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New isotope data on Maya mobility and enclaves at Classic Copan, Honduras

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ABSTRACT

Strontium, oxygen and carbon isotopes are measured in human tooth enamel from 32 human burials in structural complex 10J-45 at the Classic Maya site of Copan in western Honduras. These results are compared with similar information from the Copan Acropolis, common graves throughout the site, and baseline information from the surrounding region and the Maya area in general. More than one-third of the burials are identified as non-local based on strontium and oxygen isotope ratios. These non-local individuals came from a variety of different places. Two of these persons appear to be dynastic rulers or highly placed nobles in Copan society. The high density of non-locals and the location of the burials suggest this area may have been an enclave of foreign Maya at the site. The presence of non-local rulers in both this area and the Acropolis supports the concept of "stranger kings" in the Maya realm.

Introduction

Copan has been a World Heritage site since 1980. The archaeological site, located in western Honduras near the Guatemalan border, was once the important capital of a Classic Maya state. The ruins of the ancient city extend over an area of approximately 16 km^2 in the Copan Valley, one of the best-preserved centers in the entire Maya region. Small farming communities appeared in the valley ca. 1400 BC and monumental construction at Copan itself began during the late Preclassic and the first part of the Early Classic period (ca. AD 200–400). In AD 426/427, a royal dynasty was founded at Copan by a foreign individual known as K'inich Yax K'uk' Mo'. His reign was followed by a sequence of 15 rulers who governed the city and its surrounding polity for a period of some 400 years, until ca. AD 822 (Andrews and Fash, 2005; Bell et al., 2004; Fash, 2001; Martin and Grube, 2008; Price et al., 2009; Webster et al., 2000).

Copan is composed of political, economic and ceremonial core areas, surrounded by elite and commoner residential structures that range from large, masonry palaces to low earthen mounds that once supported pole-and-thatch houses. At its peak, population is estimated to have between 20,000 and 30,000 people (Webster et al., 1992). Recent excavations via extensive tunnels of deeply buried structures in the massive Acropolis at the core of the site have exposed its Early Classic building phases and a number of burials that reveal much about the initial development of the city. These include three chambered tombs from the early dynastic era (ca. AD 400–600), which likely contained royal individuals. In addition, six burials dating to this same period were recovered from construction fill. Some of these may be the remains of sacrificial offerings (Bell et al., 2004:131–157; Price et al., 2007). A preliminary report on these burials was published by Buikstra et al. (2004). Price et al. (2010) published a detailed study of the Acropolis burials from Copan and identified several non-local individuals among the skeletal remains, including the bones and teeth of K'inich Yax K'uk' Mo'.

We have now completed the analysis of a new set of burials from a different area near the core of the site, known as the

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10J-45 complex. These excavations were a part of an archaeological rescue project (designated as PICPAC, *Programa Integral de Conservación del Parque Arqueológico Copan*) of the Honduran Institute of Anthropology and History (IHAH), undertaken to mitigate problems with the conservation of the central area of Copan (Nakamura, 2004). A total of 32 individuals were sampled from the many burials excavated by this project. We believe the results are of interest in part as they provide a more complete picture of isotopes and migration during the time of dynastic establishment at Copan and before, and in part because the information from this part of the site differs substantially from that of the roughly coeval tombs at the Acropolis, providing novel insights on Early Classic groups of Maya newcomers at Copan, together with their residential histories and role in Copan's dynastic rulership.

Our study is organized as follows. We first describe the excavations, the structures uncovered, and the burial locations. A synthetic discussion of the physical anthropology of the burials includes estimated dates, tomb construction and contents along with age, sex, ethnically relevant body modifications (cranial vault modification and dental decoration), and the estimated status level of each burial based on the tomb and its contents. This information provides the context for the isotopic studies. The isotopic investigations involve both light and heavy isotopes for information on diet and place of origin. Background and baseline information for these isotopic analyses are followed by the results and interpretation of the measurements. Our conclusions summarize the study in the larger context of early Classic Copan and Classic period Maya society and its implications for broader perspectives on Maya social networks and the rise of early states.

The PICPAC project

The skeletal collection under study derived from the archaeological rescue project designated as PICPAC conducted between 1999 and 2002, under the direction of Seiichi Nakamura. This project included salvage excavations at archaeological structures damaged by natural forces and areas to be disturbed by construction activities in various parts of the Copan Valley.

In 2000, IHAH assigned a rescue excavation to PICPAC in an area approximately 1 km west of Copańs Acropolis, in advance of construction of the new paved road that connects the Guatemalan border with the town of Copan Ruinas. The area of concern lies within Quadrant 10J (Fig. 1), as defined in the archaeological map of the site produced by a previous project (Fash and Long, 1983). A survey of the area conducted by PICPAC with the representative of IHAH revealed that there were a number of pre-Hispanic structures, remains, and other features in danger, which had not been previously mapped (Nakamura, 2004).

The salvage excavations in Quadrant 10J were conducted at four architectural groups (10J-9, 10J-10, 10J-11, and 10J-12) and one structural complex built around Structure 10J-45 (Fash and Long, 1983) (Fig. 2). These patio compounds are described in more detail below. The burials recovered in the excavations were numbered sequentially in each of the 2 years of the excavations, i.e., 2000 and 2001.

Patio group 10J-9

There were five structures in this group (labeled as 10J-34, -35, -36, -37 and -38). The PICPAC excavation revealed the presence of three additional structures (labeled as 10J-63, -64, and -86). Eight skeletons were recovered in this group and three of them have been sampled in this study (Season 2000: burials 5, 13 and 14).

Patio group 10J-10

Two structures (10J-39 and -40) make up this original group. Four more structures were recorded during the PICPAC operation

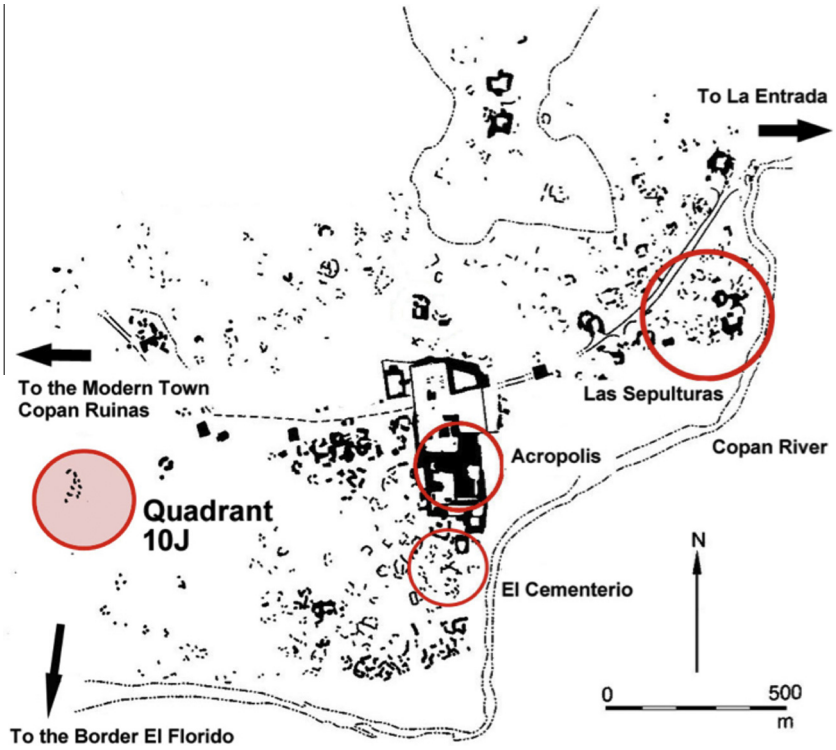

Fig. 1. The location of Quadrant 10J at the site of Copan in relation to the Acropolis and other important architectural groups.