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Archaeology students dig chocolate origins in labor of love

By Hope Green

While coming down from your post-Valentine's chocolate high, consider this: the sweet dark stuff is an ancient obsession. In the classic period, or the first millennium a.d., the Maya royal courts of Central America consumed great quantities of a cacao beverage during feasts and rituals. The people of Mexico and Belize once treasured cacao beans so highly that they used them as currency.

Archaeologists believe the study of ancient cacao production can provide insight into early Maya civilization, and this semester undergraduate students from BU are in Belize seeking new clues to that chocolate-laced heritage. As part of a four-year study, they and several graduate students are assisting professional researchers with mapping and excavation projects in the Sibun River valley, a fertile region near Belize's Maya Mountains.



With cacao trees in the background, Patricia McAnany, CAS associate professor of archaeology (center in hat), stands with undergraduate members of her research team atop an ancient Maya house platform at one of their field research sites in Belize. The site, a chocolate orchard formerly owned by Hershey Foods, is located on the west bank of the Sibun River just as it flows out of a narrow gorge in the Maya Mountains.

The team, which includes additional students from New York University, the University of Delaware, and Grinnell College, also will help record an intricate system of caves, where past excavations have revealed whole pottery vessels from ancient Maya rituals.

A major goal of the study is to clarify the relationship between classic Maya farming areas in Belize and

the royal centers of political and economic power that dominated them, such as the Péten region of Guatemala.

"The year 2001 marks 20 years since I first came to Belize to study Maya archaeology as a graduate student," says Patricia McAnany, CAS associate professor of archaeology and the study's principal investigator. "During those 20 years, I have seen tremendous progress in our understanding of ancient Maya royal courts, but we have not made as much progress in understanding parts of the Maya world in which hieroglyphic texts do not occur. We are attempting to rectify this imbalance."

Archaeologists know that the classic Maya courts consumed a lot of cacao, but they don't know if they were importing it from the Sibun River valley or under what conditions. Cacao has been produced in the valley at least since colonial times, but archaeologists cannot assume that growing conditions were the same 1,000 to 1,500 years ago. McAnany and her team will use scientific methods to reconstruct the environment and soil conditions of the classic period. For instance, cacao blossoms rely on a particular type of midge for pollination, but this insect spends most of its life in taller tree species. By examining sediment and fossil pollen preserved deep in river oxbows, the students can learn whether the area sustained a high forest canopy to nurture the fruiting of cacao trees.

Another mystery is how well the valley's farming families lived.

Assuming they did produce cacao, McAnany is trying to ascertain whether the Maya royals gave them a fair deal on the luxury crop. If cacao was traded voluntarily, she postulates, then the sites of ancient farm residences should contain abundant signs of wealth, such as trade goods from highland Guatemala. There would also be evidence that these families had expanded and renovated their homes.

By contrast, if cacao was extracted from the valley under a system of tribute, there would be far fewer indicators of wealth in the valley.

Boston University is unique in having an undergraduate archaeology program. Students majoring in the discipline are required to perform fieldwork, and Belize is one of several destinations the department offers each year. McAnany's cacao project is cosponsored by the Division of International Programs and the National Science Foundation, which recently awarded her a highly competitive grant to complete four years of research.



The current group of students will work at two excavation sites just outside of Belmopan, Belize's capital. Their lodgings for the first part of the semester are at Hummingbird Haven, a brand-new residence with four bunk beds to a room and a communal kitchen. After six weeks they will move to the second site and sleep in more rustic lodgings at the Monkey Bay Wildlife Sanctuary.

"For many of them, this experience will be a pivotal one in their lives because it is the first time they have undertaken scientific fieldwork," McAnany says. "They will take away an understanding of how data are collected and analyzed, the creative part of the scientific process."

No doubt they will also gain a new appreciation for what's in those heart-shaped boxes.

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