



glyphs

The Monthly Newsletter of the
Arizona Archaeological and Historical Society

Vol. 75, No. 9

March 2025



Dr. Anna Cohen excavating ground stone vessels, sculptures, and “metates” in Gracias a Dios, eastern Honduras (photograph by Dave Yoder for National Geographic).

Next General Meeting:
Zoom Only
March 17, 2025
7:00 pm (MST)
AAHS@Home (Zoom webinar)
aahs1916.org

In This Issue

- 2 President’s Message
- 4 *Piecing Together the Legacy and Remote Data Puzzle: Architecture and Monumentality in Eastern Honduras*, Anna S. Cohen
- 6 Current Research—*Assessing and Interpreting Juvenile Identity*, Aaron J. Young
- 10 Cornerstone

President's Message

by Rich Lange, President

One of the premier programs of AAHS are the Research and Travel Grants that are awarded annually, primarily to students and young professionals. These grants are funded through bequests and established investment funds, as well as through donations and fundraising events. The event most often associated with AAHS fundraising is the Winter Party.

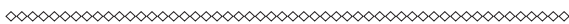
On January 11, we met at the San Pedro Chapel in Tucson, a wonderful venue for such gatherings. We were treated to snacks and soft drinks, a lecture by Ken Scoville on the history of Arizona, Tucson, and the Ft. Lowell/San Pedro Chapel areas, and a silent auction of various books, knickknacks, and Indigenous arts and crafts from around the world. Thanks to Katherine Cerino and Fran Maiuri for organizing the silent auction and to the many donors for the "treasures" they offered for the fundraiser.

There were some leftover objects that will appear again and be offered for the same purpose at the AAHS spring book sale. The AAHS group led by Katherine Cerino has received additional professional libraries from several sources – so lots of new titles for you to check out if you need additional reading materials and/or wish to help support the Arizona State Museum Library and Archives. The book sale will be held again on the ASM North Building front lawn in conjunction with the Tucson Festival of Books on the main University of Arizona mall, March 15–16, 2025. We hope to see you there, and if you are interested in helping with the book sale, please get in touch with Katherine!

Thanks to the board and officers, committee chairs, and committee members. There are always too many things going on with AAHS, other organizations, and, for those who are pre-retirement, those pesky things called jobs! Thanks everyone for helping with your time, commitment, and ideas!

Finally, AAHS has recently formalized getting more than 100 years of archives into the ASM archives. AAHS has also provided a

grant for a graduate student worker to move this process along. This process has been aided greatly by current AAHS archivist and former ASM director Beth Grindell, who has developed a detailed finding aid, and the basic organization of materials created by current and former officers and board members Gayle Hartmann, Madelyn Cook, and others. Thank you all!



AAHS Lecture Series

NOTE: Lectures are all now via Zoom only.

- March 17, 2025: Anna Cohen, *Piecing Together the Legacy and Remote Data Puzzle: Architecture and Monumentality in Eastern Honduras*
- April 21, 2025: R. E. Burrillo, *Below and Beyond Perry Mesa: The Archaeology of Greater West Verde*
- May 19, 2025: Angela Huster, *Aztec Conquest of the Toluca Valley*
- June 16, 2025: Marion Forest, *Recent Research on the Decline of Mesoamerican Teotihuacan: Reconfiguring a City from the Margins*
- July 21, 2025: Jakob Sedig, *Ancient DNA Work Done in Western and Northern Mexico*
- Aug. 2025: No lecture: Pecos Conference
- Sept. 15, 2025: Gary Huckleberry, *Decline of Hohokam Culture Based on Soil Degradation*
- Oct. 21, 2025: Andrea Torvinen, *Research at the Site of La Quemada in Zacatecas, Mexico*
- Nov. 17, 2025: George Tinseth, *History of Aviation in Arizona*

March 17: Topic of the General Meeting

Piecing Together the Legacy and Remote Data Puzzle: Architecture and Monumentality in Eastern Honduras

Anna S. Cohen

In our era of remote sensing archaeology and legacy data sets, multiple lines of evidence should be integrated to document a landscape-view of rapidly disappearing Indigenous landscapes. This study brings together several data sets derived from airborne LiDAR, satellite imagery, and pedestrian survey to present a large-scale (>650 km²) synthesis of the archaeology of the Wampu River system, a part of eastern Honduras with a long but inconsistent history of research. Results include the identification of numerous unreported archaeological sites, a basic classificatory scheme for site organization, and emerging patterns in site orientation. In this presentation, I show how eastern Honduras has the potential for future research identifying extensive settlements in the centuries before European arrival, thus contributing to a more complex understanding of Indigenous populations in the Americas.

Speaker Anna S. Cohen is an Assistant Professor of Anthropology at Florida State University. She received her Ph.D. and M.A. in Anthropology from the University of Washington, an M.A. from the University of Chicago, and a B.A. from McGill University. Dr. Cohen uses remote sensing techniques like LiDAR and ceramic analyses to investigate how precontact communities adapted to political changes in the centuries before European arrival in the Americas. She conducts field and laboratory work in non-Maya Honduras, western Mesoamerica, and precontact and historic Utah.



**This free lecture is offered via Zoom only. However, you must pre-register.
Visit aahs1916.org.**

AAHS Used Book Sale at the Tucson Festival of Books

March 15-16

We have received many new books from retiring professors and avocational archaeologists. From John Douglass' estate, we have volumes on the archaeology of Mexico and Central America, many of which are in like-new condition.

You will always find books on Southwest archaeology and anthropology, world archaeology, and archaeological theory, as well as on art, history, biography, philosophy, and Native American arts and crafts.

Prices range from \$2.00 to \$25.00, with 90 percent of the profit going to support the ASM Museum Library. If you would like to volunteer, contact Katherine Cerino at kcerino@gmail.com.

The sale will be on the lawn in front of the Arizona State Museum (north building) on Saturday, March 15, 10:00 am-5:00 pm and Sunday, March 16, 10:00 am-3:00 pm.



Follow AAHS on Facebook at
www.facebook.com/archandhist



glyphs: Information and articles to be included in *glyphs* must be received by the first of each month for inclusion in the next month's issue. Contact me, Emilee Mead, at emilee@desert.com.

Accessing and Interpreting Juvenile Identity

*Aaron J. Young
University of Arizona*

Archaeologists and bioarchaeologists have been interested in identity studies since the genesis of anthropology. Recently, we have moved toward understanding identity through a holistic lens by examining how different categories of identity intersect, influence one another, and cannot be understood in isolation. This is often referred to as intersectionality theory. Bioarchaeologists are interested in key categories of identity related to indicators or changes we document during osteological analysis (age, biological sex, pathology, trauma, and biocultural modification, to name a few). These categories are then interpreted in conjunction with archaeological data to create a more complete view of the lived experiences of past societies. Of interest to my research is a subpopulation within past societies, juveniles (<16 years). Investigating this group provides a window into childhood and adolescence, which are unique phases in the life history of individuals who are particularly vulnerable while still developing socially and biologically.

A large gap in bioarchaeological research is the inability to accurately estimate the biological sex of prepubescent individuals. Sex is an important identity category to consider because it is used as a reference point for inferring other identity categories like gender, social age, and differential treatment among individuals during life and after death. Bioarchaeologists traditionally use osteological methods to estimate sex from human remains, with methods focusing on observing differences in the size and robusticity of various skeletal features/areas or methods that evaluate features related to reproductive physiology and parturition. These methods are either nonmetric, macroscopic observations of morphological differences, or metric, quantifying size differences of features, with the most significant sexually dimorphic differences

Aaron Young was a 2024 recipient of an AAHS Research Grant, which helped support this work.

arising during puberty. Nonmetric and metric analyses of the pelvic, dentition, long bones, and mandible are sometimes used to estimate the sex of juvenile individuals. However, these methods have mixed results, ranging in accuracy between 40 and 80 percent. Recent trends in sex estimation studies include using genomic and 9 methods, which are destructive but more accurate than osteological methods.

My research seeks to examine the range of vulnerability within two juvenile populations and what identity categories or combinations of them resulted in increased vulnerability, with vulnerability defined as the qualities an individual possesses that create greater morbidity and early mortality. Two precontact skeletal samples from Sonora, Mexico are used in this study. The earlier of the two comes from the archaeological site of La Playa and dates to the Early Agricultural period (2100 BCE–50 CE); the second sample is from El Cementerio and dates to the Middle and Late Ceramic periods (879–1635 CE). To investigate the range of vulnerability within these two populations, osteological analysis was conducted at the Museo del Sitio Cerro de Trincheras in Trincheras, Sonora, Mexico, and proteomic analysis was conducted at the Parker Lab at the University of California, Davis.

An initial goal of this study is to compare osteological and proteomic sex estimation methods. A recent study by bioarchaeologists associated with INAH found that certain nonmetric traits of the pelvis and mandible accurately estimated juvenile sex. Thus, the present study attempted to replicate these results on a similar skeletal population. The presence/absence of four nonmetric traits (sciatic notch angle, iliac crest curvature, mandibular protrusion, and gonial eversion) was scored on this study's sample population. Proteomic sex estimation is used to verify osteological sex estimation. The proteomic method used in this study is based on the patent owned by Parker Proteomics LLC and is minimally invasive, involving the dissolution of a small portion of enamel on a tooth. The process includes sample preparation, protein extraction and proteolytic digestion, sample cleanup, proteomic mass spectrometry, and data analysis (Figure 1).

Mass spectrometry produced a data set of proteins present in the submitted sample, and the peptide matching software PEAKS XPro was used to identify amelogenin proteins. Amelogenin is found in dental enamel and is expressed as isoforms on each sex chromosome (AMELX

(continued on page 8)

(continued from page 7)

and AMELY). The proteins encoded on amelogenin genes have unique amino acid sequences (peptides), and detecting what peptides are present can allow for highly accurate sex estimation. Publications by Dr. Glendon Parker are suggested if the reader is interested in learning more about proteomics and the method employed in this study. A protein spectrum output from PEAKS with multiple sexually dimorphic peptides associated with the male sex is shown in Figure 2. The light blue bars represent peptide sequences matched to the sexually dimorphic Y-chromosome isoform (AMELY).

The results of comparing sex estimation methods indicated that the osteological traits used could not accurately estimate the sex of juveniles in this study's sample. Some traits are more reliable at estimating the sex in males than females, specifically traits in the ilium, which is a common finding. However, the goal of 75 percent accuracy for sex estimation was not met with any trait used in this study. These initial results suggest that the osteological sex assessment of pre-teen individuals should be avoided. Instead, proteomic or genomic methods can be used when appropriate/available, as researchers should be cognizant of the ethical concerns surrounding using destructive methods on human remains.

Other preliminary findings of this research are that juvenile postmortem body treatment at La Playa is not sex-based or age-based. Red ochre was applied to the body in nearly equal quantities among both sexes and occurred as early as 2 years old. Therefore, it can be argued that red ochre is unrelated to social age or gender. Additionally, three of these individuals were also interred with associated funerary objects. Nonperishable funerary objects are rare at La Playa (approximately 12 percent of all individuals) and even rarer among juveniles. These associated funerary objects include necklaces associated with both sexes among juveniles and shell discs with a male individual. Among the El Cementerio sample, male juveniles typically displayed more pathology than females, and associated funerary objects were more common among female juveniles. These conclusions are preliminary, and



Figure 1. Enamel sample preparation.

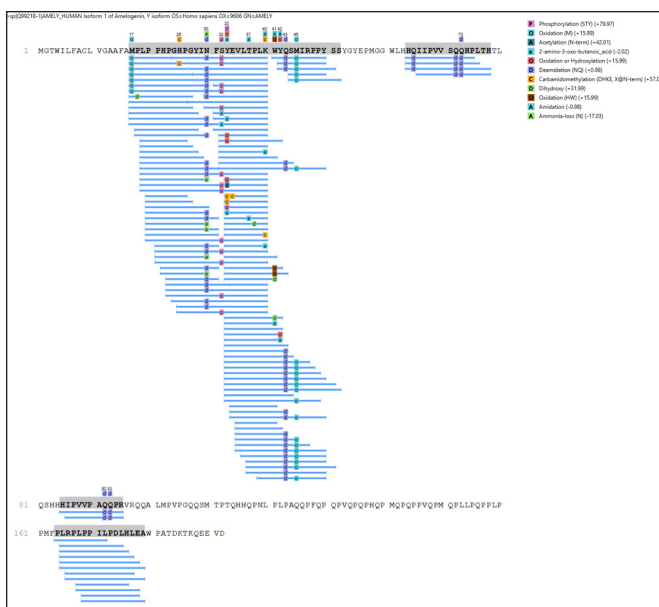


Figure 2. Multiple peptides associated with AMELY.

statistical analysis, like a hierarchical log-linear analysis, is still required to determine whether the association between identity categories is significant. When an association is significant, it is possible to conclude that these variables created a greater vulnerability for some juveniles.

Acknowledgments

Funding for this research was provided by the Arizona Archaeological and Historical Society (AAHS), the Social and Behavioral Sciences Research Institute (SBSRI) and the Graduate and Professional Student Council (GPSC) at the University of Arizona, and the Arizona State Museum (ASM). I would like to thank Glendon Parker and Kyle Burk of the Parker Lab at UC Davis for their guidance and access to their facilities during proteomic analysis and data interpretation. I would also like to thank James Watson (ASM) and Elisa Villalpando (INAH), co-directors of Proyecto La Playa, for access to archaeological collections in Sonora. Analysis on these collections was granted by Centro INAH Sonora and the Consejo de Arqueología (Permit #401.1S.3-2023/1832).

Cornerstone

*Darlene Lizarraga, Director of Marketing
Arizona State Museum*

ASM's Maintenance and Life-safety Upgrades Stalled by ABOR



As we have been reporting, our North Building was closed to the public on August 1, 2024, so that it could undergo extensive maintenance and life-safety upgrades. The closure came after more than a year of planning with UA facilities managers, risk management officials, and the UA fire marshal. In that time, museum personnel had engaged in moving collections out of harm's way and relocating staff to safer work areas. Exhibits were deinstalled and galleries were converted into alternative collections storage spaces.



Maintenance work began in August and continued in September, but it came to a halt after the Fall 2024 meetings of the Arizona Board of Regents (ABOR), at which they pulled funding and tabled the issue without any indication of when or if discussions would resume.

*Water/rising damp around an electrical receptacle in a collections storage and office area.
Lead paint flaking and falling from the ceiling of a collections storage and laboratory area.*



Benefit Sale of Indigenous Art

Saturday, March 15, 2025, during the Book Festival
10:00 a.m. – 3:00 p.m.
On ASM's front lawn

Shop an array of previously owned Southwest Native pottery, jewelry, baskets, carvings, flat art, and more. You might even find some handicrafts from around the world.

statemuseum.arizona.edu/events
Contact Darlene Lizarraga at dfi@arizona.edu or 520-626-8381

A A H S



Est. 1916

Arizona Archaeological and Historical Society
Arizona State Museum
University of Arizona
Tucson, Arizona 85721-0026
USA

RETURN SERVICE REQUESTED

The objectives of the Arizona Archaeological and Historical Society are to encourage scholarly pursuits in areas of history and anthropology of the southwestern United States and northern Mexico; to encourage the preservation of archaeological and historical sites; to encourage the scientific and legal gathering of cultural information and materials; to publish the results of archaeological, historical, and ethnographic investigations; to aid in the functions and programs of the Arizona State Museum, University of Arizona; and to provide educational opportunities through lectures, field trips, and other activities. See inside back cover for information about the Society's programs and membership and subscription requirements.

NONPROFIT
ORGANIZATION

U.S. Postage
PAID

Tucson, Arizona
Permit No. 1161