, but rather that there had been some sort of commercial conflict leading to a raid and perhaps the collection of damages. Perhaps, in fact, Chetumal may have imposed tribute on Acalan (D. Chase 1982a:569). However this historic entry is interpreted, this minor controversy is



characteristic of the many attempts in the literature to ascribe Santa Rita's remains (and, indeed, most other spectacular Maya Postclassic remains) to non-Maya groups or to non-Maya influences. A consideration of the style of the Santa Rita Corozal murals is therefore appropriate in light of these past assertions of a different, non-Maya, ethnic group as being resident at the site.

The notion of an iconographically Mixteca-Puebla style derives from Nicholson's (1960) reworking of a concept suggested in the publications of Vaillant (1938, 1940, 1941). This style was seen to span an extremely wide area of Central America from the Mixteca-Puebla area to sites in the Maya area, such as Santa Rita, and to points further south; temporally, its representations had both early and late expressions within the Mesoamerican Postclassic. In subsequent work, Nicholson (1961, 1982) stressed the need to avoid the use of the term "Mixtec," but instead to continue the use of the original Vaillant term, "Mixteca-Puebla," so as to avoid automatic culture-historical assumptions about the movement or political control of the "Mixtec" peoples. He (1982:233) specifically argued "against the utilization of ethnic-linguistic terms for esthetic-iconographic traditions." As Nicholson (1982:233) pointed out, "it is still by no means clear to what extent the Mixtec-speaking communities of Western Oaxaca contributed to the initial development and spread of the pervasive Mixteca-Puebla style and iconography." Robertson (1970), in his review of a specific set of Mixteca-Puebla style materials - the Tulum murals - suggested that the style was not indicative of a particular group of people, but rather something more akin to an international style characteristic of the Late Postclassic Period.

In spite of the perspectives of Nicholson (1961, 1982) and Robertson (1970), there are those who still view expressions of the Mixteca-Puebla style as indications of ethnicity; such interpretations can be particularly problematic when expressions are found in areas at some distance from the presumed center of the style. The Santa Rita Corozal murals are a case in point; their iconography continues to be viewed as "non-Maya" by a variety of scholars (see for example, Quirarte 1982). This interpretation ignores the cosmopolitan nature of Postclassic Mesoamerica and the extensive communication systems operating at the time of European contact in the 16th century. These interpretations also do not take into consideration studies such as that by Anawalt (1981:205) that suggest the overall distinctive nature of Maya dress from that of the central Mexican highlands or information that suggests that the Mixtecs themselves were not innovators (J. Pohl 1984:169). Moreover, assignments of the Santa Rita murals as being non-Maya do not place the murals within the context of other Postclassic materials from this site (as indicated even in Gann's own work) or Postclassic materials from other Maya sites.

While art historians frequently seek relationships among the Santa Rita Corozal murals and the various pictorial codices (Quirarte 1982), there is very little attempt to use other typical expressions of the style such as is found in the artifactual remains (Paddock 1982, Brockington 1982; Ramsey 1982). When the Santa Rita Corozal murals are viewed in this context, a very different picture appears. As Gann (1900:673-4) noted very early, the figures in these murals show numerous similarities to the painted and modeled ceramics found at the site during the same era. Yet the Late Postclassic Maya pottery of Santa Rita Corozal (as illustrated in this report) is very different from that found in the Mixteca-Puebla geographic area (see for example, Ramsey 1982). The material remains from Santa Rita Corozal are well within the range of those from other Late Postclassic Maya centers within the lowlands (see for example, Smith 1971 for the ceramics of Mayapan). There are also reasons for assuming continuity in Maya caches and censers between the Classic and Postclassic Periods as both of these

artifactual classes show similarities in deposition patterns through time (D. Chase in press b); Postclassic figure vessels may also be presaged in modeled Classic Period caches (see: Ball 1977: Figs. 38-42 for Becan; Ashmore and Sharer 1978 for Quirigua; and A. Chase and D. Chase 1987: 47 for Caracol) and fragmentary figure incensarios dating to the end of the Classic Period (see for example, Adams 1971:106 for Altar de Sacrificios; figure incensarios also appear in Late to Terminal Classic deposits at Quirigua - personal observations, 1977). In sum, at Santa Rita Corozal, there is no archaeological evidence of a non-Maya population. There is, however, substantial archaeological evidence of a cosmopolitan Maya people solidly entrenched in a Pan-Mesoamerican system of exchange and well aware of outside innovations in both the practical arena and in art.

### Santa Rita Corozal: A Postclassic Perspective

Investigations at Santa Rita Corozal have made a number of important contributions to our understanding of the ancient Maya. These have been on a variety of levels. Work at Santa Rita Corozal underscores the problems of making interpretations on the density, dating, and significance of an area based solely on surface information without excavation (D. Chase in press a). Excavations into low-lying or virtually invisible Postclassic constructions have proved particularly significant. While vacant terrain occupation (Bronson n.d.) is of obvious importance in the perishable buildings of the Late Postclassic Period, its significance is clearly not limited to the Late Postclassic (D. Chase in press a; A. Chase in press b; Wauchoppe 1938). Imperceptible Late Postclassic construction was also found to overlay well made earlier construction that was equally invisible on the surface (see for example, Structure 218).

Investigations at Santa Rita Corozal also point to the danger of making interpretations concerning population movements without all the facts and without considering context. This is most evident in the common assertion that the Structure 1 murals indicated a non-Maya presence at the site; archaeological work clearly shows that these murals are well integrated into all aspects of Maya material culture at the site and in the Maya lowlands.

Work at Santa Rita Corozal also provides a reminder of the problems inherent in axiomatically assuming that ethnohistoric statements about the Maya were not only correct for the time they were written, but also that they adequately described the earlier Maya of the Classic Period. This is particularly indicated for any discussions concerning site organization - if the concentric model doesn't mirror Late Postclassic settlement, then how can one assume it fits the Classic Period?

Finally, much ado has been made of about disjunction between the lifestyles and material remains of the Classic and Postclassic Period Maya. Investigations at Santa Rita Corozal, however, suggest that much of that point of view has been perpetuated due to an imprecise, incomplete, and incorrect understanding of the Late Postclassic Maya due to a lack of research on the topic. Such a disjunctive viewpoint is implicit in an archaeological or art historical approach that views material items themselves as indicative of culture change - an approach that entails looking at specific differences in material traits and not the way those traits fit together to form cultural patterns or behaviors. Changing pottery or building techniques in and of themselves are not necessarily an indication of disjunction. Perhaps the best area for viewing continuity or discontinuity and disjunction is in the one realm considered closest to the core of a culture - ideology and religion. While there are those who would automatically dispute continuities between Classic and Postclassic religion based upon changing material culture it can be argued that there are substantial connections and that what Mayanists are failing to view

is the evolution of Classic Period beliefs. Some aspects of Maya belief systems allow simple comparisons; burial complexes are one such example. During the Late Postclassic at Santa Rita Corozal, burials are located in particular places, such as on a building's axis. There may be more than one burial associated with a particular structure; these are often, but not always, separated by construction phases. If there is more than one burial in a construction, there is frequently some variability in the burials in terms of placement, contents, or kinds of grave. At Structure 58, for example, one individual's burial was marked by a stone construction; she was interred with a number of impressive offerings including jadeite beads, shell beads, and two copper rings. Elsewhere in the same structure were individuals with few or no offerings as well as interments with multiple individuals; none of these was marked with stones. A similar situation exists for Classic Period Caracol. In the eastern building of the Machete Group (A. Chase and D. Chase 1987b:40-43) interments ranged from a tomb containing a single individual, to a crypt containing a single individual, to a crypt containing more than one individual, to a simple interment in the ground. Offerings varied from multiple smashed vessels and jadeite beads and earflares to nothing at all. While there are clear differences between the Classic and Postclassic burials just mentioned - there are no tombs during the Postclassic at Santa Rita Corozal and high status individuals tend to be buried in an upright position - there are, however, clear similarities as well. Even the upright position of the late Santa Rita Corozal burials may have Classic counterparts at Caracol such as in the bundled burial in Caracol Structure B19 (A. Chase and D. Chase 1987b:26).

Postclassic modeled effigies - incense burners and cache figures - have long been viewed as indications of the breakdown of the religious system of the Classic Period and as representative of the non-integrative idol worshipping of the Late Postclassic. It has been suggested in previous sections of this monograph that the distribution of ritual paraphernalia, especially caches and incensarios, is an expression of a well organized and integrated religious system focused on calendric ritual. How different a conception is this from one of a Classic Period Maya who used the calendar and astronomy to pick auspicious dates for war (Schele and Miller 1986: 214) or who used the calendar to predict the future (Morley, Brainerd, and Sharer 1983:461)? If the calendar maintained similar functions and if a cyclical conception of time was retained up to European contact, what then of caches and censers?

It has been suggested that there is, in fact, much continuity in caching patterns between the Classic and Postclassic Periods and that Late Postclassic caches, with their clearly modeled figures and painted iconography may offer interpretational clues for the Classic Period not otherwise apparent because of the abstract use of specific iconic objects in Classic Period caches (D. Chase in press b). Analyzing sets of caches from Tikal, William Coe (1965) found that Late Classic caches distinguished themselves into two sets based upon their contexts in association with structures or monuments. By the Late Classic Period, monument caches were extremely regularized in that there was repetition of nine types of incised obsidian. At Tikal, the most regularized of the recovered caches were associated with time and the calendar through their association with stone monuments. At Santa Rita Corozal, two ordered sets of caches can be interpreted to correlate with the specific calendar rituals of the *Uayeb*. Thus, there is a continued focus on rituals associated with the passage of time. These late caches at Santa Rita Corozal generally contain figures in groups of four or one; if there were four items, they were often placed in opposing directions. The concept of four is an important element not only for the four distinct years of the *Uayeb*, but also in Maya religion; quadripartite divisions have long precedence in the Classic Period (Marcus 1976;

Coggins 1980) and occurred early on in caches (D. Chase in press b). Specific interpretations concerning Classic Period caches are more difficult to make because of the highly symbolic nature of their contents. While some contain carved representations of humans or deities or have obvious implications, such as between stingray spines and blood sacrifice, others contain items such as circular shell pieces whose significance is far from clear. It has been argued that the basic function of caches remained the same during the Classic and Postclassic Periods. However, the symbolism changed from the abstract conceptions of the Classic Period to very obvious indications of what the offerings entailed in the Postclassic Period; this change may have been intended to integrate more individuals within the population into the religious belief system (D. Chase in press b). Thus, what can be seen are changing forms on a similar underlying belief in cyclical time and the nature of the universe. Interpretation focusing on changes in specific material culture can mask basic structural similarities in the function of caches and in the underlying Maya belief system.

The increased number of incensarios recovered from Postclassic sites has been interpreted to indicate a secularization of Postclassic religion and a breakdown in religious uniformity. Incense burners, while upon first viewing possibly suggest a divergence between the Classic and Postclassic Maya, upon a closer look provide a very different view (D. Chase in press b, d). Incense burners by their very nature are intended as vessels through which to make offerings of incense - apparently an important part of most Maya rituals. There are generally two kinds of incense burners at any point in time and one of these is usually an effigy incensario. Just as the numbers and kinds of offerings were significant in caches, the numbers and kinds of censers also appear to have significant meaning. It has been pointed out that Late Postclassic Santa Rita Corozal effigy censers, when reconstructible, are generally found in pairs. A similar situation has been documented at other sites during the Classic Period (D. Chase in press a). Arguments that state that there is no logical development of Late Postclassic full-figure effigies from Classic Period effigies are inappropriate as full-figure censers do exist in the Classic Period (D. Chase in press b; Coggins 1975: 380-381; Adams 1971:106; Benyo 1979). The association of paired Late Postclassic censers at Santa Rita Corozal with idols marking the passage of katuns as noted has some support in Classic Period Caracol where paired effigy censers were located below a katun marking altar (A. Chase and D. Chase 1987b:14). Thus, with censers as well there are indications of continuity between the Classic and Postclassic eras. The increased numbers of censers, in combination with the standardization of cache offerings, likely involved a wider segment of the Postclassic population in the religious system. This is completely at odds with arguments for the breakdown of religious organization during the Postclassic.

Past work on the Lowland Maya Late Postclassic has largely focused on culture historical questions relating to sequence and general definition of this time period. While many processual explanations of the Classic and Postclassic Maya are hinged on an interpretation of Late Postclassic organization, until recently, little published, concrete archaeological data existed on which to base these expositions. In an era when researchers are attempting to move beyond settlement pattern studies and ascertain the actual structure of earlier, Classic Maya organization, it is clearly imperative that a better and broader understanding of the Late Postclassic Maya and their organization be gained. Simple application of the direct historic approach would dictate that this be done in order to attempt an interpretation of the patterning of earlier archaeological remains.

Thus, the archaeological research undertaken at Santa Rita Corozal from 1979 through 1985 is important for a number of reasons. Apart from the purely culture



historical value of the recovered data, the intensive sector investigation with selective and limited excavations in other parts of the site, when combined with the mapping program, provide data pertinent to the detailed problems of site, ritual, and social organization at Late Postclassic Santa Rita Corozal and have resulted in a redefinition of the extent, organization, and structure of the ancient community. While the specific results of investigation concerning these problems alone is significant, the implications of the various alternatives may have even wider importance for the field of Maya studies and for interpretations of continuity and disjunction between the Classic and Postclassic Periods. The work is particularly relevant given current interest in the Postclassic Maya and the continued emphasis on questions of site organization during the preceding Classic Period. While it is not suggested that the results of this research can be imputed to the entire Maya realm, the investigations provide controlled data from one Late Postclassic community - a regional capital - which add to and alter the present over-generalized views of Lowland Maya Postclassic culture. The research further serves to highlight the utility of archaeology as part of a critical methodology for evaluating problematic ethnohistoric information and sources.

## APPENDIX I

### Map of the Archaeological Ruins of Santa Rita Corozal

The first map of Santa Rita Corozal was a sketch map of the site made by Thomas Gann (1900:662; 1918:59) and published first in 1900 and then again with slight revisions in 1918. By 1918, Gann had established the placement of 30 structures on his two maps and had noted (Gann 1900:662) that although "between forty and fifty mounds were discovered," only 32 were intact in 1896; "as stone is scarce in the vicinity a number of the mounds were completely destroyed in order to obtain the stone for erecting houses and water tanks" (Gann 1900:661). By 1900, Gann (1900:662) had "investigated" fully half of the mounds known to him.

A revised map of Santa Rita Corozal showing the location of 33 structures was published in 1973 (Pring 1973: Fig. 73); this version of the Santa Rita Corozal map basically followed that provided by Gann in 1900 with the exception that while Gann did not utilize rectification to show his structures, the updated version did. Based on his dissertation research at the site in 1974, Sidrys (1983:125) published a map of the site consisting of 66 structures; most of the additional structures that he added to the map came from his work in the Northeast Sector of the site, an area which had been neglected since Gann's era.

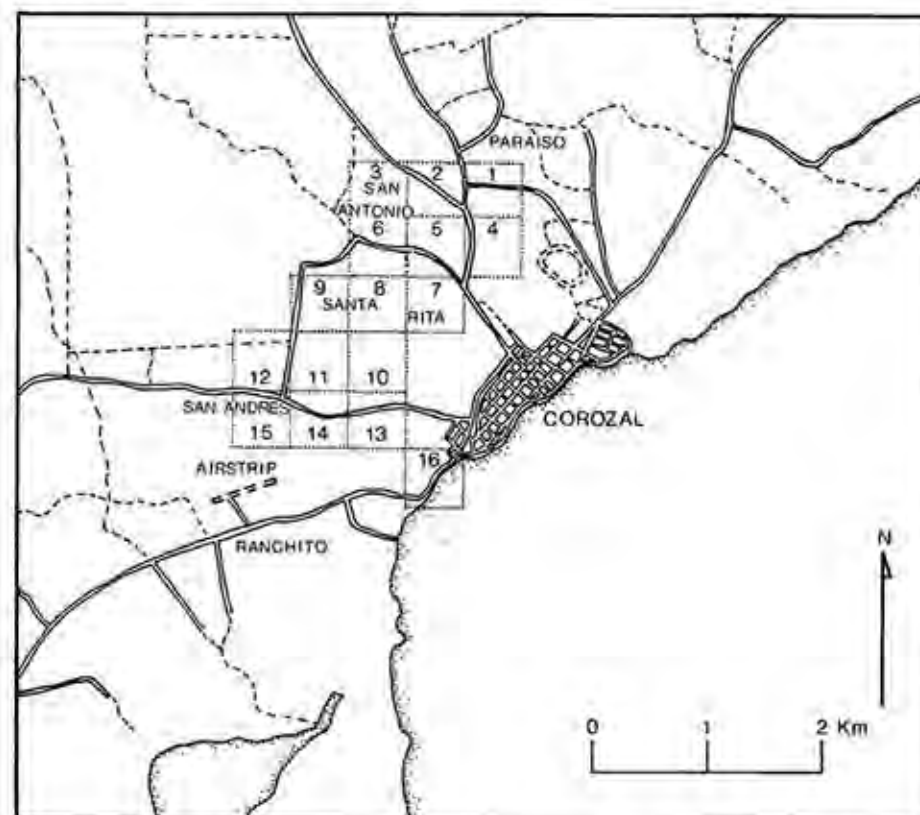


Fig 41 Diagram showing quadrangle relationships for the Santa Rita Corozal map and the relationships of the quadrangles to modern-day Corozal Town.

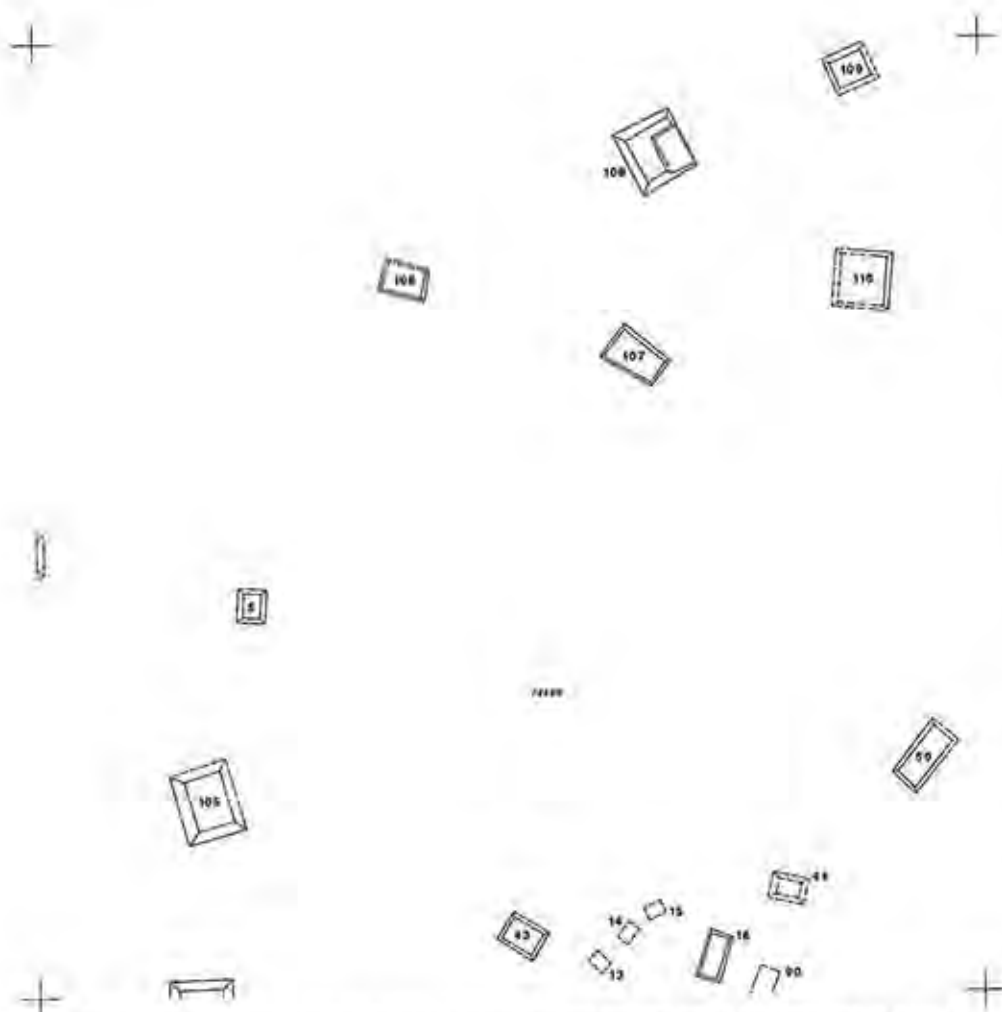


Fig 42 Santa Rita Corozal Map Quadrangle 2; magnetic north is to the top of the page; scale is 1:4000.

The current Corozal Postclassic Project map of the archaeological ruins of Santa Rita Corozal presented here contains 238 structures spread over an area of less than 4 square kilometers. While this would appear to not represent a very dense settlement, it is important to note that the quantification of structural remains at Santa Rita Corozal is an extremely misleading figure. The amount of structures at the site was once much greater; many have been destroyed by land-clearing undertaken in the growth and modernization of Corozal Town. Even more important, it would appear that at least half of the buildings that once existed at the site are also "invisible" to the naked eye (D. Chase in press a). Besides having implications for the settlement figures at Santa Rita Corozal, this conclusion also has ramifications for the large amount of settlement work that is being done elsewhere in the Maya area.

The site of Santa Rita Corozal extends along an inland bluff that rings modern Corozal Town (Figure 41). Only at the southern end of Corozal Town do the ancient and modern settlements meet at a seaside location, suggesting that any port for the ancient site would have been situated in this locale. While the northern ex-

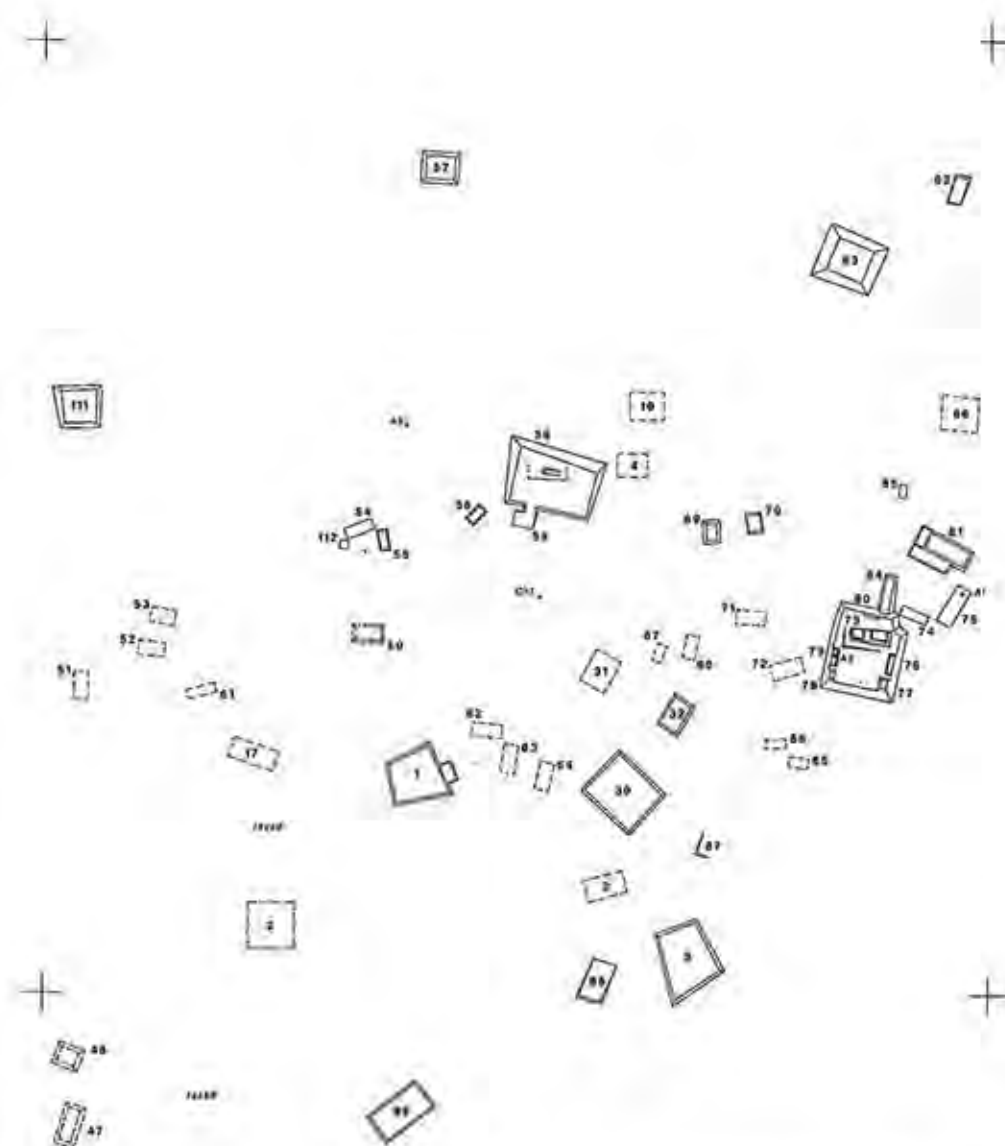


Fig 43 Santa Rita Corozal Map Quadrangles 1 and 4; magnetic north is to the top of the page; scale is 1:4000.

tent of the site lies beneath the modern villages of Paraiso and San Antonio, it is suspected that the southern extent of the site actually lay beneath the Corozal Airstrip and the modern settlement of Ranchito; while isolated mounds were visible in both locales, any ancient remains in these two areas have been severely impacted upon by modern construction and quarrying activities.

#### The Santa Rita Corozal Map: System of Designation and Methodology

The quadrangular system used to present the Santa Rita Corozal map follows general standards that have been used elsewhere in the Maya area (R. Carr and Hazard 1961; A. Chase and D. Chase 1987b: Appendix 1). The standard grids that are used for ease of presentation each measure 500 m by 500 m and are



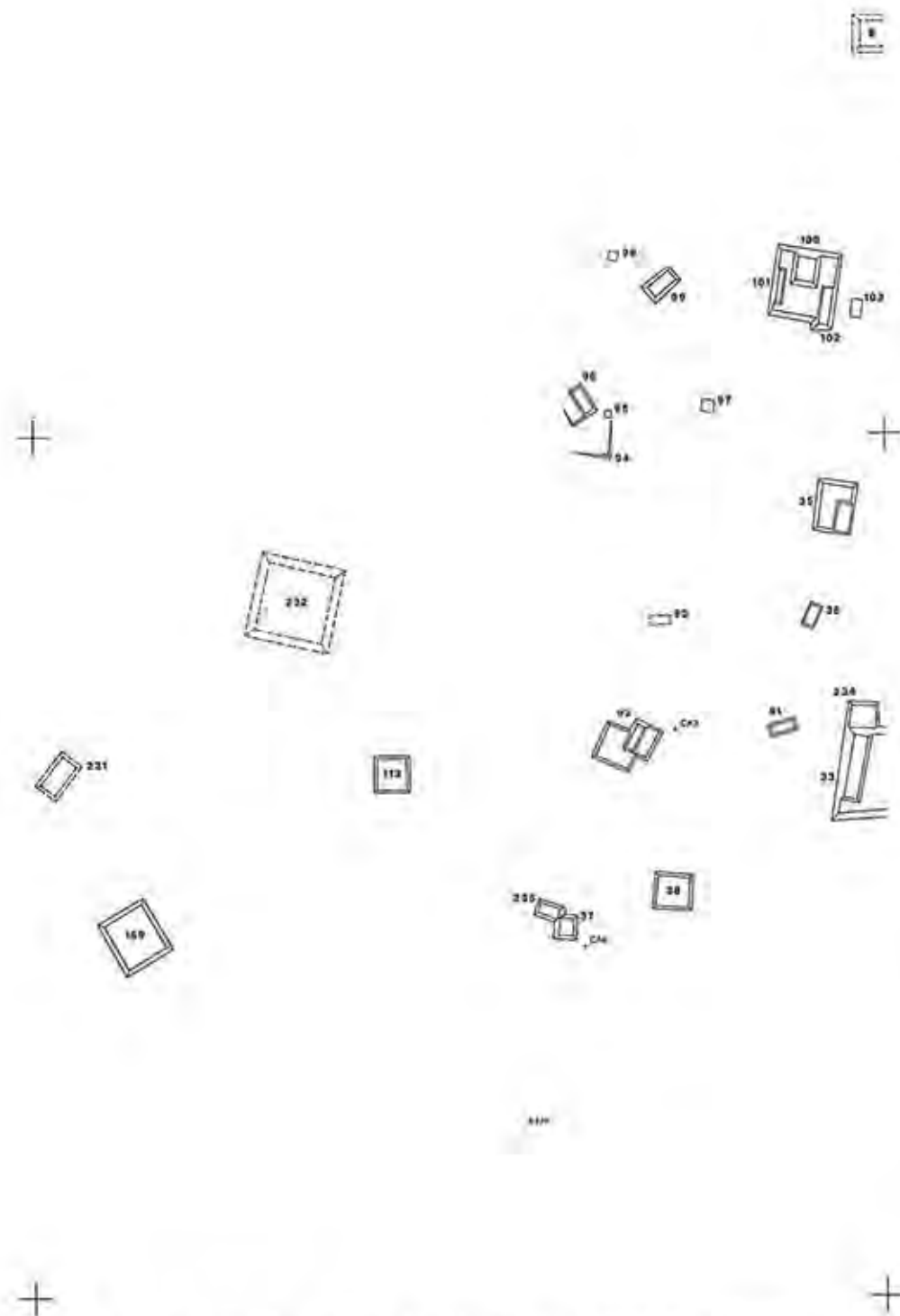


Fig 44 Santa Rita Corozal Map Quadrangle 3 and 6; magnetic north is to the top of the page; scale is 1:4000.

aligned to magnetic north. They are published here at a scale of 1:4000, having been originally mapped in the field at a scale of 1:1000. While each quadrangle is numbered here for ease of reference (from "1" through "16"), these assigned numbers are arbitrary and are not imposed on any structure designations at the site. Instead, the Santa Rita Corozal structures are numbered in a consecutive sequence from "1" to "228" over the entire site. The primary reason for using a running series of structures is due to a desire to be consistent with historical accident. Thomas Gann referred to his "mounds" at the site by single numbers (D. Chase 1982a:29-74). His (Gann 1900, 1918) initial series of investigated mounds at the site included 28 numbered mounds; in the present map, each of these structures, numbered "1" through "28" is tentatively identified and associated with the same construction that Gann investigated. Gann (1911, 1914, 1918) also included 18 other structures in 3 other series of investigations that he defined for the Santa Rita Corozal area (D. Chase 1982a:57-74); as these were not consistent with his original series and as these were not as precisely located as the first 28, these have

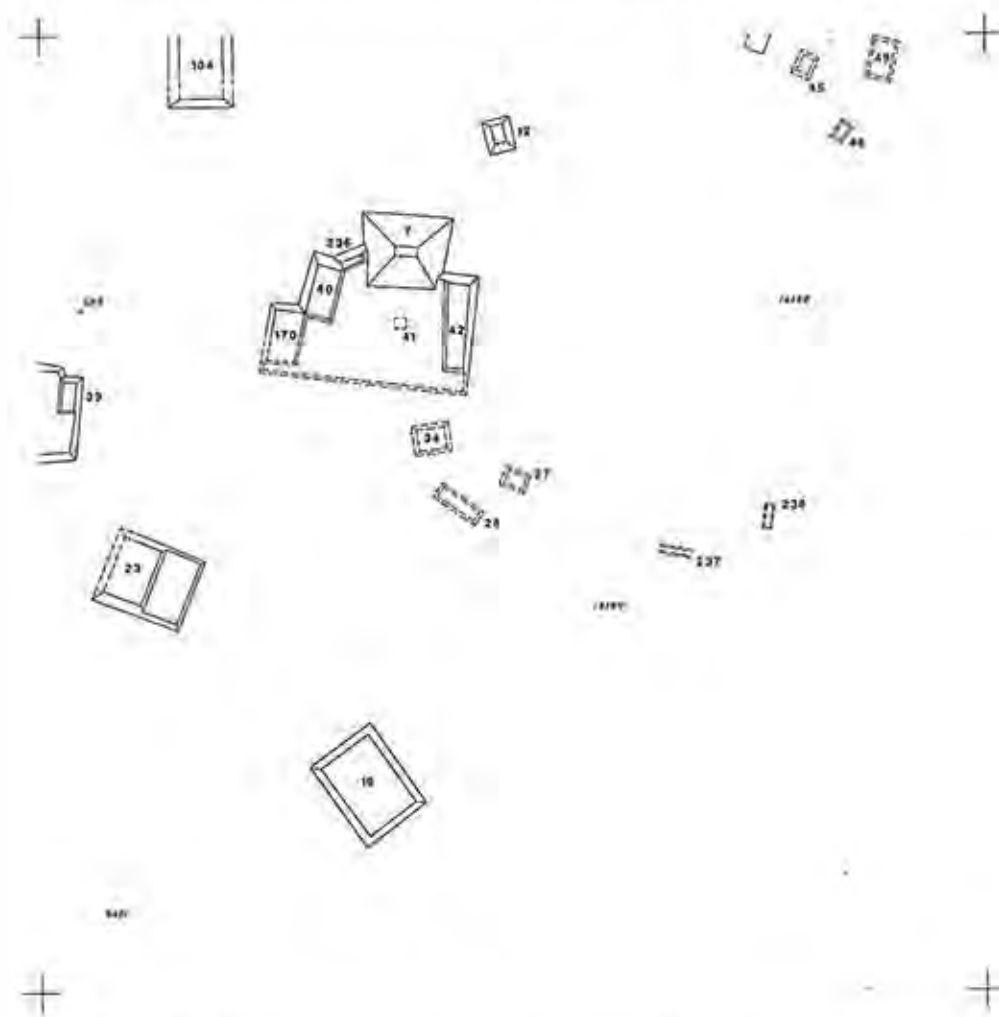


Fig 45 Santa Rita Corozal Map Quadrangle 5; magnetic north is to the top of the page; scale is 1:4000.

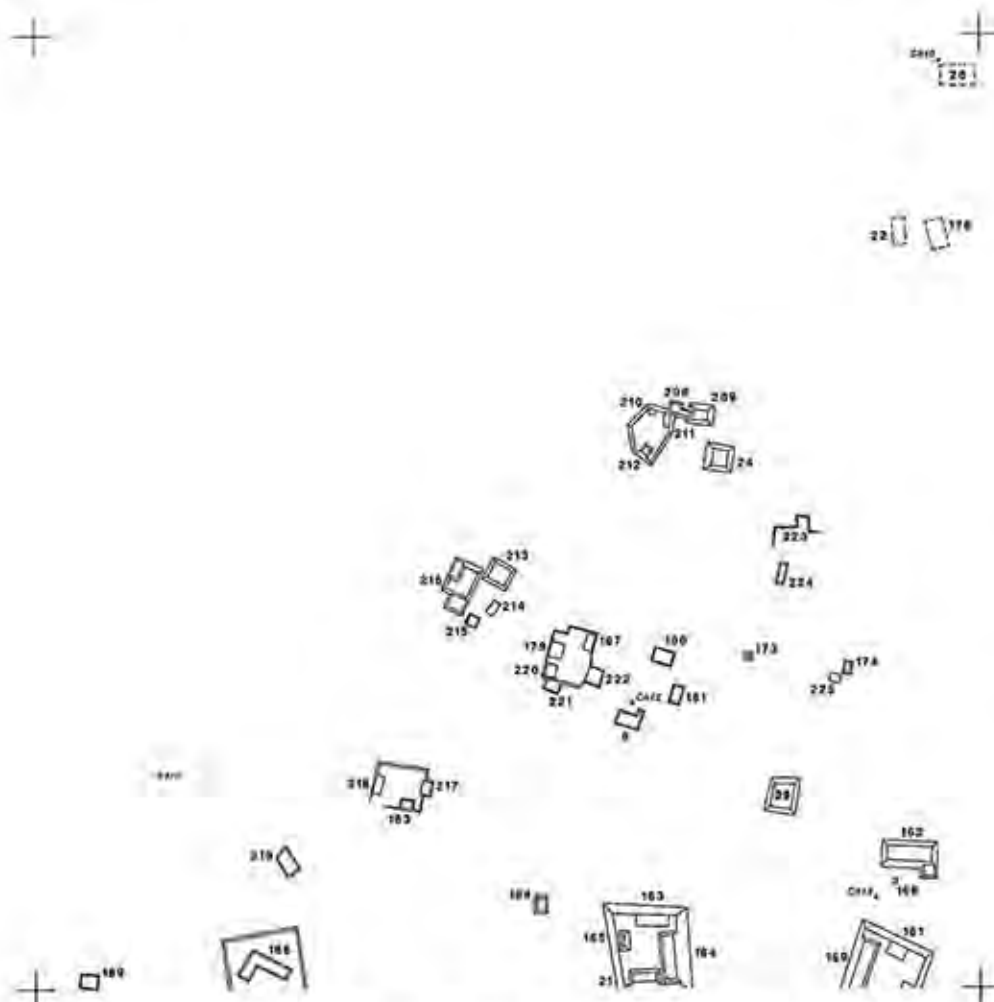


Fig 46 Santa Rita Corozal Map Quadrangle 8; magnetic north is to the top of the page; scale is 1:4000.

been reassigned new numbers on the Corozal Postclassic Project map (if they have even been located and/or mapped).

The mapping of Santa Rita Corozal was undertaken during all field seasons of the Corozal Postclassic Project, as well as during a short interlude in 1981. In this map, all structures were plotted using conventional transit systems with theodolites. All elevations were established relative to sea level and carried uniformly throughout the site. Contour lines are not indicated on the map as, with the exception of the lower bay sector, settlement at Santa Rita Corozal was located on a bluff on which ground surface elevations varied less than three meters. The physical mapping of the site was aided by the expansive removal of bush from large sections of the site and by the utilization of the modern road systems for closure. Only in the area between the North Central and Southwest Sectors was mapping hindered by secondary growth; here a series of brechas were utilized to complete the map. In general, the majority of the structures recorded in all quadrangles was done by A. and D. Chase. However, some additional mapping of

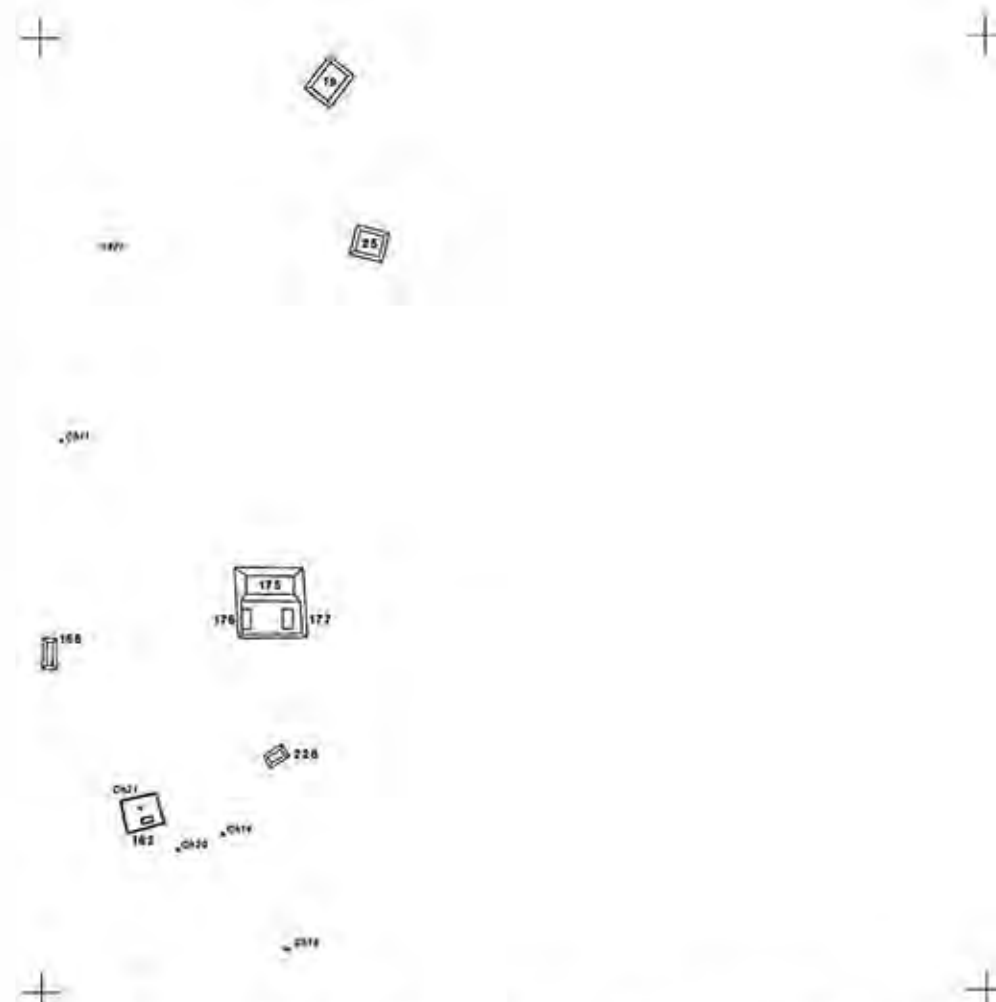


Fig 47 Santa Rita Corozal Map Quadrangle 7; magnetic north is to the top of the page; scale is 1:4000.

structures was done by W. Bacon in Quadrangle 5, by R. Coffman in Quadrangles 7-12, and by S. Jaeger in Quadrangle 9.

The sequence of numbered structures to a large degree reflects the order of the structure mapping. Examination of the map will reveal that the North Central (Quadrangles 2,3,5,6) and Northeast Sectors (Quadrangles 1,2,4) were mapped prior to the Southwest Sector (Quadrangles 10-13) while the last mapping was undertaken in the South Intermediate Sector (Quadrangles 7-11). Only the Bay Sector, mapped during 1980, is not representative of the order of plotting; structural numeration was arbitrarily begun with "200" in Quadrangle 16 in order to reserve lower-order numbers for more inland structures contiguous with the already mapped remains.

#### The Santa Rita Corozal Map: Additional Considerations

A majority of the structures represented on the Santa Rita Corozal map are not of great height and many others are composed only of line-of-stone indications. Numerous structures were only visible once large areas were bushed and raked





Fig 48 Santa Rita Corozal Map Quadrangle 9; magnetic north is to the top of the page; scale is 1:4000.

completely so that any lines of stone would be visible; others were not evident as constructions until after excavation had been initiated. Some buildings, such as Structure 214, have been added to the present map, even though they were not technically visible on the ground surface. Additional expansive areal clearing excavation at Santa Rita Corozal would have undoubtedly yielded numerous stone constructions and entire structure groups that were invisible upon surface inspection (D. Chase in press a).

It is suspected that many researchers would not have recognized many of the constructions on the Santa Rita Corozal map as buildings; yet, excavation of these loci repeatedly revealed stone constructions and, in many cases, sequential building efforts dating to different cultural eras. The fact that not all of these remains are only assignable to the Postclassic Period has ramifications for population reconstructions elsewhere in the Maya lowlands. Indeed, although such invisible constructions have long been known to exist for Classic Period sites (cf., Bronson n.d., Andrews IV 1965), it has often been assumed that the majority of all Maya constructions left visible surface remains (cf., Tourtellot 1988:100). The recent ex-

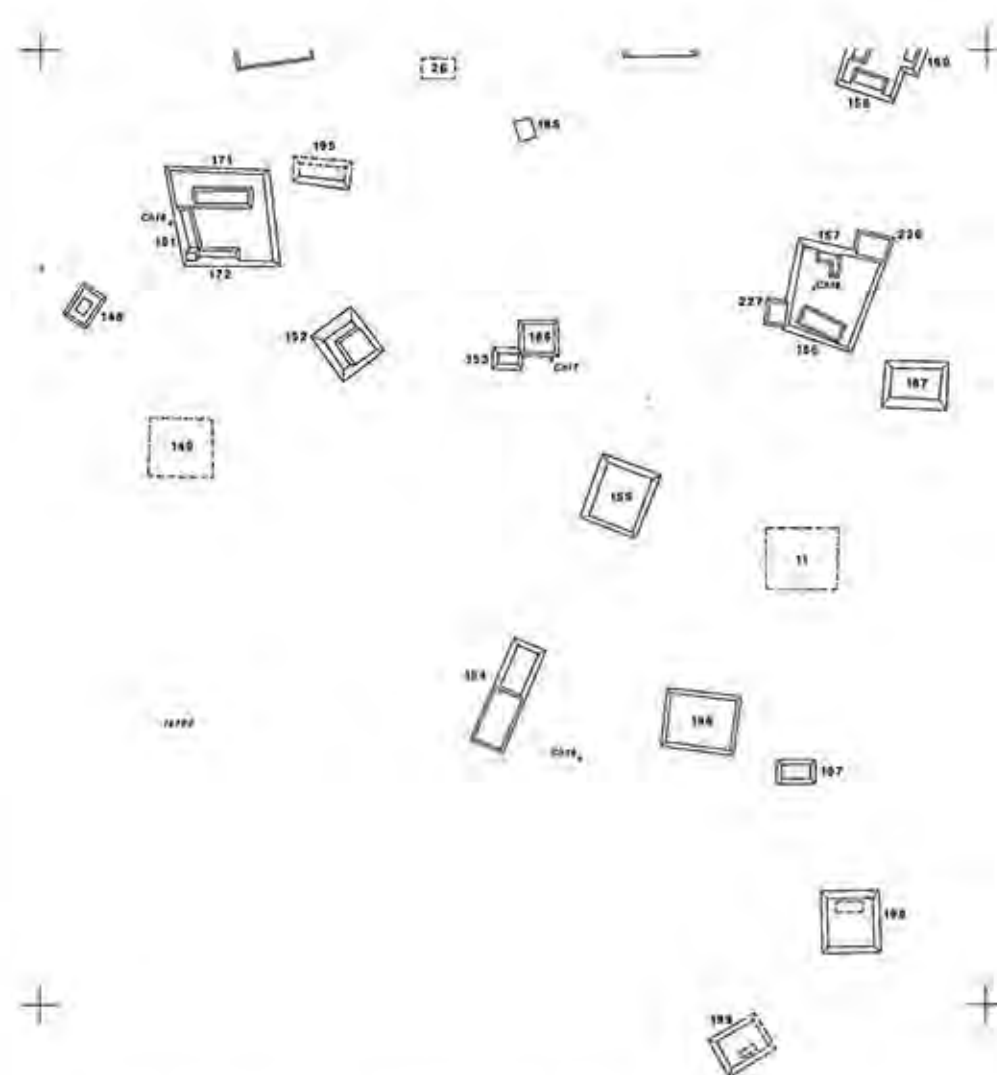


Fig 49 Santa Rita Corozal Map Quadrangles 10 and 13; magnetic north is to the top of the page; scale is 1:4000.

cavations at Tikal, which have revealed an almost invisible Teotihuacanoid barrio of sizeable constructions and stratigraphic sequencing in the midst of an area previously mapped as primarily consisting of vacant terrain (Iglesias 1987), should demonstrate with some finality that a large class of invisible constructions do exist for the Preclassic and Classic Periods. Similarly, the Santa Rita Corozal data stress the enormity of the gap between visible and invisible constructions, not only for the Postclassic Period, but also for earlier eras (D. Chase in press a).

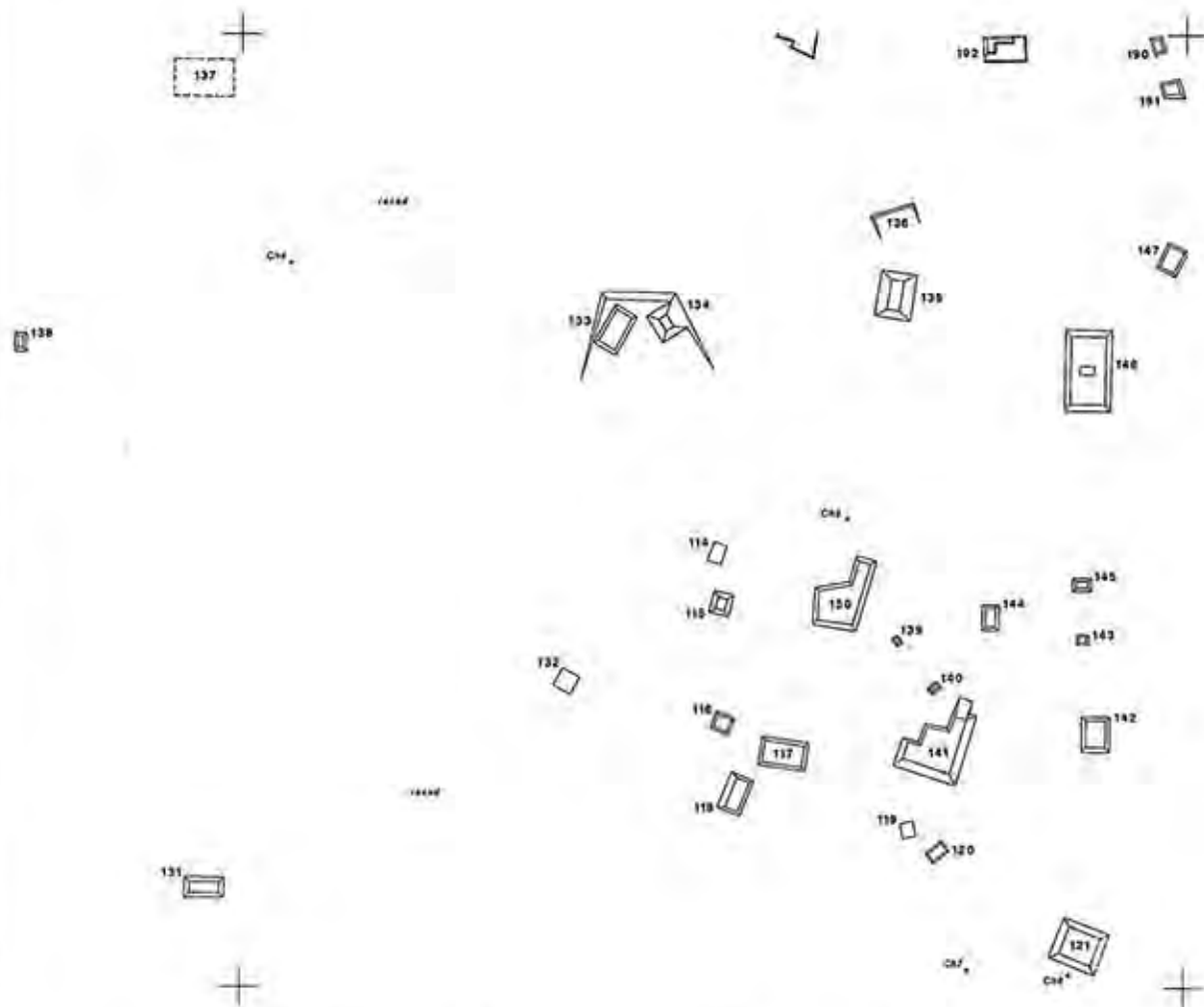


Fig 50 Santa Rita Corozal Map Quadrangles 11 and 12; magnetic north is to the top of the page; scale is 1:4000.

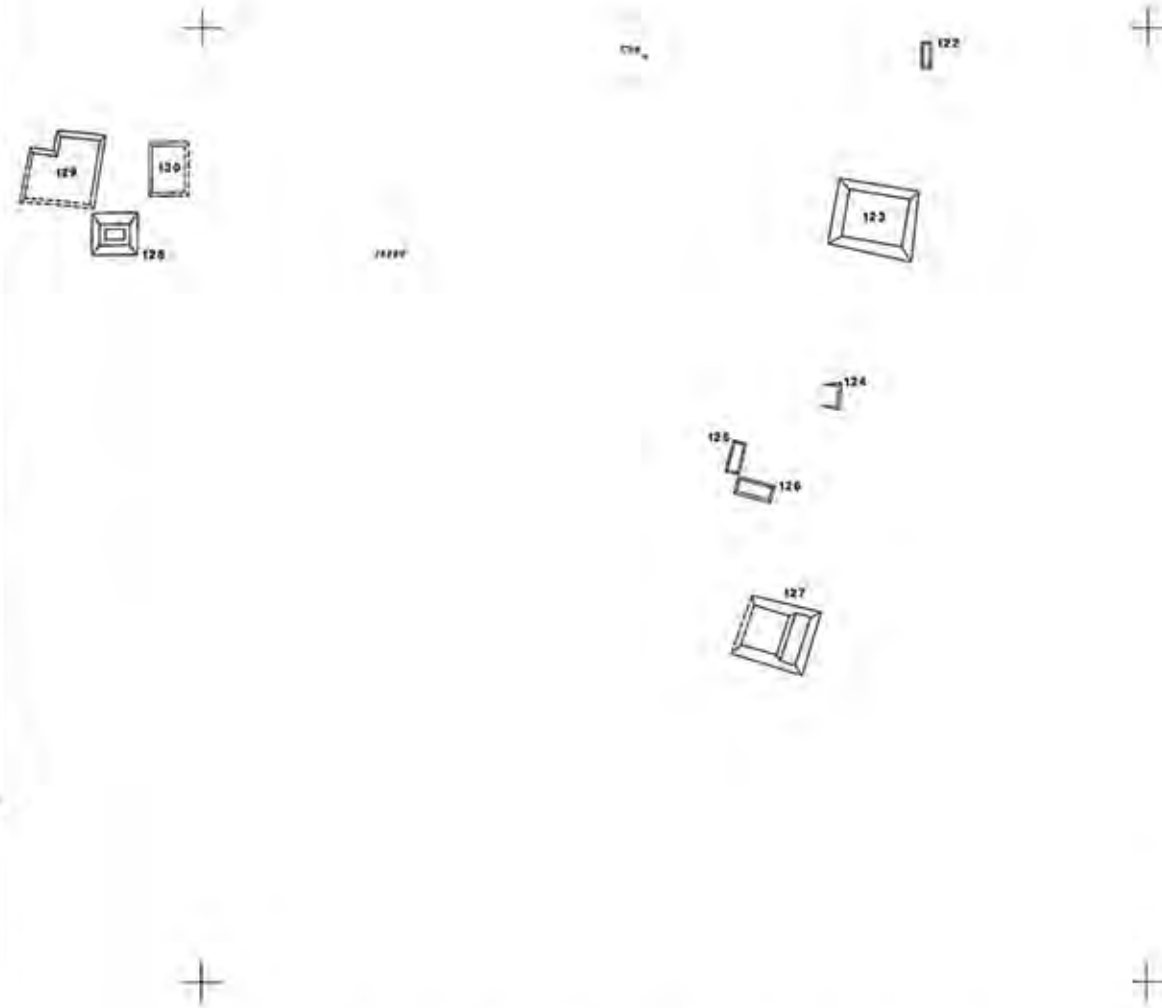


Fig 51 Santa Rita Corozal Map Quadrangles 14 and 15; magnetic north is to the top of the page; scale is 1:4000.



## APPENDIX II

### The Manos and Metates of Santa Rita Corozal

SUSAN E. JAEGER, Southern Methodist University

This report focuses on analysis of metates and manos recovered from excavations conducted by the Corozal Postclassic Project (CPP) at Santa Rita Corozal, Belize from 1979 to 1985. It builds upon an initial sort of these materials made by D. Chase (1982a:515-516,604-612) after the 1980 season. The following discussion describes the methodology and the categories into which all the metates and manos recovered from 1979 through 1985 were sorted. The variability in the CPP data is then discussed in relation to patterns described for the site of Cerros, located across Corozal Bay from Santa Rita (Figure 1) and to patterns described for northern Belize, in general, by Sidrys and Andresen (1976; Sidrys 1983).

The study began by examining various reports to discern the range of variability found in these kinds of artifacts and the criteria used to classify them (Proskouriakoff 1962, Sheets and Dahlin 1978, Willey 1972, 1978). The CPP material covered the range of variability, but the amount of data available encouraged an attempt at further separation of some categories to determine possible temporal and/or spatial significance.

#### Metates

Traditionally, metates have been sorted into flat (including both perfectly flat and somewhat concave grinding surfaces), tripod or legged, and basin or trough shaped categories based on the shape of the grinding surface (Proskouriakoff 1962, Willey 1972, 1978). The CPP data has a large number of flat and trough shaped metates but not many of these can be identified as legged metates because of the fragmented nature of the assemblage. Out of 207 metates (including complete metates and fragments), 136 of these could be classified as flat metates, following the traditional method. However, 41% of the flat metates have concave grinding surfaces and have been sorted into a separate category from those with perfectly flat surfaces. Thus, 3 types and 2 varieties have been defined for the CPP metate assemblage, based on the shape of the grinding surface and on the presence or absence of feet. The following attributes were also recorded for each piece:

- (1) raw material from which each piece was made;
- (2) measurements of length and width of the fragment or the complete metate, as well as maximum and average thickness of the grinding surface; the average thickness was measured to discern if there were "thin" and "thick" varieties of each



Fig 53 Cross-sections of the various kinds of metates at Santa Rita Corozal: a) flat; b) flat, legged; c) concave; d, e) concave, fotted; f) trough.

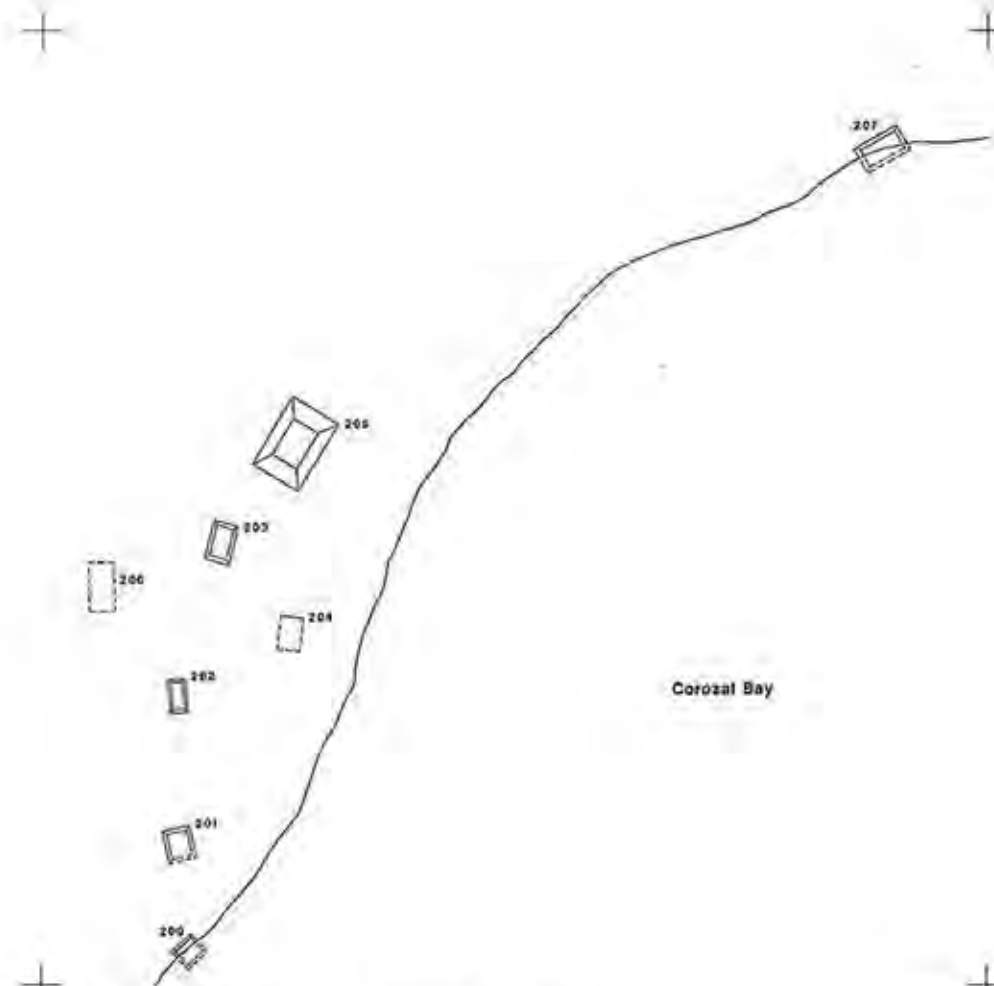


Fig 52 Santa Rita Corozal Map Quadrangle 16; magnetic north is to the top of the page; scale is 1:4000.

type, which turned out not to be the case; measurements for individual metates are given in this report for only the complete or virtually complete pieces;

(3) many of the fragments include a corner, or enough of the edge or rim to discern overall metate shapes as either square-rectangular or oval;

(4) whether the metate had feet or foot attachment areas, which were used to define footed varieties;

(5) context within which the metate was found; these contexts were then used to interpret the event which resulted in that deposit - abandonment and collapse of the structure, construction fill, use of the structure, refuse deposit and post-abandonment activity of a locus;

(6) time periods were assigned to each piece according to its context and associated artifacts; some contexts, however, are mixed with regard to their time period.

**I. Flat** ( $n=76$ ; Limestone=36, Basalt=18, Quartzite=9, Granite=8, Sandstone=3, Gneiss=1, Siltstone=1) Flat metates (Figure 53a) have a grinding surface which extends to the edge of the piece and a straight edge, placed along the grinding surface, touches that surface along every point. This form is similar to flat types described throughout the Maya Lowlands (Willey 1972) except that as noted above, metates with concave surfaces are not included in this type. Garber (1981) describes a slab metate from the site of Cerros, located across Corozal Bay from Santa Rita, which is exactly like the metates assigned to this category. This is one of two metate forms found at Cerros, the other being the trough form.

No complete flat metates were recovered from CPP excavations, but many of the fragments are large enough to be able to assess the overall shape. 39% of the fragments which include the edge ( $n=28$ ) are oblong or oval and 61% are square-rectangular. The grinding surface may either be parallel to the ground or it may be tilted. The average thickness of the flat fragments ranges from 1.5 to 7.5 cm but most are between 2.5 and 5.0 cm.

One piece included in this type is of particular note. P38A/18-2 is made of sandstone and is small enough to have been held in one hand (9.1 cm long by 8.0 cm wide by 2.4-2.1 cm thick). The edges are relatively smooth and, compared to the other fragments in the study, this piece appears to be fairly complete. It was recovered from the humus layer of Structure 218, which has some evidence for Historic Period use. The shape, size, substance, and context suggest that P38A/18-2 may have been used as a whetstone.

Some of the flat metate fragments were recovered from good use-related context. Eight are Late Postclassic in date and were recovered from above floors and from refuse associated with Santa Rita Structures 74, 77, 79, 81 and 216. Two fragments may be associated with post-abandonment activity in the vicinity of Platform 2. All of these buildings, except for Structure 216, are located in the northeast area of the site; Structure 216 is located in the South Intermediate Sector.

**Ia. Flat, legged** ( $n=4$ ; Basalt=2, Limestone=2) Few flat fragments could be positively assigned to this category. As is the case in other studies, some of the fragments assigned to the unfooted variety may actually have come from this form (Sidrys and Andresen 1976), but only those fragments with feet or with foot attachment areas on the base could be included in this variety. Two of the pieces include enough of the edge to be able to determine the overall metate shape and both come from square-rectangular metates.

Three of the feet are cone-shaped, but 1 has a small, squat nubbin foot. The tallest foot is 14.9 cm high but, generally, the feet vary in height between 0.2 and 2.5 cm. The nubbin foot (Figure 53b), which is 0.2 cm high, probably served more to stabilize the metate during use, rather than to actually elevate the grinding surface. The average thickness of the grinding surface of the flat, legged metates

clusters around 3.5 cm. The nubbin-footed metate, however, has an average thickness of 5.2 cm.

None of the footed flat metate fragments were recovered from good use-related context. However, the 3 surface finds in this category may be associated with the use of the area within which they were found in the southern part of the site; 1 other Classic Period example is from the North Central Sector.

**II. Concave** ( $n=52$ ; Limestone=35, Granite=7, Quartzite=6, Sandstone=2, Siltstone=1, Basalt=1) Concave metates are defined in this analysis, not only by the concave grinding surface, but also by the characteristic that the grinding surface extends to the edge and is thus not enclosed by a rim.

Two complete concave metates are part of the CPP assemblage, one has feet and will be discussed below. The metate without feet was collected by a landowner from the village of San Antonio, near Structure 7. It (Figure 53c) is an oval metate with a rounded base, made of granite and measures 45.4 cm in length by 31.0 cm in width by 8.2-8.0 cm in thickness. In contrast, many of the fragments included in this type come from square-rectangular metates and these fragments outnumber those from oval or oblong metates (including the complete one) by a factor of 3 to 1. Whether or not this is related to preference for one shape over another is difficult to assess since 75% of the concave fragments are unidentifiable as to overall form. The average thickness of concave metates ranges from 1.5 cm to 17.4 cm but 70% of the fragments are less than 5 cm thick. There are 5 very thick concave fragments, which are 10.5 cm or more, and were recovered from the southern part of Santa Rita Corozal.

Only one fragment is associated with good Postclassic use-related context and was found in refuse associated with Structure 6.

**Ila. Concave, footed** ( $n=4$ ; Limestone=2, Basalt=1, Granite=1) Only one complete footed, concave metate is included in the CPP assemblage. P8C/3-2 is an oval shaped, granite metate with 2 feet which elevate the metate almost 3 cm from the ground (the dimensions: 21.5 cm long by 14.0 cm wide by 6.2 cm high; the grinding surface is 3.3 cm thick). There is no indication on the base for a third foot, so the metate must have been supported by propping an edge on or against some other object. This metate was recovered in the humus above the floor of Structure 81 and is probably associated with the use of this building.

The other metates included in this variety are fragments but all can be identified as part of square-rectangular metates. All of the feet are rounded and vary in height from 1.0 cm to 10.5 cm. P6H/1-1 has a nubbin foot which probably served more to stabilize the metate, rather than to raise it off the ground. The use-related concave, legged metates (Figure 53d,e) from Santa Rita include the complete metate described above and 2 fragments recovered from above the floor of Structure 79 and from refuse associated with the use of Platform 2.

**III. Trough** ( $n=44$ ; Limestone=42, Granite=2) Trough metates (Figure 53f) are found throughout the Maya Lowlands (Proskouriakoff 1962, Willey 1978) and are readily identified by their u-shaped cross-section. Since the classification in this analysis is based on the shape and extent of the grinding surface, trough metates are defined as those whose grinding surfaces do not extend to the edge and thereby form a rim.

Fifteen complete, or virtually complete, trough metates were recovered from excavations in the southern portion of Santa Rita Corozal. The length of these metates ranges from 40.8 cm to 51.0 cm, the width ranges from 30.8 cm to 48.8 cm, and the height (from the top of the rim to the base) ranges from 9.0 cm to 25.2 cm; the depth of the basin ranges from 1.5 cm to 12.8 cm. In cross-section, the grinding surfaces tend to be either shallow or deep, although 3 metates have grinding surfaces which slope from one side (or end) to the other. The overall shape of the



complete metates is generally square-rectangular but two are oblong with rounded ends. Most of the complete metates were recovered from use-related contexts or were reused in construction either as wall stones or as fill. P26B/16-2 is an almost complete trough metate which had been used to cover a multiple burial of 5 individuals, while at the same time providing the surface on which an isolated skull was placed - all within the front step of Structure 213. P30D/35-7 is another virtually complete metate and was found in the fill associated with two Late Preclassic hearths below Structure 189.

Several virtually complete metates are also notable for their use (or re-use) in construction. P8C/84-1 and P30D/39-1 are complete metates (or almost complete) which were included as upright slabs for the walls of Structure 81 and Structure 189, respectively. The metates were positioned on end with the base to the outside; the slabs were discovered to be metates only after that portion of the wall was removed during excavation. P33D/4-1 was also used in construction to form part of the shrine wall above the Late Postclassic burial within Structure 216.

66% of the trough metates in the CPP assemblage are fragments. 72% of these include enough of the rim and grinding surface to identify the overall metate shape. Generally, they come from square-rectangular metates which have relatively shallow basins (depth is 6 cm or less), but some of the fragments are from oblong metates. At Santa Rita Corozal, 1 fragment was recovered from refuse associated with Structure 6 and 1 almost complete metate was found within the humus layer within Chultun 12, located immediately in front of this structure.

**IV. Unidentified fragments** ( $n=27$ ; Limestone=14, Granite=7, Basalt=3, Quartzite=3) All of these fragments are too small, or do not have enough of the grinding surface to be able to classify them. They were recovered from all possible contexts.

#### Manos

The manos are more diverse in shape than the metates and have been sorted into 10 types. Traditionally, manos have been classified according to the overall shape of the cross-section (cf., Sheets and Dahlin 1978) but because of the nature of the tool, as a grinding or rubbing implement, one shape grades into another, with several intermediate shapes reflecting the amount of use the mano received. In order to consistently assign manos to the different shape categories over the period of the analysis, the number of definable grinding surfaces in cross-section was chosen as the criteria for classification.

A very important point must be made here and that concerns the overhang mano type (Figure 54i). This is a type generally defined by the kind of end rather than by the shape of the cross-section (cf. Sidrys and Andresen 1976, Willey 1972). In this analysis, overhang manos are included in the appropriate shape categories, the overhang being treated as a kind of end. The attributes recorded for the manos are the same as those recorded for the metates with the following exceptions:

(1) if the mano is complete or an end fragment, the shape of the end is noted as rounded, tapered or overhang end; the rounded and tapered ends are actually a characteristic of the grinding surface (i.e., it is the *surface* which does or does not taper); however, many of the fragments which come from the center of the mano are not long enough to tell if the sides of the mano tapered or not, whereas the end fragments usually are; the overhang is not so much a characteristic of the grinding surface as it is of the end, and is functionally associated with legged metates (Proskouriakoff 1962); two kinds of overhang ends are found in the CPP data - a knob overhang (defined by "waisting" of the grinding surface around the

circumference) and a drop overhang (defined by "waisting" on the grinding surface only);

(2) measurements of length, maximum width and maximum thickness were taken; defining a top and bottom for some shapes can be rather arbitrary, so the width is defined as being greater than the thickness; these two measurements are, in some cases, used to distinguish between two different shapes (e.g., square vs. rectangular); measurements for individual pieces are given only for the complete manos.

**I. Oval** ( $n=62$ ; Limestone=54, Quartzite=3, Basalt=3, Granite=2)

Oval manos (Figure 54a) have oval-shaped cross-sections without flattened surfaces. Many of the manos included in this type are readily identifiable as oval; however, there are some pieces which approach circular proportions. In order to consistently identify oval or circular pieces within this analysis, the difference between the width and thickness measurements was chosen as the defining characteristic. Throughout the analysis, the width is defined as being greater than the thickness because the "top" and "bottom" of an oval cross-section is rather arbitrary. Oval manos, then, are distinguished from circular manos by having width measurements greater than the thickness measurements. Three fragments are included in the oval category whose measurements differ by as little as 0.2 cm, but the rest of the manos classified as oval have a somewhat greater difference.

Four complete oval manos were recovered from excavation. All are limestone and range in size from 7.0 cm long by 5.5 cm wide by 4.1 cm thick to 21.0 cm long by 8.6 cm wide by 8.1 cm thick. Three of these manos have 2 rounded ends and 1 has 1 rounded and 1 tapered end. All of the complete oval manos were found in construction fill or in contexts which could be interpreted as either related to abandonment and collapse or use of the building.

50% of the fragments included in this type are end fragments and most of these are either rounded or tapered but there is one knob-shaped overhang end made of limestone. Only 6 fragments of this type were recovered from good Postclassic use-related contexts. 67% of the use-related pieces from Santa Rita were recovered from above the floors of Structures 74 and 79 and from refuse associated with Platform 2 which supports these structures. 33% of the fragments were found in refuse associated with Structures 6 and 179.

**II. Circular** ( $n=20$ ; Limestone=17, Basalt=2, Chert=1) The circular manos (Figure 54b), like the oval manos, do not have a flattened grinding surface. All of the manos classified as circular are fragments and 65% are end fragments. Of these, 77% are rounded ends, 8% are tapered, and 15% are overhang ends (1 knob and 1 drop). Any use-related circular manos at Santa Rita Corozal are assignable to the Late Postclassic and were found in the Northeast Sector of the site - 3 were found in refuse associated with Platform 2 and 1 was recovered from above the floor of Structure 81.

**III. Circular/oval fragments** ( $n=54$ ; Limestone=47, Granite=4, Basalt=3) Fragments which are too small to be identified as either oval or circular are lumped into a "null" category. One limestone fragment, P36C/12-1, has 5 parallel incisions following the circumference of the piece. These would not have en-

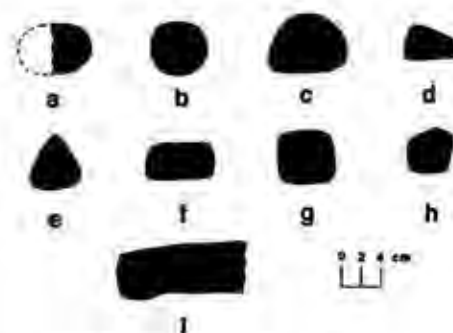


Fig 54 Cross-sections of kinds of manos from Santa Rita Corozal; a) oval; b) circular; c) plano-convex; d) ovate-rectangular; e) triangular; f) rectangular; g) square; h) pentagonal; i) "overhang."

hanced the usefulness of the mano as a grinding tool and may be the result of reusing the mano for a different purpose.

The 4 use-related fragments are Late Postclassic in date. All were recovered from above the floors of Structures 74 and 80 or in association with Platform 2. Two fragments were recovered from debris associated with post-abandonment activity at Structure 58 in the Northeast Sector and from Structure 134 in the Southwest Sector of the site. These 2 fragments though, are probably associated with the abandonment and collapse of the structures rather than with use of the locus.

IV. **Plano-convex** ( $n=43$ ; Limestone=36, Quartzite=2, Granite=3, Basalt=2) Plano-convex manos (Figure 54c) are defined by one flattened grinding surface with an otherwise rounded cross-section. In some studies, plano-convex manos are lumped with the oval manos because one form grades into the other (Garber 1981). In this study, the classification is based on the number of definable grinding surfaces, thus providing the basis for separating the two forms with some degree of certainty.

Nine complete plano-convex manos were recovered from CPP excavations. All are made of limestone and range in size from 8.5 cm long by 6.0 cm wide by 3.5 cm thick to 15.2 cm long by 6.9 cm wide by 4.4 cm thick. Two were surface finds and 7 were found in construction fill. The overall shape of these manos include either 2 rounded ends or 1 tapered and 1 rounded end.

49% of the manos classified as plano-convex are end fragments but only one has an overhang end. P19B/30-1b is a limestone drop overhang, but is unusual in that the "waisting" does not occur on the grinding surface; instead, the waisting occurs on the opposite, rounded side of the cross-section. It is possible that the mano had, at one point, a knob-end, but was reused (either as a fragment or as a whole mano) without regard to its end, thus grinding away part of the knob. Alternatively, the end of the mano may have been purposely carved for unknown reasons to imitate other drop overhang manos.

Excavations at Santa Rita produced 2 use-related fragments - 1 from refuse associated with Platform 2 and 1 from above the floor of Structure 81. Two additional fragments were found with debris associated with post-abandonment use of Santa Rita Structure 58; however, they may be from the abandonment and collapse of the structure.

V. **Ovate-rectangular** ( $n=7$ ; Limestone=5, Basalt=2) Ovate-rectangular manos (Figure 54d) are defined by 2 flattened surfaces, separated from each other by shorter, rounded sides. Two complete manos of this type were found, both are made of basalt and are almost the same size. The smaller of the two measures 13.0 cm in length by 7.5 cm in width by 5.0 cm in thickness and has 2 rounded ends. The slightly longer one has 1 tapered and 1 rounded end. Two end fragments are classified as ovate-rectangular and both are tapered. No ovate-rectangular manos were recovered from good use-related context. However, 1 complete basalt mano was found in the matrix fill of Chultun 12, located immediately in front of Structure 6. In terms of the overall sample, 50% of the manos were found in construction fill and the remaining 40% were recovered from humus lots.

VI. **Triangular** ( $n=7$ ; Limestone=6, Granite=1) Triangular manos (Figure 54e) have 3 faces, at least one of which may be flattened. In the CPP data, the manos included in this type occur in two different forms, a triangular-convex form with 2 flattened grinding surfaces (e.g., P8C/16-2) and an ovate-triangular form, which usually has 3 rounded faces (e.g., P23B/27-1). Only 2 complete triangular manos were recovered. P8C/16-2 was found above the floor of Structure 81. It is made of limestone, has 1 tapered and 1 rounded end, and measures 5.3 cm in length by 6.5 cm in width by 5.2 cm in thickness. P23B/27-1 is also made of limestone, has 2 rounded ends and measures 24.2 cm in length by 7.4 cm in width by

5.0 cm in thickness; this mano was included with a Late Postclassic burial in Structure 166. A total of 4 triangular manos were recovered from use-related contexts, 2 of them being the complete manos discussed above. The other 2 pieces were recovered from above the floor of Santa Rita Structure 81, for a total of 3 triangular manos associated with the use of this structure. One fragment, P8C/46-6 has 4 shallow, parallel incisions on its longest face, indicating reuse as a barkbeater (or, possibly, a broken barkbeater reused as a mano).

VII. **Rectangular** ( $n=36$ ; Limestone=36) Rectangular manos (Figure 54f) are defined by 4 flattened grinding surfaces. The problem encountered in sorting oval from circular manos as discussed above, occurred in this case between rectangular and square manos. A mano was classified as rectangular if its width was greater than its thickness by 0.2 cm or more. Ten complete rectangular manos were recovered from excavation; all are made of limestone and range in size from 4.2 cm long by 4.0 cm wide by 3.2 cm thick to 22.5 cm long by 8.4 cm wide by 4.8 cm thick. Seven of these manos have 2 rounded ends but 3 have 1 tapered and 1 rounded end. One fragment, P38B/27-1, has shallow parallel incisions on the two long grinding surfaces. Like the triangular mano fragment described above, this fragment may either have been reused as a barkbeater or it may have been a barkbeater reused as a mano. This piece may either be associated with the collapse or use of Structure 218. Four use-related rectangular manos from Santa Rita Corozal were recovered from above the floors of Structures 80 and 81. One was also found in refuse associated with Structure 216.

VIII. **Square** ( $n=7$ ; Limestone=7) Square manos (Figure 54d) have four flattened grinding surfaces and are distinguished from the rectangular manos by width and thickness measurements which differ from each other by less than 0.2 cm. All of the square manos in the CPP assemblage are fragments. None of the square mano fragments were recovered from good use-related Postclassic contexts. However, the 4 fragments from collapse may have been from use-related debris. Most of the fragments from Santa Rita were found in the North Central Sector of Santa Rita Corozal.

IX. **Square-rectangular** ( $n=23$ ; Limestone=20, Quartzite=1, Basalt=1, Gneiss=1) These fragments could not be positively identified as either square or rectangular because they were too small. Eleven end fragments are included in this category; 10 are rounded and 1 is tapered. Only one fragment was recovered from good Postclassic use-related context. This piece was found in refuse associated with Structure 6. One other, possibly use-related fragment was recovered from debris associated with post-abandonment activity or the collapse of Structure 80 on Platform 2.

X. **Pentagonal** ( $n=23$ ; Limestone=21, Granite=2) Pentagonal manos (Figure 54h) are defined by 5 flattened grinding surfaces, when viewed in cross-section. Five complete manos of this type were recovered from CPP excavations - 1 is made of granite and 4 are made of limestone. All have one tapered and one rounded end and the sizes range from 4.6 cm in length by 6.1 cm in width by 4.8 cm in thickness to 17.5 cm in length by 6.5 cm in width by 6.4 cm in thickness. 34% of the pentagonal manos are end fragments; 50% of these are tapered and 50% are rounded. It is possible that all the pentagonal manos had, at one time, 1 tapered and 1 rounded end, rather than 2 rounded or 2 tapered ends. None of the pentagonal manos were recovered from good Postclassic use-related contexts.

XI. **Unidentified fragments** ( $n=9$ ; Limestone=8, Granite=1) These fragments are too small and eroded to be able to identify the shape of their cross-sections and the number of grinding surfaces each possessed. Three use-related fragments were recovered at Santa Rita - 1 from above the floor of Structure 74 and 2 from refuse associated with Structure 6.



Traditionally, manos with overhang ends (Figure 54i) have been classified as a separate type based on the characteristic of the end (Sheets and Dahlin 1978, Willey 1978). In this analysis, they were not sorted into a separate type. Only 4 were recovered - 2 drop-end manos from Structures 7 and 160 of Late Postclassic date and 2 knob-end manos of probable Postclassic date from Structure 39 and the vicinity of Structure 81. The overhang end fragments were found either in construction fill or on the surface.

#### Discussion

The significant analytical units of the spatial distribution of the metates and manos from Santa Rita Corozal are the Northeast Sector, the North Central Sector and the South Intermediate and Southwest Sectors (as defined in D. Chase 1982a and above). The significant analytical temporal units for these artifacts (not necessarily for any other artifact class) are the Classic Period and the Postclassic Period. Most of the metates and manos could be assigned to both an area and a time period; however, those pieces from mixed temporal contexts spanning the Classic Period into the Postclassic period (e.g., artifacts from P18, P19, P28, etc) could only be used in the spatial analysis of raw material. The raw material used to make metates and manos is rather varied but some materials were only represented by a few pieces (e.g., quartz, sandstone and siltstone) in contrast to the overwhelming (but hardly surprising) use of limestone. The variability was reduced to significant analytical categories of Local Sedimentary, Maya Mountain and Highland Guatemala (following the lead of Sidrys and Andresen 1976). Local Sedimentary includes limestone, sandstone, siltstone, chert, and dolomitic limestone. The Maya Mountain source includes gneiss, quartz, and granite. The Highland Guatemalan source includes basalt. Graham (1987b) and Shipley and Graham (1987) have begun to more accurately identify sources of granite used to make ground stone. For example, three major granitic bodies - the Mountain Pine Ridge and Cockscomb batholiths and the Hummingbird granites - have been defined in Belize on the basis of their mineralogy and texture. Graham (1987b:756-758) reports that petrological analysis of some granite manos from Uxactun and Seibal revealed that the source of the raw material was the Mountain Pine Ridge batholith. The source of the granite in the CPP assemblage could very likely have come from any of these three bodies, but the Mountain Pine Ridge batholith is the closest and thus the most likely source. However, until more detailed analysis is done, the source of the raw material is labeled here as "Maya Mountain."

Log-linear models are statistical techniques for analyzing multidimensional categorical data and are useful for evaluating complex relationships among variables in a multiway cross-tabulation. A chi-square statistic is used to test the hypothesis that a particular model explains the observed variability in the population. SPSS<sup>®</sup> HiLogLinear is a statistical package that fits, tests, and estimates parameters of hierarchical log-linear models using a backward elimination of terms from a specified model to arrive at a model which best explains the variability. HiLogLinear was used to test the interaction of area, metate form, time, source and mano form and determine which variables interacted significantly to help explain the variability in the CPP assemblage. Significant variability occurs within the metate assemblage and the results are significant at a level of  $\alpha = 0.05$ .

HiLogLinear was used to compare the interaction among area, time, metate form, and source of the raw material. The variables that are not independent of each other in this analysis are metate form and source of raw material. It must be stressed that it is not possible to say whether the metates themselves were imported or if it was the raw material that was imported. The covariability of these two factors was anticipated because Sidrys and Andresen (1976:186) report that

metate form correlated with geological source in their study of metates from different sites in northern Belize. Their study included some material from Santa Rita Corozal which they recovered in excavations conducted prior to the CPP investigation of the site. The result of their analysis, in relation to the Santa Rita material, is that turtle back (trough in this study) and flat metates were the only forms made of imported stone. Few metates were imported (12.5% of a sample of 24 metates from Santa Rita) and of these, over half were made of stone from the Highlands of Guatemala. In contrast, 33.3% of the metates in the CPP assemblage ( $n = 207$ ) are made of non-local raw material. Most of the material was from the Maya Mountains and was used primarily for the flat and concave forms. Almost all of the Guatemalan material is associated with the flat metates. The distribution of form and source is summarized as follows:

	Flat	Concave	Trough
Local	20%	19%	20%
Maya Mt.	9%	7%	1%
H.Guatemalan	10%	1%	0%

Trough metates tended not to be imported and the differences in the two analyses may be attributed to different sample sizes and possibly to the amount of excavation conducted in particular areas of the site.

Theoretically, the HiLogLinear procedure can be used to separate the effects of time from those of space. However, given the nature of this particular data set, this proved not to be possible. Nevertheless, the distribution of both metate form and source has some interesting patterns across space as well as through time. Flat metates are the predominant form, followed by concave and trough in all periods. However, the latter forms increase in frequency through time, until they are almost as frequent as the flat form. In terms of the spatial distribution, 53% of the metates ( $n = 180$ ) were found in the southern part of the site, 27% of the metates were found in the Northeast Sector, and 20% were found in the North Central Sector. The flat metates are the most frequent form in all areas, followed by concave metates. The trough metates tend to be very much in the minority except in the southern part of Santa Rita Corozal, where they occur as frequently as the flat metates. It is very tempting to assess the distribution of trough metates versus the other two forms as being related to their use for grinding different substances (e.g., corn, pigment), and then, by association, assigning different activities to the different areas of the site. Unfortunately, no additional evidence is available to firmly state that the three metate forms are, in fact, related to the grinding of different substances and can thus serve to differentiate activities. The spatial distribution of metates is summarized as follows:

	Flat	Concave	Trough
SRC NE	15%	8%	3%
SRC NC	11%	8%	0.6%
SRC SI&SW	25%	16%	18%

The raw material for both the manos and the metates is overwhelmingly from local sources through time and across space, but the use of non-local stone increases from the Classic ( $n = 8$ ) to the Postclassic ( $n = 91$ ) Period. The HiLogLinear procedure was run a second time, considering just the data from the Postclassic Period ( $n = 334$ ) to assess the significant spatial distribution of the raw material. Since 91% of all the manos in the CPP assemblage were made of local stone, the variability of the raw material is focused on the metates. The spatial distribution of the sources of raw material in this period are significant at the level of  $\alpha = 0.05$ . Of the 86 metates made of non-local stone (including the unidentifiable metate fragments), 49% were found in the Northeast Sector, 43% were found in the South Intermediate Sector, and 8% were found in the North Central Sector of the site. The metates of non-local stone in the northeast area tend to be the flat

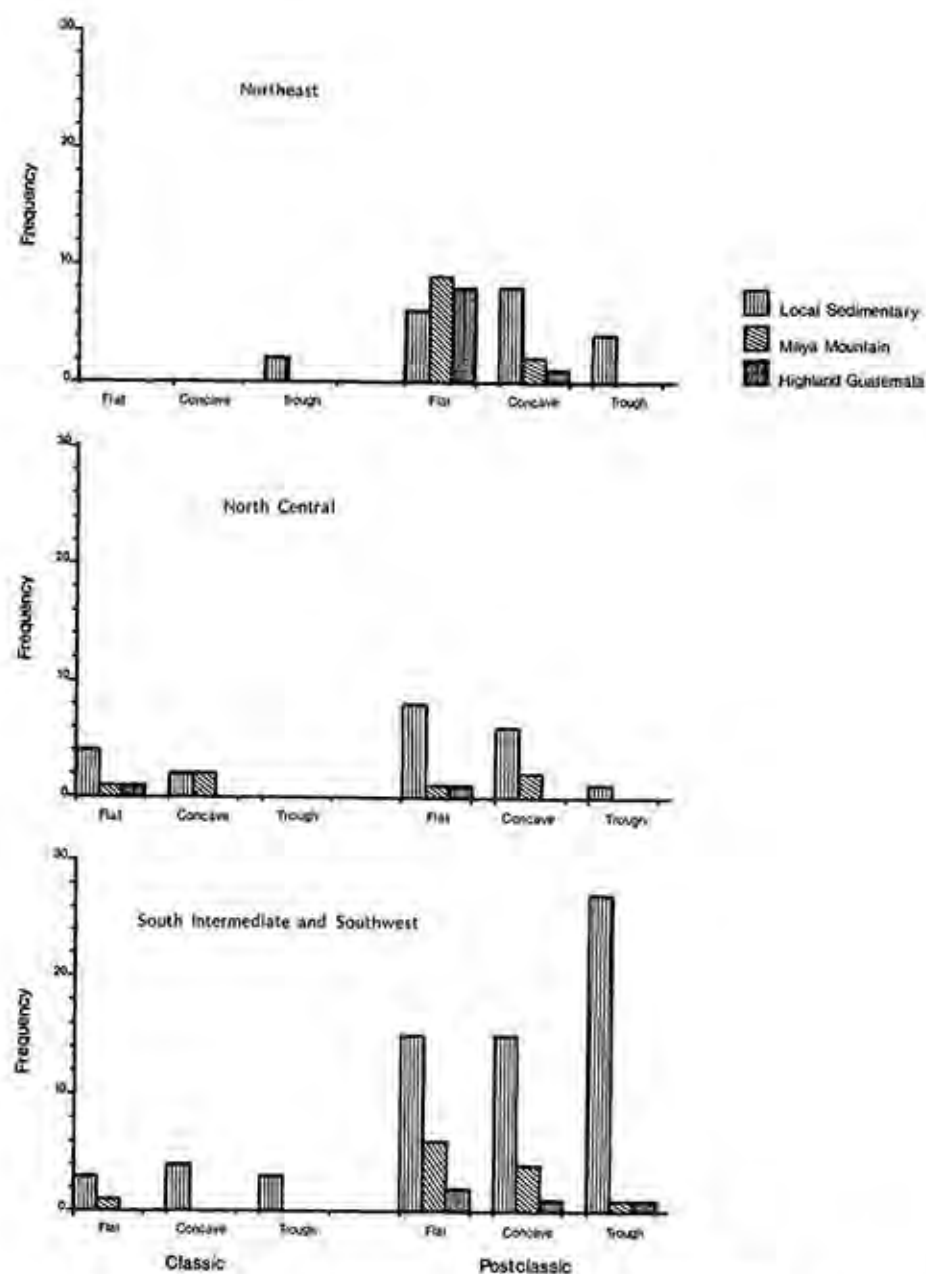


Fig 55 Distribution of metate form and material with regard to time and space at Santa Rita Corozal. form ( $n=17$ ), but there are a few concave metates made of imported material ( $n=3$ ); the remainder cannot be identified as to form. Essentially half of these are made of stone from the Maya Mountains and half are made of stone from the Highlands of Guatemala. In the southern part of the site, the metates made of non-local material are primarily the flat ( $n=8$ ) and concave ( $n=5$ ) forms, but some trough metates recovered from this area are also made from non-local stone ( $n=2$ ); the remainder are unidentifiable as to form. The raw material found in this area is primarily from the Maya Mountains ( $n=12$ ), with only a few pieces

from the Guatemalan source ( $n=3$ ). The North Central Sector, in contrast to the other two areas, has few metates made of non-local stone ( $n=4$ ) and of these 75% are made from material from the Maya Mountains and 25% are made from material from the Guatemalan Highlands. Figure 55 illustrates the distribution of metate form and raw material with regard to time as well as to space. The spatial distribution of raw material in the Postclassic, including both manos and metates, is summarized as follows:

	Local	Maya Mt.	H. Guatemalan
SRC NE	19%	6%	3%
SRC NC	17%	2%	0.4%
SRC SI&SW	44%	4%	3%

80% of the raw material in the Postclassic period is from local sources, while 12% is from the Maya Mountains and 6% is from the Highlands of Guatemala. Garber (1986), using a much smaller and perhaps skewed sample, reports a different distribution of raw material for the Postclassic data from the site of Cerros. Here, 63.3% is from the Maya Mountains, 26.7% is material found locally, and only 1% of the raw material is from the Highlands of Guatemala. Garber (1981: 122) notes that during the Postclassic, Cerros was the locus of elite activity which was largely restricted to ceremonial contexts. This suggests that the emphasis on using non-local stone for manos and metates is correlated with elite and/or ceremonial activities. This in turn suggests that the use of non-local raw material at Santa Rita is also related to elite and/or ceremonial activities. Also, as noted in the discussion above, most of the non-local stone was used for the flat and concave metates which are found primarily in the northeast area. The Northeast Sector, then, very likely served as one center of elite residence and/or ceremonial activity for the people of Santa Rita Corozal.

The HiLogLinear procedure was also used to try to statistically separate the effects of time and space from the observed variability in the mano assemblage. As noted above, this was not possible due to the nature of the data set. Nevertheless, some patterns are suggested by the varying frequencies of the distinctive forms ( $n=205$ ) through time as summarized below:

	Classic	Postclassic
Pentagonal	4%	6%
Oval	4%	20%
Circular	0.9%	7%
Plano-convex	4%	13%
Ovate-rectangular	0%	2%
Rectangular	4%	13%
Square	0.4%	2%
Triangular	0.4%	2%

The distribution indicates changing preferences for different forms. The oval, plano-convex and rectangular manos are largely found in the Postclassic Period, the era when the greatest variety of forms also existed. The spatial distribution of the forms is less suggestive of significant patterns (Figure 56), although the southern part of Santa Rita was responsible for most of the manos recovered and for a wider variety of forms than occur in the other parts of the site.

#### Summary

The SPSS<sup>x</sup> HiLogLinear procedure was used to assess the independence of the variables of space, time, metate form, mano form, and source of the raw material at Santa Rita Corozal. While many of the patterns are evident by simple inspection of the frequency distributions, the procedure provided a suggestion as to which distributions had some significance. Unfortunately, given the nature of the data set, the effects of time and space could not be statistically separated.



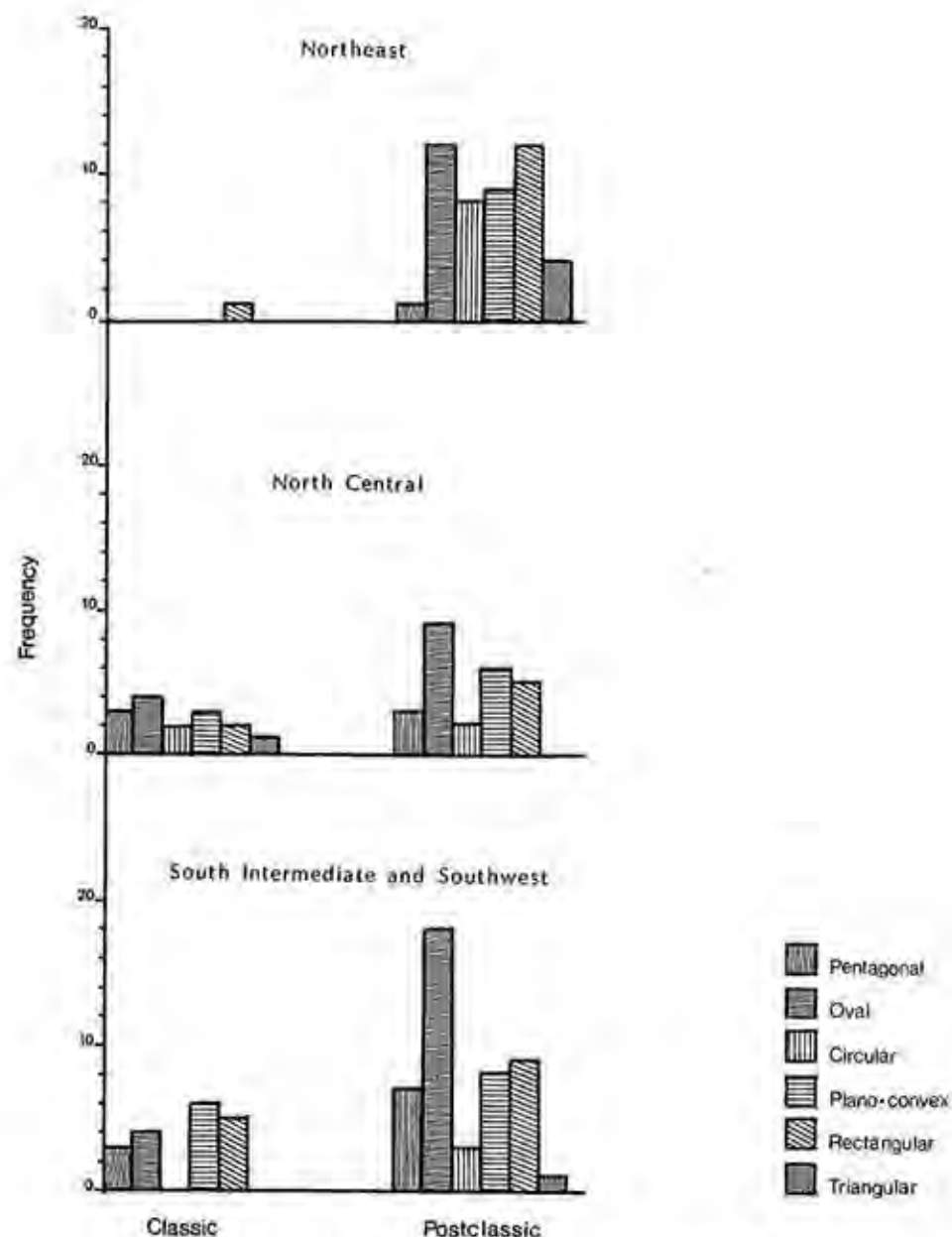


Fig 56 Distributions of mano forms over time and space at Santa Rita Corozal.

In general, the frequency distributions indicate that there is relatively little change in metate and mano form in the CPP data through time. This is not surprising, especially given the nature of the artifacts and the function which they served. In contrast, the spatial distribution of metate forms and raw material from which they were made during the Postclassic is probably related to use of the different forms for grinding different substances (eg., corn, pigment) for different activities (eg., daily sustenance, ritual consumption). The HiLogLinear procedure provided a level of significant covariation of these two factors at a level of  $\alpha = 0.05$ .

### APPENDIX III

#### Preliminary Analysis of Postclassic Lithics from Santa Rita Corozal, Belize

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This brief report summarizes our observations of a small collection of lithic artifacts and debitage from Postclassic deposits at Santa Rita Corozal, Belize. The purpose of this initial review was to gain insight on the variability in the formal tools, raw materials used in formal and expedient tool production, and the extent to which formal tools were being imported to Santa Rita from the Postclassic household production workshops at Colha (Shafer 1985; G. Michaels 1987). In order to achieve these limited goals, a small sample of lithic collections from Postclassic deposits in the Northeast Sector of Santa Rita Corozal was examined; this sample comes primarily from Structures 74 and 81, as well as the adjacent Platform 2 area, and was excavated under the direction of the Chases in 1979 and 1980 (D. Chase 1982a:250-402). This is a preliminary study and the trends and patterns which are recognized must be regarded as provisional until a more thorough analysis is conducted.

#### The Collection

The lithic collection that was examined is quite complete in that it contains both debitage and tools; the debitage, collected by hand and from 1/4 inch screening, consists of some primary reduction material mostly from chalcedony sources and chert flakes from retouching and recycling formal chert tools. Many pieces are burned. There are few formal tools present, mostly arrow points chipped on thin flakes and fragments of formal biface tools such as celts.

#### Methodology and Research Design

The aims of the analysis were to gain an insight into the nature of the sample, the raw material categories present and in the approximate frequency, formal tools represented, and the degree to which these tools were retouched and recycled. These goals would provide us with general information on the formal tools which can be used as Late Postclassic diagnostics, the degrees to which local raw materials (chalcedony) were being used compared to chert from the chert-bearing zone or elsewhere, and general trends of formal tool retouch and recycling. The analysis did not focus on specific technological details such as manufacturing technology specifically, but general statements about technology were possible after viewing the overall sample.

Each item was examined for formal details and raw material type. Sorting criteria generally followed that which we have used to examine other lithic collections in northern Belize (e.g., Shafer 1982, 1983; Shafer and Hester 1983; Shafer et al. 1979).

#### Raw Material

Raw material categories for chipped stone tools in this sample are chert and chalcedony. Obsidian has been sorted out for examination elsewhere. The unburned chert was distinguished on the basis of likeness to the chert bearing zone of northern Belize in which Colha is a dominant production site (Shafer and Hester 1983, 1986). The Colha area cherts can be chemically distinguished from

other cherts in the chert bearing zone of northern Belize (Tobey 1986). Chalcedony is distinguished on the basis of visual texture and degrees of translucency. Chert and chalcedony can be visually and chemically distinguished except in cases where both are extensively burned and the structure has been altered.

#### Formal Tools

Attention was first focused on the formal tools to see which temporally sensitive forms might be recognized based on the typological work at Colha (Hester 1985). Formal tools include projectile points, oval bifaces, macroblades, and blades.

**Arrow Points (Figure 57a-m,r):** We examined 21 arrow points in the Santa Rita Corozal Postclassic assemblage. Most are quite similar in form and in technology of manufacture. In overall form, they are elongate triangular with side-notches. Most have rounded to straight bases, but two have contracting stems that give them a roughly diamond-shaped outline. The side-notching is often found at about the mid-section (i.e., halfway up the body) and some notches are narrow and carefully chipped, while others are more casually done. The points have been made on curved flakes and blades, with mostly unifacial trimming done to form the point and shape the basal edges (on some, bifacial flaking is found along the edges of the point and a few specimens are nearly completely bifaced (e.g., Figure 57e). The end of the flake on which the point base was formed has, in many examples, a distinctive wedge-like termination. We cannot tell at this stage in the analysis just how this termination was created. Measurements of the Santa Rita arrow point sample are found in Table 3.

Comparatively, it should be noted that similar arrow points are found at several sites in Belize and elsewhere in the lowlands. Two specimens were found at the site of El Pozito (Shafer and Hester n.d.); they were catalogued as specimens 331 and 439, both made of gold-brown to grey chert. The precise context is not known to us at this time.

Hester has also examined two such arrow points excavated by Norman Hammond at Nohmul. It is Hammond's impression (personal communication to Hester, 1986) that these artifacts date to "Terminal Classic or Early Postclassic" times. As will be noted below, this date estimate appears to be too early.

Andresen (1976:163, 164) illustrates similar arrow points from excavations and surface collections at Santa Rita Corozal and at Corozal Beach (designated as the Bay Sector of Santa Rita Corozal; D. Chase 1982a:406-410). He notes (1976:163) that these "came from definite Postclassic contexts." In a later paper, Andresen (1983:286) describes the same specimens as "... mostly from the Late Postclassic." Other similar arrow points came from Barton Ramie, as reported by Willey et al. (1965:423), although not from certain chronological contexts. A very similar arrow point, made on a flake, is reported by Potter (1987) from Chichen Itza, but no chronological data are provided.

Shafer (1987), in examining the lithics from the Point Placencia Archaeological Project collected by J.J. MacKinnon, has observed very similar arrow points from Site PL-9. MacKinnon (personal communication to Shafer, 1987) describes this site as a Late Postclassic village at the southern tip of Point Placencia.

This style of elongate arrow point from Santa Rita Corozal must not be confused with the short, triangular side-notched arrow points found throughout Mesoamerica, clearly of Late Postclassic date (cf., Hester 1985:202). For example, at Colha, the authors have not seen arrow points of the elongate form, but there are several short triangular side-notched points of obsidian and chalcedony from the site. Hester has made a rather detailed examination of the large lithic assemblage from Moho Cay, at the mouth of the Belize River. There do not ap-

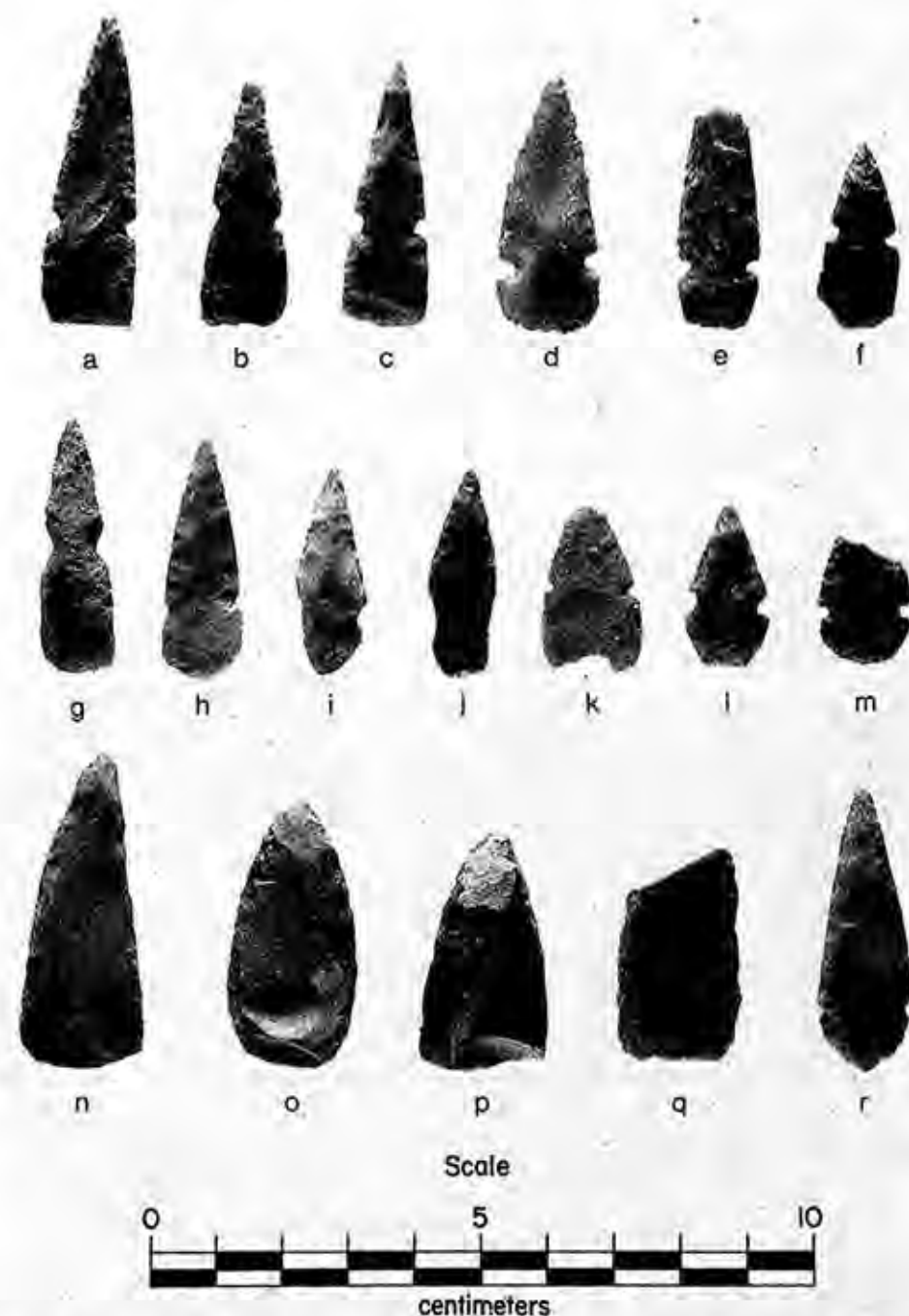


Fig. 57 Arrow Points and Arrow Point Preforms from the Late Postclassic Period at Santa Rita Corozal: a-m,r) arrow point; n-q) preforms. a, P8C/34-3; b, P6C/1-41; c, P6E/2-12; d, P8C/40-4; e, P6E/4-6; f, P6E/1-13b; g, P8C/45-11; h, P8C/54-8u; i, P6E/1-13c; j, P6C/1-36; k, P8C/46-13; l, P6E/64-8; m, P6C/2-6; n, P6E/64-1q; o, P8B/6-2; p, P8C/9-7; q, P8C; r, P6C/1-42c. All are made of chert.

pear to be any arrow points of this form in the collection; however, this is not surprising since materials from Moho Cay seem to date largely from Late Preclassic through Late Classic times.



Table 3 Arrow Points from Santa Rita Corozal, Belize.

Catalogue #	Length	Width	Thickness	Material
P6E/2-12	41	19	4	gray chert
P6C/1-41	39	19	2	brown translucent chert
P8C/46-13	(21)	17	1.5	tan chalcedony
P8C/40-4	36	16	3.5	chalcedony
P8C/54-8a	38	13	3	tan chert
P8C/45-11	40	11.5	3	tan chalcedony
P8C/34-3	49	14	3	banded chert
P8C/10-10	(20)	13	3	white chalcedony
P8B/7-3	22	12.5	2	translucent brown chert
P6E/4-8	49	9	3	tan banded chert
P6E/2-4	45.5	13	5.5	translucent brown chert
P6E/5-3a	22.5	10	3.5	banded gray chert
P6E/47-3	(49)	13	4	burned chert
P6E/64-8	21	13	3	brown chert
P6E/54-6	(36)	12.5	4	coarse chalcedony
P6C/1-42c	44	14	2.5	gold-brown chert
P6E/4-6	(29)	13	3	(not recorded)
P6E/1-13c	33	10	4	tan-gray chert
P6E/1-13b	29	13	3	brown translucent chert
P6C/1-36	33.5	9.5	2.5	gray chert
P6C/2-6	(18)	14	2.5	burned chert

All measurements are in millimeters; parentheses indicate incomplete measurements.

According to the provenience data provided by the Chases (D. Chase 1982a) for the Santa Rita Corozal arrow point sample, it appears that this elongate form can be placed in tight Late Postclassic contexts in practically every instance. One question for future research is the typological separation, if any, of the elongate versus the short triangular side-notched forms - and whether or not these have different chronological positions within the Late Postclassic. We would speculate at this time that the short, triangular points are the most recent.

**Arrow Point Preforms (Figure 57n-q) and Fragments:** The collection contains six, small arrow point-size specimens made on flakes that have been given preliminary shape by marginal pressure retouch, but which are not side-notched. Since their overall unfinished appearance may rule them out as being un-notched arrow points, they are classed here under the rubric of preforms.

There are also several arrow point fragments, mostly distal tips in the collection. Interestingly, one of these has been recycled as a side-notched arrow point.

**Large Stemmed Points (Figure 58a,b,e,f):** There are five large specimens that may have functioned as dart points, spear tips, or knives. Two are stemmed blades of the kind found in Terminal Classic workshops at Colha (cf., Roemer 1985; Hester 1985). One of these (Figure 58b) is complete; it is made of gold-tan chert and is 69 mm long, 14 mm wide, and 4 mm thick. Its context suggests that the specimen could be a recycled artifact from an earlier period.

The second stemmed blade is a basal fragment of translucent tan chert. It is 38 mm long (tip missing), 16 mm wide, and 4.5 mm thick. Its provenience is "redeposited Terminal Classic - Early Postclassic" (Chases, personal communication 1987). As noted above, both of these specimens would fit, typologically, in the Terminal Classic era.

A third specimen is a basal fragment of a large, contracting stem biface of brown-gold chert (Figure 58f). It derives from "construction fill" (Chases, personal communication 1987) of Late Postclassic times. Typologically, we suspect it is Late Classic in date. A fourth artifact is bipointed, with mostly bifacial flaking,

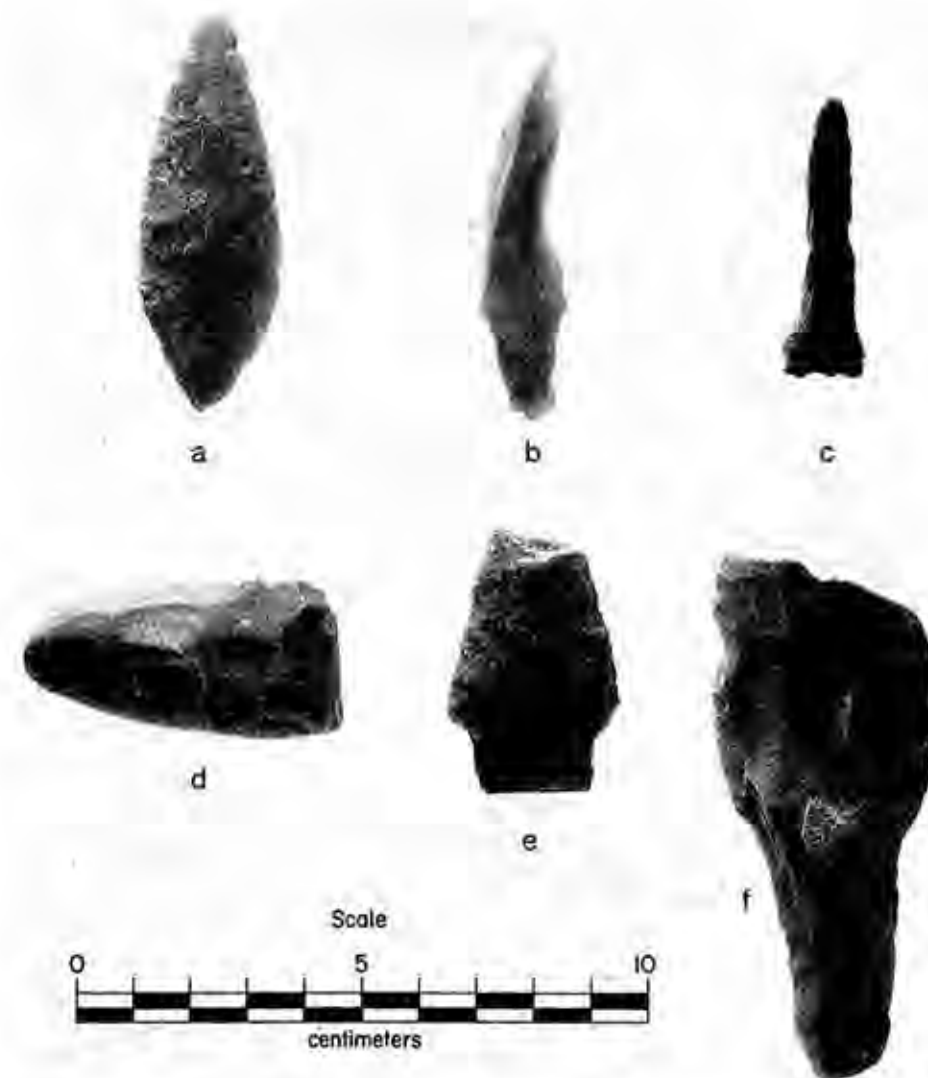


Fig. 58 Lithic Artifacts from Santa Rita Corozal: a) biface, P6E/2-7; b) stemmed blade point, P6E/29-4a; c) perforator, P8A/3-3; d) tranchet flake, P6C/11-1i; e) stemmed dart point fragment, P8C/45-6; f) large stemmed biface fragment, P6C/7-1a. All are of chert; c and e have been burned.

and made of light tan chert. It is 71 mm long, 26 mm wide, and 7 mm thick. Its context is recorded as "use-related refuse nearly all Late Postclassic" (Chases, personal communication 1987). Bipointed thin bifaces are sometime found in the Early and Middle Postclassic lithic deposits at Colha (G. Michaels 1987).

Finally, there is a fragmented stemmed biface (Figure 58e), made of chalcedony, but heavily burned. It is apparently from mixed Terminal Classic and Early Postclassic deposits.

**Oval Bifaces:** This formal tool category is represented by 26 specimens, all fragmentary. The sample includes distal, medial, and proximal fragments. Twenty are of chert (cf., Colha) and 6 are of chalcedony. Forty percent (9) of the chert examples are visibly recycled oval biface fragments whereas 50% (3) of the chal-

cedony specimens display extensive recycling. These figures will undoubtedly be higher with more thorough analysis. The extent of secondary and tertiary modification indicates that the assemblage is composed of tools broken and recycled through use and not one indicating a production assemblage. Several recycled fragments were used as hammerstones, as evidenced by the battered edges and ends.

The production of oval biface celts spans the entire Maya sequence of northern Belize. The technology of production has been amply documented for the Late Preclassic (Shafer 1985), Classic (Roemer 1985; Shafer and Hester in press), and Postclassic (G. Michaels 1987) Periods at Colha. Use or consumption of oval biface celts both at Colha and in other sites in northern Belize outside of the chert bearing zone have also been well documented (Shafer 1983; McNany 1986; Mitchum 1986; Lewenstein 1987).

**Miscellaneous Bifaces:** Four fragments of bifaces which are too narrow or thin to be considered as celts were present in the sample. All are too fragmentary to consider possible function or even final form. One appears to be made on a macroblade and another may be the proximal end of a narrow biface adze blade similar to specimens produced in the Late Preclassic workshops at Colha. Three are chert (cf., Colha) and one is chalcedony.

**Macroblade and Blade Artifacts:** Fourteen artifacts are macroblade or blade fragments; one nearly complete specimen is an adze-like tool. All are of chert (cf., Colha) and most show visible evidence of retouch.

**Stemmed Macroblade:** The stem fragment of a stemmed macroblade is present in the collection. The material is chert (cf., Colha) and the stem is bifacially chipped.

**Unifacial Tools:** Five unifacially worked fragments are in the sample. All are of chert (cf., Colha) but do not appear to have a truly formal outline. All represent once larger pieces of chert that exhibit a unifacially worked edge.

**Flake Tools (Figure 58c):** This general category of nine artifacts includes thin flakes that have been extensively marginally retouched. Two have tapered ends and may fall under the category of reamers or drills. One is clearly a drill tip fragment (Figure 58c); it is of tan chert, triangular in cross-section, and is heavily drilled (for similar specimens from Colha, see Potter 1982). Two are fragments of subtriangular forms and may be arrow point preforms of the kind described above.

#### Debitage

A cursory examination of the debitage shows that chalcedony generally dominates (e.g., ca. 60% chalcedony to 40% chert). Most of the chalcedony is chunky residual material and not derived from formal or thinning flakes. Chert flakes were generally struck as thinning flakes or during the course of retouch or recycling (cf., chert debitage from Pulltrouser Swamp, Shafer 1983). The unburned chert generally compares favorably to that from Colha.

One tranchet flake fragment (Figure 58d) of tan chert produced from the manufacture or rejuvenation of a tranchet bit tool (cf., Shafer 1984) is in the sample. Tranchet flakes are generally rare except at sites where tranchet tool production took place. Tranchet rejuvenation flakes have been recovered at Pulltrouser Swamp (Shafer 1983), Kichpanha (Shafer 1982), and Cerros (Mitchum 1986; Lewenstein 1987). The tranchet technique is very characteristic of the Late Preclassic and Late Classic workshops at Colha.

#### Discussion

The artifact sample from the Late Postclassic deposits at Santa Rita consists of debitage and a relatively small sample of formal tools. The formal tools represent

the spectrum of the Maya culture sequence from Late Preclassic through Late Postclassic periods. The most common formal tools are thin arrow points made on flakes or small blades and fragments of oval bifaces.

The Late Postclassic lithic artifacts consist of arrow points and marginally retouched flake artifacts. The notched and stemmed arrow points are considered here to be Late Postclassic diagnostics and were likely produced at Santa Rita Corozal. This interpretation is supported by the occurrence of the preform stages in the sample. The thin flake tools, which share the same basic technology with the arrow points, may be Late Postclassic diagnostics as well.

The Late Postclassic deposits also contain an admixture of lithics diagnostic of earlier periods. Some of these formal tools do not otherwise occur in the Postclassic Period.

One lenticular-shaped biface projectile point is the only Early or Middle Postclassic diagnostic that was in the sample. Similar points were produced in workshops at Colha (G. Michaels 1987).

Late Classic formal tools are represented by two Terminal Classic stemmed blade points. These artifacts were produced in quantity in certain Late Classic workshops at Colha associated with Tepeu 2-3 ceramics (Roemer 1985).

Two stemmed biface dart points may date in the Early Postclassic or in the Late Classic Periods. Similar specimens have been found in the Point Placencia Project survey associated with Late Classic or Early Postclassic ceramics.

Oval bifaces could date from the Middle or Late Preclassic to the Early or Middle Postclassic. The degree of recycling indicated in most of the oval biface collection is very similar to that seen at the Pulltrouser Swamp sites (Shafer 1983; McNany 1986) and more recently in the lithics from El Pozito and the Rio Hondo Project (examined by Hester and Shafer). The high degree of retouch and recycling coupled with the absence of manufacturing mistakes indicates that the oval bifaces were most likely brought to the site in finished form. This observation has been made at other sites in northern Belize outside the chert bearing zone (e.g., Pulltrouser Swamp, Nohmul, Cuello, and at Rio Hondo). The recycling also indicates the degree to which the raw material from broken chert formal tools remained to be economically important in this region deficient in siliceous stone.

The macroblades are also common throughout much of the Maya sequence and do not provide a useful means of dating the deposits. Tranchet flakes are diagnostic of artifacts of the Late Preclassic through the Late Classic. They do not occur in the Postclassic workshops at Colha and are not part of the Postclassic technology.

The raw materials are chert and chalcedony. Chalcedony is barely predominant, although in some lots the frequencies are about equal. The chert debitage generally consists of flakes struck during the course of retouch and recycling. The chalcedony flakes and chunks display evidence for primary reduction of cores for expedient flake tools and a minimum of formal tool production. The chunky nature of much of the chalcedony debitage is attributed to the overall poor quality of this material and the frequency of flaws.

In summary, the deposits that yielded the lithic sample, which was the subject of this study, contained formal tools diagnostic of the Late Postclassic Period, namely the side-notched arrow points. There was an admixture of lithic artifacts from earlier periods, perhaps extending back as early as the Middle Preclassic Period. The sample includes artifacts manufactured of chert comparable to that characteristic of Colha and of chalcedony probably coming from a variety of outcrops in northern Belize.



## APPENDIX IV

### A Preliminary Report on the Faunal Remains from Santa Rita Corozal, Belize

JUNE D. MORTON, McMaster University

Santa Rita Corozal is a coastal Maya site located in northern Belize. It is a Postclassic site, though there is evidence of earlier occupations. The site is still occupied today by the people of Corozal Town. The faunal remains reflect the use of the marine resources at hand, as well as large species of land animals that would have provided much food to the inhabitants.

This is a preliminary report on the faunal analysis so far completed for the Santa Rita site. The identifications made to date were done with the use of The H. G. Savage Faunal Collection. It is still necessary to verify some of these with another collection, namely the Royal Ontario Museum in Toronto. Attempts are being made to find nearby collections that can provide some of the species absent from these collections. It is hoped that these will be helpful to provide better identifications in the final faunal report.

The artifact numbers, as recorded here, are those assigned to the bone at the site laboratory. All faunal bone was assigned a number relating it to its excavation/operation. A further number was added during the analysis to allow each bone to be identified, and therefore discussed separately. All worked bone identified as such in the field has been kept separate from the faunal bone and is therefore not included in this analysis.

This report covers the material excavated from Operations 6, 37 and 38. These three operations have been dated by the archaeologists. Operation 6 contains much midden material from Structure 74 and the structures associated with Platform 2; part of this material is from a ritual deposit. Operation 37 was placed over a Late Postclassic shrine building, Structure 183. And, Operation 38 was designated for a Late Postclassic elite residence, Structure 218.

Table 4 shows the distribution of the faunal classes within the cultural time periods. This table also gives percentages of each class to the total. It can be seen that reptiles and mammals are dominant throughout the site occupation. Specifically it is the turtles and various large terrestrial mammal species that are most abundant. The earlier periods comprise only 3% of the total sample for this report. This is comparable to the faunal distribution found on Cozumel (Hamblin 1984). It will be interesting to see if this trend continues with the rest of the faunal material. As of yet no historic fauna has been identified in the collection.

Preclassic, Early Classic, and Late Classic Periods are collectively considered to be the earlier occupations of the site. Together, these occupations are represented by a total of 38 animal bones in the locales being analyzed here. Based on this small sample size, it would appear that mammals were of sole importance during these times. Though Santa Rita was at its height in the Postclassic, it was also a major site in the Early Classic (D. Chase and A. Chase 1986a). Therefore one would expect more faunal remains from this, and earlier, time periods. One reason for the lack of remains from these periods may have been the research design of the archaeologists, which was specifically geared toward investigating the Postclassic occupation of the site.

Santa Rita Corozal was a major city in this area of Belize during the Postclassic (D. Chase 1981; 1982a). The majority of the faunal remains are from this period, in total 1223 bone fragments. There is an increased number of bones in each of the lots for this age, and there is more variety in the animals represented. Reptiles

and mammals are the most frequently occurring animals. Referring to the number of bone fragments and on the minimum number of individuals (MNI), shown on Table 5, the turtles and the deer are the dominant species.

Minimum numbers of individuals were calculated based on the most frequently occurring bone element for each species, taking into account its side and its location within the site. Where a given lot had more than one bag of faunal material, all bags were considered in calculating the MNI's.

The largest class represented is reptilian. The majority of reptilian bones are Testudines. At this time few bones have been identified to species, though they are all turtle or crocodile. With further study it should be possible to identify the turtles to terrestrial or marine families or species. All the turtle bones present are shell fragments. This may be a product of the sample size, poor preservation, Maya ceremonial use, or a result of their food preparation techniques. Though the shell does account for most of the skeleton of a turtle, other skeletal elements would be expected even in small quantities. Hamblin (1984) found very few non-shell turtle elements at Cozumel. This suggests that the occurrence of shell may be due to the Maya usage of turtles. In total there are a minimum number of 23 individuals represented by the fragments, based on their locations. Only one shell fragment was burnt, and one had been worked into a disc. The lack of charring may be evidence that the turtle was not eaten. The majority of turtle remains dated to the Postclassic at Santa Rita; a similar situation has been noted at Cozumel and at Cerros (H. Carr 1986). This may suggest a shift in the ceremonial utilization of Testudines.

The second important reptile is the crocodile. There are two species of crocodile present in Belize; only one species is available in the reference collection at this time. As at Cozumel, the crocodiles are most common in the Postclassic times. There is one reptilian bone that is not turtle or crocodile. It is a vertebrae that is likely a snake. It is not possible to identify this below class.

The most common mammalian species present in the sample are white-tailed deer, peccary, and dog. It still remains to be verified if the *Canis* species identified here can be shown to be dog or coyote. As it is known that the Maya did have domestic dogs, it is likely that dog is present at Santa Rita. Three of the five *Canis* elements are teeth. As stated before, this may be biased by the sample size or it may be evidence of Maya practices.

The deer and the peccary are both animals found in the secondary growth forests. Other animals, such as the opossum, the jaguar, the tapir, and the brocket deer inhabit tropical forests. The presence of these species at the site demonstrates that the people of Santa Rita were hunting animals in a range of habitats.

Table 4 Santa Rita Corozal Faunal Distribution by Cultural Time Period.

Time Periods	Operation	Total	mammal	avian	fish	reptilia	amphibian	unid.
Late Preclassic	P38B/49,50	3	3					
		100%	100%					
Early Classic	P6E/24-4,63-7	2	2					
		100%	100%					
Late Classic	P37C/3-6	33	33					
		100.0%	100%					
Late Postclassic	P6B,C,E	295	30	62	6	109	1	87
		100.0%	10.2%	21.0%	2.0%	36.9%	0.3%	29.5%
Late Postclassic	P37A,B	252	63	15	1	107		66
		100.0%	25.0%	6.0%	0.4%	42.5%		26.2%
Late Postclassic	P38A,B	676	157	7	39	233	1	239
		100.0%	23.2%	1.0%	5.8%	34.5%	0.1%	35.4%

Table 5 Selected Fauna Present at Santa Rita Corozal.

Class	Species	Total Frags.	MNI
Mammalia:	Didelphidae	2	2
	Dasypodidae	1	1
	Carnivora	2	2
	Canis sp.	5	5
	Felis onca	2	1
	Tapirus bairdii	2	1
	Tayassuidae	22	6
	cf. Tayassu pecari	1	1
	Odocoileus virginianus	59	26
	Mazama americana	4	3
	Testudines	401	23
	Crocodylus sp.	47	3
Aves:	Meleagrididae	7	7
Osteichthyes:	cf. Ara maca	1	1
	cf. Sciaenidae	1	1
	Sphyraena barracuda	3	2
	Ariidae	7	4
	Rajiformes	2	1
	Serranidae	2	2
cf. Amphibian:	Ictalurus sp.	4	3
		2	2
Total		577	97

It is probable that most of these animals were obtained for food. These large species would have provided much meat. Very few small animals were identified, and there are no rodent remains as of yet. Some species may have been for ceremonial use, such as the jaguar and possibly the Canis species.

As mentioned above, Operations 6 and 37 contained some ceremonial contexts. Each of these two operations had 4 or 5 lots containing human bone in association with the faunal remains: P6E/46, 49, 52, and 59; and, P37A/14, 18, 21, and 22. In Operation 37A, the archaeologists noted that lot 23 was a cache deposit. The matrix within the lidded urn has been found to contain small human and white-tailed deer fragments, as well as other ceramic artifacts (Figure 33). There are also a lot of food species in these operations, such as deer, peccary and turkey. It could be that either these structures were for non-ceremonial use, or there may have been some mixing of "trash" with the ceremonial/ritual deposits.

Operation 38 was designated for an elite residence. One might expect more food remains from a presumed residential structure, but this operation contained the same species as did the other two operations. One of the burials found in this operation, P38B/45, had faunal material associated with it - white-tailed deer, peccary and fish; although some of these remains may be due to the addition of "trash" to the matrix about the burial, the peccary jaw is definitely associated with the interment. Other lots containing both human and faunal bone include P38B/41, 43, and 44. The majority of burnt bone in the collection that was examined was found within Operation 38, suggesting household use or the inclusion of "trash." Three altered bones were also found here, two mammal and one unidentified bone; two of these appear to have been cut. Foot bones of a jaguar were also found in Operation 38. As with Operations 6 and 37, the idea of multi-functional structures or mixed deposits is raised.

There are both Osteichthyes and Chondrichthyes in the sample. The Osteichthyes are the most common of the two. Both marine and freshwater species of fish are represented. The freshwater species identified are Ictalurus species and possibly some species of Ariidae. The marine species that have been identified are

the barracuda, possibly some species of Ariidae, and Sciaenidae and the Serranidae family. The barracuda is a reef fish, as are some members of the Serranidae family. The Sciaenidae are estuary fish. This provides evidence that the Maya at Santa Rita were traveling out to the reef as well as fishing near the site, and possibly in the Hondo and New Rivers.

The Chondrichthyes identified are in the order Rajiformes. These are the stingray spines. There are more than one family of rays that have tailspines that could have been utilized by the Maya. These spines were found in operation 38. As stingray spines were used for blood letting ceremonies, it is not surprising to find them in an elite structure. The variety in aquatic species obtained by the people of Santa Rita shows that they were using the resources that they had on hand, namely the Chetumal Bay.

Very few avian species are present in this sample. The avian bone was identified to turkey, plus one bone that may be a scarlet macaw. The two species of turkey that may have been present are the domestic and the wild ocellated turkey. These two species are very similar but a further attempt will be made to try and distinguish which, or if both, are present at Santa Rita. It is generally thought that the turkey was a Maya food item. There is no evidence, so far in the analysis, to believe that the turkey had any different role in Santa Rita. Due to the brilliant feathers of a scarlet macaw it is possible that this bird was caught to obtain these feathers. One may expect that the wings or body would be found in this case, but interestingly enough the bone identified is a leg bone. Another interesting point to be noted is that the majority of the avian bone was found in Operation 6.

The amphibian bone has not been identified to below class. Only two such bones are found.

There are 394 unidentified fragments in total, the majority being from Operation 38. The amount of unidentifiable bone is very large. This may be due to poor preservation at the site as well as the handling of the material before it reached the faunal analyst.

Very few bones were found to have any evidence of charring. There is a total of 12 bones, of which 10 are mammalian. This may be the result of cooking or of ceremonial use. These bones were found in all three operations, though the majority was from Operation 38. Based on charred bones alone, one would not suspect that any formal "middens" have been located as yet.

The majority of the faunal material belongs to the Postclassic occupation of Santa Rita. At this time the population is estimated at being five times greater than it was in the Early Classic (D. Chase and A. Chase in press). The amount of faunal remains do indeed reflect this. The characteristics of the faunal exploitation at the site does not fit the patterns seen elsewhere. M. Pohl (1985) describes the Classic Maya subsistence as based highly on deer and turtle. The MNI's at Santa Rita seem to be similar to this characterization, but during the Postclassic Period. M. Pohl (1985) also describes an abundance of small game and fish as being common in the Late Classic and Postclassic times; this is not seen at Santa Rita. The Late Preclassic at Cerros and the Postclassic at Cozumel exhibit a heavy dependence on sea resources (M. Pohl 1985); this is also not very clear at Santa Rita. H. Carr's (1986) faunal analysis of Preclassic Cerros does show similarities to Santa Rita. She found fish from a broad range of habitats, a lot of deer with dog and peccary, and frequent occurrences of turkey. Small game was rare at Cerros as it is at Santa Rita. Three further conclusions made by H. Carr also seem to be supported by this analysis: first, that burials have been found in fill with secondarily deposited trash; second, that turtles appear to be important to subsistence and/or ritual in the Postclassic as part of the small game emphasis; and third, that terrestrial fauna tends to be associated with high rank or public ritual and marine



fauna with lower rank. This may explain the abundance of terrestrial faunal in the analysis of the three operations at Santa Rita. It remains to be seen if these hypotheses hold for the rest of the faunal material. D. Chase and A. Chase (in press) note that Santa Rita replaced Cerros in the Early Classic as a city of coastal-inland exchange. If the faunal material does continue the trends seen at Cerros, it may support this.

Despite the occurrence of aquatic species in the sample they are not as common as one would expect for a coastal site. Undoubtedly the analysis of the rest of the faunal material will result in more aquatic species. It is possible that because these bones were found in the excavations of structures rather than midden deposits they are not truly representative of the resources utilized by the Maya for food at Santa Rita Corozal, but this is unlikely. The variety in mammal and fish species and the abundance of turtle does suggest an extensive use of the resources available. As mentioned above, it seems that the sample contains predominantly large animals that one would expect were used as food. More information is necessary about the structures and the associated artifacts to suggest a domestic rather than a ceremonial use of this faunal material or to support the hypothesis of secondarily deposited trash.

As a preliminary report, this has provided some insight into the use of three specific locales through time at the Santa Rita Corozal site. It has raised a few questions that the artifacts and excavation details may be able to solve. This analysis suggests further trends to be pursued in the rest of the faunal sample.

## APPENDIX V

### A Preliminary Report on the Mollusca of Santa Rita Corozal

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During the 1979-1985 field seasons at Santa Rita Corozal, Belize, 2,196 worked and unworked shells were recovered from Preclassic, Classic, and Postclassic deposits. All but 24 fragments were identified as to the genus and/or species level. The collection consists of 9 species of land snails, 4 species of freshwater snails, 19 species of marine gastropods, and 15 species of marine pelecypods (see Table 6). All of the species obtained from the excavations are native to the coast of Belize and to the eastern coast of Yucatan, i.e., Zones VI and VII as described by H. and E. Vokes (1983:viii). The larger marine conchs and medium-sized gastropods were preferred by the people of Santa Rita, which is a common practice throughout the Maya area; they contain more edible meat than pelecypods and they are a better source of raw material for making artifacts (Andrews n.d.:3).

Shells at Santa Rita Corozal were utilized as dietary items, tools, and ornaments. The numbers indicate that the genus *Strombus* and *Turbinella* were the most popular edible shells as burn marks and traditional butchering removal marks on the outer whorl are present on several of the specimens. The burn marks could only result from cooking, for no natural burnings were evident in conjunction with these particular shells. Although many natural predators can produce the removal scar on the spire, the context in which they were discovered implies that they were man-made. Although the whole specimens of *Strombus*, *Cittarium*, and *Turbinella* had these scars, *Melongena melongena* did not. Several specimens of the latter genus had burn marks, suggesting that they were roasted and cooked over an open fire. Furthermore, shells with neither removal scars nor burn marks were most likely boiled. Although this cannot be proven archaeologically it can be seen ethnographically. For example, the caretaker of Cerros, Belize, boils the freshwater mollusca *Pachychilus* and *Pomacea* to produce a stew; it seems quite probable that the ancient Maya did the same.

The main purpose behind the exploitation of marine and freshwater mollusks in the coastal regions of the Maya area is for subsistence. The particular species listed below from Santa Rita are reported as dietary items from archaeological sites all along the north and east coasts of Yucatan, as well as Belize; these include such sites as Isla Cerritos, Isla Cancun, Xelha, and Cerros. For this reason, their common occurrence at Santa Rita Corozal is not surprising.

The species obtained considered edible include:

Genus	# of Specimens	% of total collection
<i>Strombus gigas</i>	418	19%
<i>Strombus costatus</i>	4	1%
<i>Strombus</i> species	55	3%
Total <i>Strombus</i>	477	23%
<i>Turbinella angulata</i>	340	15%
<i>Buyson</i> species	12	1%
<i>Fasciolaria tulipa</i>	13	1%
<i>Cittarium pica</i>	43	2%
<i>Melongena melongena</i>	36	2%
<i>Cassis tuberosa</i>	17	1%
TOTAL	938	41%

The majority of the collection consists of fragments, i.e., less than one half of the shell is present. In several cases, the fragments appear to be debitage which would suggest that Santa Rita was producing shell artifacts which were traded inland in exchange for luxury or other items (cf., D. Chase and A. Chase in press).

Ongoing analysis may indicate that shell ornaments were definitely manufactured at Santa Rita; this would also not be surprising for the Maya held mollusca in great esteem, as is demonstrated by their many possible uses: as fill in building construction, as mortar and pottery temper, as a source of lime for maize preparation and for chewing tobacco, as ornaments, and as burial furniture. Additionally, shells were illustrated in the codices and they were portrayed as glyphs. For example, in the codices they have underworld significance as the Maya death god is frequently observed emerging from a shell (cf., cover of D. Chase and A. Chase 1986a). Furthermore, shells were used to represent the number zero. Considering the importance of Santa Rita and its proximity to the sea, the idea that the inhabitants were producing shells ornaments and trading them is not inconceivable.

The Santa Rita collection included several artifacts, such as beads, tinklers, pendants, a fish hook, trumpets, and a celt. While the analysis is not yet complete, the following breakdown offers a preliminary summary of the artifact types:

NUMBER OF	E	F	SPECIES
PENDANTS			
1	1	0	<i>Dosinia elegans</i>
1	1	0	<i>Lucina pectinata</i>
4	0	4	<i>Strombus gigas</i>
3	0	3	<i>Turbinella angulata</i>
3	0	3	<i>Spondylus americanus</i>
1 Carved	1	0	<i>Spondylus americanus</i>
TINKLERS			
7	7	0	<i>Prunum labiatum</i>
BEADS			
1 Tubular	0	1	<i>Dentalium</i> sp.
48 Not analyzed	0	48	<i>Spondylus</i> sp. (?)
ORNAMENTS			
1	1	0	<i>Oliva reticularis</i>
5	2	3	<i>Oliva sayana</i>
7	7	0	<i>Prunum labiatum</i>
1	0	1	<i>Strombus gigas</i>
OTHER			
1 Carved hand	0	1	U.I. Gastropod
1 Carved head	0	1	U.I. Gastropod
1 Fish hook	0	1	<i>Strombus gigas</i>
2 Trumpets	2	0	<i>Strombus gigas</i>
1 Celt	0	1	<i>Strombus gigas</i>
1 Scoop	0	1	<i>Turbinella angulata</i>
1 Circular disc	0	1	<i>Strombus gigas</i>
1 Irregular	0	1	<i>Strombus gigas</i>

The predominant shell artifacts are beads; moreover, some of the smaller perforated ornaments may have been utilized as beads. Pendants are also frequent. In most cases these are pierced for suspension, although some of the irregular shaped pendants were notched allowing for a string to be wrapped around them and then suspended. The tinklers, or clothing ornaments, are all made from the genus *Prunum*. While tinklers are common artifacts and are found throughout the Maya area, they are usually manufactured from *Oliva* and not *Prunum* (Andrews IV 1969:55). Another typical ornament is the shell disc. These were possibly utilized as earflares or as sandal buttons (Andrews n.d.:17). They have been reported at many sites including, Komchen, Dzibilchaltun, and Mayapan. The only tools recovered at Santa Rita were a celt (an axe without a handle) and a scoop; these are frequently found in archaeological contexts. Miscellaneous items include a carved hand, a carved head a fish hook, and trumpets.

This is a preliminary report. A final report, including a complete checklist and a chronological and contextual analysis, is currently in preparation.

Table 6 Archaeological Mollusca of Santa Rita Corozal: Species List.

Genus and Species	E	F	Total
TERRESTRIAL GASTROPODS			
<i>Bulinulus unicolor</i> (Sowerby)	10	13	23
<i>Chapanoma gaigei</i> (Bequaert & Clench)	37	0	37
<i>Drymaeus tropicalis</i> (Morelet)	1	0	1
<i>Euglandina cumingi</i> (Beck)	1	1	2
<i>Euglandina cylindracea</i> (Phillips)	18	9	27
<i>Euglandina</i> sp.	0	28	28
<i>Neocyclotus dysoni</i> (Pfeiffer)	275	66	341
<i>Oligyra arenicola</i> (Morelet)	1	0	1
<i>Orthalius princeps</i> (Say)	156	51	207
FRESHWATER MOLLUSCA			
<i>Pachychilus glaphyrus</i> (Morelet)	40	1	41
<i>Pecten</i> cf. <i>ziczac</i> (Linnaeus)	1	1	2
<i>Pomacea flagellata</i> (Say)	38	152	190
<i>Nephronis</i> sp.	0	7	7
MARINE MOLLUSCA: GASTROPODS			
<i>Bulla striata</i> (Brugiere)	1	1	2
<i>Busycos</i> sp.	0	12	12
<i>Cassia tuberosa</i> (Linnaeus)	2	15	17
<i>Cittarium pica</i> (Linnaeus)	1	42	43
<i>Cypraea testiculus</i> (Linnaeus)	2	0	2
<i>Cypraea</i> sp.	0	1	1
<i>Fasciolaria (Fasciolaria) tulipa</i> (Linnaeus)	2	11	13
<i>Pissurella (Cremides) barbadensis</i> (Gmelin)	0	1	1
<i>Melongena (Melongena) melongena</i> (Linnaeus)	21	15	36
<i>Nerita tessellata</i> (Gmelin)	2	1	3
<i>Oliva reticularis</i> (Lamarck)	1	0	1
<i>Oliva sayana</i> (Ravenel)	1	4	5
<i>Pleuroploca gigantea</i> (Kiener)	0	1	1
<i>Prunum labiatum</i> (Valenciennes in Keiner)	19	0	19
<i>Strombus (Tricornis) costatus</i> (Gmelin)	0	4	4
<i>Strombus (Tricornis) gigas</i> (Linnaeus)	19	399	418
<i>Strombus</i> sp.	0	55	55
<i>Tegula (Agathostoma) fasciata</i> (Born)	1	0	1
<i>Turbinella angulata</i> (Lightfoot)	9	331	340
Unidentified gastropods	0	23	23
MARINE MOLLUSCS: PALEOCYPODS			
<i>Anodontia (Pegophysema) alba</i> (Link)	1	0	1
<i>Arcopagia (Johnstonea) fausta</i> (Pulteney)	1	1	2
<i>Argopecten gibbus</i> (Linnaeus)	9	72	81
<i>Chama sarda</i> (Reeve)	3	0	3
<i>Chione (Chione) cancellata</i> (Linnaeus)	4	1	5
<i>Codakia (Codakia) orbicularis</i> (Linnaeus)	3	59	62
<i>Crassostrea virginica</i> (Gmelin)	1	0	1
<i>Dosinia elegans</i> (Conrad)	1	1	2
<i>Lopha frons</i> (Linnaeus)	29	31	60
<i>Lucina (Phacoides) pectinata</i> (Gmelin)	3	7	10
<i>Ostrea</i> sp.	0	1	1
<i>Pecten</i> sp.	0	12	12
<i>Spondylus americanus</i> (Hermann)	0	10	10
<i>Spondylus</i> sp. (?)	0	48	48
<i>Tellina (Tellinella) listeria</i> (Roding)	0	1	1
<i>Tellina</i> sp.	0	1	1
Unidentified pelecypods	0	1	1
MARINE MOLLUSCS: SCAPHOPOD			
<i>Dentalium</i> sp.	0	1	1
SUMMARY TOTALS	E	F	TOTAL
Freshwater and Land Snails	578	329	907
Marine Gastropods	81	916	997
Marine Pelecypods	55	246	291
Scaphopoda	0	1	1
Subtotal	714	1492	2196
TOTAL SPECIMENS		2196	



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