



Sacramento Archeological Society, Inc. Newsletter

www.sacarcheology.org.

March/April - 2022

ANNOUNCEMENTS

Applications for 2022 scholarships are due March 15, 2022 instead of April 30. Please note this revised date. Application information is available at <https://sacarcheology.org/student-scholarships/>

UPCOMING EVENTS

March 2022

March 12, 2022, Saturday, 2:00 p.m. PST- **SAS Webinar** “*Tunna Nossi’ Kaiva’ Gwaa – The Place Where the Antelope Go to Dream*” by **Morgan Hall and Parinita Kumari**, University of California, Davis students

March 15, 2022 – **Scholarship Applications due**

March 31, 2022, Thursday, 2:00 – 3:00 p.m. PDT – “*Preview of Sacramento Old Town Waterfront Archaeology tour*”, by **John Foster**, archaeologist

April 2022

April 2, 2022 - Saturday, 11:00 a.m. to 1:00 p.m. PDT – Old Sacramento Waterfront Archaeology Tour led by **John Foster and Dan Foster**, archaeologists

April 9 2022 - Saturday, 2:00 p.m. PDT - **SAS Webinar** “*Experimental Reproduction of Bone Tools - An Attempt to Quantify Relative Complexity of Bone Projectile Points From Middle/Late Stone Age Africa*” by **Sean Begg**, University of California, Davis graduate

May 2022

May 14, 2022 - Saturday, 2:00 p.m. PDT - **SAS Webinar** “*Analysis of Artifacts from Nelson Cave, South Africa*” by **Sara Watson**, University of California, Davis PhD Candidate

June 2022

June 11, 2022 - Saturday, 2:00 p.m. PDT - **SAS Webinar** “*Assessing Seasonality and Harvesting Practices for pre-contact site in Monterey, CA*” by **Marcela Barron**, University of California Davis Graduate Student

See announcements: <https://sacarcheology.org/announcements/> for **webinar access information** and calendar: <https://sacarcheology.org/archaeology-activities/calendar-of-events/> for the complete set of events in our website: www.sacarcheology.org.

SAS Webinar

Tuna Nossi' Kaiva' Gwaa

"The Place Where The Antelope Go To Dream"

by

Morgan Hall and Painita Kumari, University of California, Davis

Saturday, March 12, 2022

2:00 p.m. – 3:30 p.m. PST

University of California, Davis sponsors a field school at the site of Tunna Nossi' Kaiva' Gwaa in the Humboldt-Toiyabe National Forest on the ancestral lands of the Numu (Northern Paiute) and Washoe tribes. In 2021, the focus of the field school was to collaborate with the Bridgeport Indian Colony in an effort to learn about an ancient communal hunting complex. This site is especially rich in surface-level lithics. The goal of the research is to study the evolution of cooperative hunting dynamics in the Great Basin through the examination of large-scale trap complexes and rock rings using pedestrian surveys, surface mapping and documentation of cultural features, and laboratory analysis. Both Morgan Hall and Parinita Kumari received scholarships to attend the school. They will relate their experiences at the site.

Morgan Hall is a senior at University of California, Davis majoring in Anthropology and a 2021 SAS scholarship recipient. She has been an officer in the UC Davis Anthropology Club and hopes to pursue a career in Cultural resource management.

Parinita Kumari is a senior at University of California, Davis majoring in Evolutionary Anthropology and a 2021 SAS scholarship recipient. Her senior honors thesis involves the analysis of projectile point type distributions to determine whether or not biodiversity is a driver of cultural diversity.

Friends are welcome to this webinar and also invited to join our organization. There is no participation fee.

You may join before 2:00 pm PST and enjoy a social time. See announcements: <https://sacarcheology.org/announcements/> for **webinar access information**

SAS Webinar

“Experimental Reproduction of Bone Tools - An Attempt to Quantify Relative Complexity of Bone Projectile Points From Middle/Late Stone Age Africa”

by

Sean Begg, University of California Davis graduate

Saturday, April 9, 2022

2:00 p.m. – 3:30 p.m. PDT

Tool usage in Middle/Late Stone Age Africa involved stone and bone materials. Projectile points made from bone are conventionally regarded as indicative of behavioral modernity. They may have been less complex than previously thought. Sean Begg will discuss his work researching this topic.

Sean Begg graduated from University of California, Davis in 2021 with a Bachelor of Sciences in Anthropology and was awarded an SAS scholarship in 2021. At U. C. Davis he worked at the Center for Experimental Archaeology to examine and reproduce bone tools from Middle/Late Stone Age, Africa. He also prepared bone and teeth samples from a Bronze Age site in the Ukraine for stable isotope analysis to reconstruct ancient diets.

Friends are welcome to this webinar and also invited to join our organization. There is no participation fee.

You may join before 2:00 pm PDT and enjoy a social time. See announcements: <https://sacarcheology.org/announcements/> for **webinar access information**.

SAS Tour and Webinar

“Old Sacramento Waterfront Archaeology Tour”

by

John Foster and Dan Foster

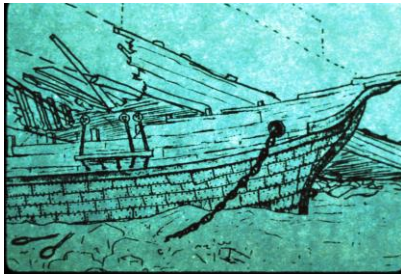
Saturday, April 2, 2022

11:00 – 1:00 p.m. PDT

Archaeologists, John Foster and Dan Foster will lead a tour of the Sacramento Old Town Waterfront. John will relate his experiences diving in the Sacramento River to investigate remains of vessel from the gold rush period and point out the location of these finds.



View south of the Sacramento waterfront between the I-Street (foreground) and Tower bridges



Interpretive drawing of the brig Sterling and a steamboat along the Sacramento riverfront

The tour will primarily be outdoors. Please bring a “sack” lunch to enjoy. We will meet at on the dock for the Delta King, Foot of K Street in Old Sacramento at 11:00 a.m.

On **Thursday, March 31** tune into a **Zoom talk at 2:00 P.M. PDT** to preview the site so that folks could see in advance what John will describe. In a short 30 minutes John will introduce you to the embarcadero and some of the images and artifacts from the 1980’s. See <https://sacarcheology.org/announcements/> for webinar access information.

The tour is a Members only event and attendance is limited. Reservations are accepted on a first come basis. Contact John Foster, parkarky@yahoo.com John cell: 1-916-673-7343. A

reservation fee of \$5 per person is requested. All participants are required to sign a Hold Harmless Agreement, Covid and TAC waiver. Completed forms and \$5 fee per person will be collected at the beginning of the tour.

PAST EVENTS

SAS Webinar - "Grandad Fresno State's Archaeological Field School, Summer 2021"

On Saturday January 8, 2022 Kiana Hugens, a UC Merced Anthropology student and recipient of a 2021 scholarship gave an informative talk on the Grandad Fresno State's Archaeological Field School. She attended the field school first as a general participant in 2019 and then as a unit supervisor in 2021. In 2019 she worked on the chief's house structure and learned about its construction and then in 2021 she supervised 10 students in the mapping of features in bedrock behind the chief's house. The Grandad site has historical significance to the Southern Sierra Miwok tribe. Kiana spoke highly of the Grandad model for field schools that are designed to promote empathy and collaboration with tribes.

SAS Webinar – *"Backing of Stone Tools – Experimental Archaeology"*

On Saturday, February 12, 2022 Caleb Chin, Graduate of UC Davis, 2021 scholarship recipient, and NYU graduate student discussed his experimental research with the backing of stone tools. During the summer of 2022 at Kent State University Caleb duplicated South African archaeological blades. Some were backed and some were unbacked. Each were hafted to shafts and mechanically fired into wooden targets until hafting bond failed. He recorded the results and found that hafting did not generally help to keep the tool in the shaft. Nor did hafting minimize splitting of shafts. His results will be published.

MEMBER'S CORNER

Renewal of Annual Memberships

All memberships are renewable on **January 1** annually except for those who joined recently (after September 1 of the previous year). Please support the society by promptly paying your **2022** dues. **Remember your dues make scholarships possible.** We keep overhead low so that the funds can be used to support students. You may now use our web site <https://sacarcheology.org/society-membership/pay-dues/> to renew and make payment using a **credit card or Paypal.** Remember a membership benefit is email receipt of archaeological/anthropological articles and notices of related events.

The annual dues are:

Student/Limited Member	\$15
Individual Membership	\$30
Family Membership	\$40
Sponsor	\$100 - 999 (individual)
	\$500 - 999 (business)
Patron	\$1000

Alternatively, please make out your check to "**Sacramento Archeological Society, Inc.**" and mail it to:

Sacramento Archeological Society, Inc.
P.O. Box 163287
Sacramento, CA 95816-9287

Thank you in advance for your prompt payment. We really appreciate your support.

Annual Dues for 2022

Name(s): _____ Email: _____ Phone: _____

_____ Email: _____ Phone: _____

Address:

Student/Limited Member	\$15	_____	\$_____
Individual Membership	\$30	_____	\$_____
Family Membership	\$40	_____	\$_____
Sponsor	\$100	_____	\$_____
Scholarship Donation			\$_____

Total enclosed \$_____

We are pleased to acknowledge our major contributors for 2021-2022. These donations support our scholarship program.

Patron (\$1000 or more)

Martha Lewis and Dennis Fenwick
Carolyn and Gordon McGregor
OSIsoft - part of Aveva

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Carol and Jim Barry
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Virginia and Robert Meyer
Roger and Lydia Peak
Denise Ruzicka
Diane Sangster

ARCHAEOLOGICAL REFERENCES



The Dirt – A podcast for all ages and backgrounds about archaeology, anthropology, and our shared human story <https://thedirtpod.com/>

Recent Articles

The reviewed articles are:

- “Party Rule: How Ancient Empire Held onto Power”
- “Rescued carvings reveal quest for the ultimate camel”
- “A radiocarbon revolution sheds light on the Vikings”, “Evidence for European presence in the Americas in AD 1021” and “Single-year radiocarbon dating anchors Viking Age trade cycles in time”
- “Ancient metal ‘scepters’ turn out to be straws”
- “Did a mega drought seed global chaos 4,200 years ago?”
- “Tomb reveals warrior women of ancient Caucasus”
- “Bronze Age genomes reveal migration to Britain” and “Large-scale migration into Britain during Middle to Late Bronze Age”

- “A high-resolution picture of kinship practices in an Early Neolithic tomb”
- “Ostrich eggshell beads reveal 50,000-year-old social network in Africa”
- “Age of the oldest known *Homo sapiens* from eastern Africa”

“Party Rule: How Ancient Empire Held onto Power”

“From AD 600 to 1000, the Wari people ruled large swathes of the Andean highlands, Matthew Biwer at Dickinson College in Carlisle, Pennsylvania and his colleagues analyzed parts of plants found at the 9th century Wari outpost of Quilcapampa. They identified seeds from the vica tree, *Anadenanthera colubrina* and large quantities of fruit from the *Schinus molle* tree.

The Wari used the fruit to brew chicha, a beer-like beverage. They probably added the vilca seeds, which are hallucinogenic, to the beer and consumed the brew at a feast held near the end of Quilcapampa’s occupation.

Communal use of vilca-laced beer would have strengthened social ties. Throwing big, boozy parties would thus have helped Wari leaders to reinforce the empire’s leaders to reinforce the empire’s political control. Vilca seeds were hard to get and the drink was difficult to prepare, so the Wari elite cemented their authority by offering memorable feast that couldn’t be replicated elsewhere, the authors say” (*Nature*, V 601, 2022-01-20 p. 300)

“Rescued carvings reveal quest for the ultimate camel”

“An ancient city damaged by the Islamist terrorist group ISIS features stone carvings of some unexpected beasts: early hybrids of Bactrian camels and dromedaries.

The 1,800 –year-old carvings adorn a temple in Harra, once the capital of an Arab kingdom. ISIS occupied the site in northeastern Iraq in 2015-2017. While helping to restore the site after the militants had left, Massimo Vidale at the University of Padua, Italy, and his colleagues identified two of the camels depicted as hybrids of the dromedary (*Camelus dromedaries*) which has one hump and the Bactrian camel (*Camelus bactroami*) which has two.

The carvings were previously identified as Bactrian camels, but the researchers point out that both are shown with only a shallow dent between their humps—a trait of modern camel hybrids. Mating Bactrian camels with dromedaries produces hybrids that are resistant to cold, like the Bactrian, but that produce more milk. The hybrids are stronger than either parent species.

The findings suggest that Hatra imported Bactrian camels from Central Asia to breed hybrids—a practice that would have helped the kingdom to thrive.” (*Nature*, V 602, 2022-2-2 p. 11)

The following three articles address the same topic.

“A radiocarbon revolution sheds light on the Vikings”

“Advances in the precision of radiocarbon dating can offer year-specific date. Analyses of archaeological sites in Denmark and Canada provide insights into the chronology of the global networks of Viking Age.” (James H. Barrett, *Nature*, V 601, 2022-1-20 pp. 326-327)

"Evidence for European presence in the Americas in AD 1021"

"Transatlantic exploration took place centuries before the crossing of Columbia. Physical evidence for early European presence in the Americas can be found in Newfoundland, Canada. However, it has thus far not been possible to determine when this activity took place. In this article the researchers provide evidence that the Vikings were present in Newfoundland in AD 1021. The researchers overcame the imprecision of previous age estimates by making use of the cosmic ray induced upsurge in atmospheric radiocarbon concentration in AD 993. Their new data lays down a marker for European cognizance of the Americas and represents the first known point at which humans encircled the globe." (Margot Kuitens *et al*, *Nature*, V 601, 2022-1-20 pp. 388-391)

"Single-year radiocarbon dating anchors Viking Age trade cycles in time"

"Recent discoveries of rapid changes in the atmospheric ^{14}C concentration linked to solar particle events have spurred the construction of new radiocarbon annual calibration datasets. With these data sets, radiocarbon dating becomes relevant for urban sites, which require dates a higher resolution than previous calibration datasets could offer. In this study the researchers used a single-year radiocarbon calibration curve to anchor the archeological stratigraphy of a Viking Age trade center in time. They presented absolutely dated evidence for artifact finds charting the expansion of long-distance trade from as far away as Arctic Norway and the Middle East, which was linked to the beginning of the Viking Age at $\text{AD } 790 \pm 10$." (Bente Phillippsen *et al*, *Nature*, V 601, 2022-1-20 pp. 392-396)

"Ancient metal 'scepters' turn out to be straws"

"A 5,500-year-old set of long, thin tubes found in the northwestern Caucasus might be the oldest surviving drinking straws, and analysis of the utensils suggests.

In 1897 excavations of a Bronze Age tomb in southwestern Russia uncovered eight tubes, each more than 1 meter long, made of silver and gold. These were thought to be scepters or poles to support a canopy. When re-examining the objects, Viktor Trifonov at the Institute for the Russian Academy of Sciences in St. Petersburg and his colleagues found that the metal tips that are present on most of the tubes are strainers, which could have served as detachable filters to remove impurities from a beverage.

The researchers also found granules of barley starch on the inner surface of one strainer. This suggests that the tubes were used as straws for drinking beer, although it's unclear whether the barley had been fermented.

Eight people might have used the straws during a funerary feast to drink from a single large jar, the authors say. The jar which was also found in the tomb could hold enough beer for each of the guests to have had about 4 liters." (*Nature*, V 601, 2022-1-27 p. 487)

"Did a mega drought seed global chaos 4,200 years ago?"

"In roughly 2200 BC, when the Akkadian Empire dominated what is now Syria and Iraq a multi-decade drought hit. By 2150 BC the empire was no more. The central authority had disintegrated and many people had left the region.

Archaeologist Harvey Weiss who had excavated Tel Leilan, a site in northeast Syria and found a buried 20 centimeter thick layer of inhospitable soil grey sand-like pellets mixed with fine powder postulated that this severe drought caused the downfall of several cultures. There were similar abandon sites from the Mediterranean to the Indus. Even though dating is controversial the impact of climate change seems real." (*Nature*, V 601, 2022-01-27 pp. 498-501)

"Tomb reveals warrior women of ancient Caucasus"

"The skeletons of two women who lived some 3000 years ago in what is now Armenia suggest that the individuals were involved in military battles—probably as horse-riding warriors. In 2017 the incomplete skeletons of three individuals, who died between the thirteenth and tenth centuries BC were discovered in a burial ground in the Armenian Highland. Anahit Khudaverdyan at the National Academy of Science in Yerevan, Armenia, and her colleagues analyzed the remains and objects from the tomb.

They identified two of the skeletons as female and report that the women had been buried with a dagger and bronze arrows. Both had skull fractures and other injuries, caused by blunt or sharp weapons. The women's thigh-bones had alterations typically seen in horse riders, and bones in their arms and chest showed signs that they had used bows and arrows.

Although historical records suggest that ancient soldiers were generally men, the findings add to a growing body of evidence that women in the ancient Caucasus also took part in warfare." (*Nature*, V 601, 2022-1-13 p. 169)

"A high-resolution picture of kinship practices in an Early Neolithic tomb"

"To explore kinship practices at chambered tombs in Early Neolithic Britain, the researchers combined archaeological and genetic analysis of 35 individuals who lived about 5,700 years ago and were entombed at Hazleton North long cairn. Twenty-seven individuals are part of the first extended pedigree reconstructed from ancient DNA, a five generation family whose many interrelationships provide statistical power to document kinship that were invisible without direct genetic data. Patrilineal descent was key in determining who was buried in the tomb, as all 15 intergenerational transmissions were through men. The presence of women who had reproduced with lineage men and the absence of adult lineage daughters suggest virilocal burial and female exogamy. They demonstrate that one male progenitor reproduced with four women: the descendants of two of those women were buried in the same half of the tomb over all generations. This suggests that maternal sub-lineages were grouped into branches whose distinctiveness was recognized during the construction of the tomb. Four men descended from non-lineage fathers and mothers who also reproduced with lineage male individuals, suggesting that some men adopted the children of their reproductive partners by other men into their

patrilineal Eight individuals were not close biological relative of the main lineage, raising the possibility that kinship also encompassed social bonds independent of biological relatedness.” (Chris Fowler *et al*, *Nature*, V 601, 2022-1-27 pp. 584-587)

The following two articles address the same topic.

“Bronze Age genomes reveal migration to Britain”

“Around the year 2300 BCD a man now nicknamed the Amesbury Archer was buried with exceptional riches near the ancient stone monument, Stonehenge and the items buried with him provide a snapshot of a culture in the south of Britain that used metal and crated distinctive ceramics, known as Bell Beaker pottery. An analysis of oxygen isotopes in the enamel layers of his teeth suggested that he originated from the Alps in central Europe. The genomes of hundreds of individuals, who lived n Great Britain and in continental Europe during the Bronze Age provide evidence for a migration of people from the continent to Southern Britain between 1000 and 875” (Daniel G. Bradley, *Nature*, V 601, 2022-1-27 pp. 512-513)

“Large-scale migration into Britain during the Middle to Late Bronze Age”

“Present-day people from England and Wales have more ancestry derived from early European farmers (EEF) than did people of the Early Bronze Age. To understand this researchers generated genome wide data from 793 individuals, increasing data from the Middle to the Late Bronze Age and Iron Age in Britain by 12-fold, and western and central Europe by 3.5 fold. Between 1000 and 875 BC, EEF ancestry increased in southern Britain (England and Wales) but not northern Britain (Scotland) due to incorporation of migrants who arrive at this time and over previous centuries and who were genetically most similar to ancient individuals from France. These migrants contributed about half the ancestry of people of England and Wales from the Iron Age, thereby creating a plausible vector for the spread of early Celtic languages into Britain. These patterns are part of a broader trend of EEF ancestry becoming more similar across central and Western Europe in the Middle to the Late Bronze Age. Coincident with archaeological evidence of intensified cultural exchange. There was comparatively less gene flow from continental Europe during the Iron Age, and the independent genetic trajectory in Britain is also reflected in the rise of the allele conferring increase persistence to approximately 50% by this time compared to approximately 7% in central Europe where it rose rapidly in frequency only a millennium later. This suggests that dairy products were used in qualitatively different ways in Britain and in central Europe over this period,” (*Nature*, V 601, 2022-1-27 pp. 588-594)

“Ancient soil DNA comes of age”

“DNA from fossils has transformed the study of human and animal evolution, revealing unknown relationships, tracing early migrations, and exposing ancient interspecies mating. Yet for humans, the entire field depends on just 23 archaic genomes, 18 of them from Neanderthals. Recently scientists unlocked a much larger trove of ancient DNA: from the soil of

cave floors. For the first time cave dirt yielded DNA once housed in the nucleus of human cells, and researchers used such “dirt DNA” to reconstruct the identity of cave dwellers around the world. Scientists used nuclear DNA to chart the human and animal occupation of three caves. In Spain’s Estatuas Cave, nuclear DNA revealed the genetic identity and sex of humans who lived there 80,000 to 113,000 years ago, and suggested one lineage of Neanderthals replace several others after a glacial period that ended 100,000 years ago. In 25,000 –year-old soil from Georgia’s Satsurblia Cave, scientist found a female human genome from a previously unknown line of Neanderthals, along with the genetic traces of a bison and now-extinct wolf. And by comparing 12,000-year-old black bear DNA from Mexico’s Chiquihuite Cave with that of modern bears, scientist discovered that after the last ice age, the cave bears’ descendant migrated as far north as Alaska.” (Elizabeth Pennisi, *Science*, V 374, 2021-12-17 p. 1428)

“Ostrich eggshell beads reveal 50,000-year-old social network in Africa”

“Humans evolved in a patchwork of semi-connected populations across Africa; understanding when and how these groups connected is critical to interpreting our present-day biological and cultural diversity. Genetic analyses reveal that eastern and southern African lineages diverged sometime in the Pleistocene epoch approximately 350-70 thousand years ago (ka); however, little is known about the exact timing of these interactions, the cultural context of these exchanges or the mechanisms that drove their separation. In this article the researchers compare ostrich eggshell bead variations between eastern and southern Africa to explore population dynamics over the past 50,000 years. They found that ostrich eggshell bead technology probably originated in eastern Africa and spread southward approximately 50-33 ka via a regional network. This connection breaks down approximately 33 ka, with populations remaining isolated until herders entered southern Africa after 2 ka. The timing of this disconnection broadly corresponds with the southward shift of the Intertropical Convergence Zone, which caused periodic flooding of the Zambezi River catchment (an area that connects eastern and southern Africa). This suggests that climate exerted some influence in shaping human social contact. Their study implies a later regional divergence that is predicted by genetic analyses, identifies an approximately 3,000-kilometer stylistic connection and offers important new insights into the social dimension of ancient interactions.” (Jennifer M. Miller *et al*, *Nature*, V 601, 2022-1-13 pp. 234-239)

“Age of the oldest known *Homo sapiens* from eastern Africa”

“Efforts to date the oldest modern human fossils in eastern Africa from Omo-Kibish and Herto in Ethiopia have drawn on a variety of chronometric evidence, including $^{40}\text{Ar}/^{39}\text{Ar}$ ages of stratigraphically associated tuffs. The ages that are generally reported for these fossils are around 197 thousand years (kyr) for the Kibish Omo 1 and around 160-155 kyr for the Herto hominins. However, the stratigraphic relationships and tephra correlations that underpin these estimates have been challenged. In this report the researcher present geochemical analyses that link the Kamoya’s Hominid Site (KHS) tuff, which conclusively overlies the member of the Omo Kibish Formation that contains Omo1, with a major explosive eruption of Shala volcano in the Main Ethiopian Rift. By dating the proximal deposits of this eruption, they obtain a new

minimum age for the Omo fossils of 233 ± 22 kyr. Contrary to previous arguments they also show that the KHS Tuff does not correlate with another widespread tephra layer, the Waidedo Vitric Tuff and therefore cannot anchor a minimum age for the Herto fossils. Sifting the age of the oldest known *Homo sapiens* fossil in eastern Africa to before around 200 thousand years ago is consistent with independent evidence for greater antiquity of the modern human lineage.” (Céine M. Vidal *et al*, *Nature*, V 601, 2022-1-27 pp. 579-583)

Sacramento Archeological Society, Inc.
P.O. Box 163287
Sacramento, CA 95816-9287