



Sacramento Archeological Society, Inc.

Newsletter

www.sacarcheology.org

July/August - 2012

Mark Your Calendars

August 18, 2012, Saturday – Maidu Historic Site Tour and Picnic, led by Mark Murphy

October 6, 2012, Saturday – SCA Northern California Data Sharing Meeting

October 7, 2012, Sunday - Marin coastal survey, led by **Michael Newland**, staff archeologist at Sonoma State

October 26-27, 2012, Saturday – Santa Cruz Island Archaeology Tour, led by Dr. Jennifer Perry, Channel Islands Archaeologist

December 1, 2012, Saturday – Annual Meeting and Michael Newland, staff archeologist at Sonoma State speaking on climate change and coastal archaeology

UPCOMING SOCIETY'S EVENTS

MAIDU HISTORIC SITE TOUR

Led by Mark Murphy

Saturday, August 18, 2012

1970 Johnson Ranch Drive Roseville, CA 95661

9:30 a.m. to 1:00 p.m.

View petroglyphs and bedrock mortars while learning about the Maidu culture in a tour of Maidu Historic Site on Saturday, **August 18th**. As a plus archaeologists, Dan and John Foster who surveyed the area and were instrumental in securing preservation of the site for public access will add their first hand knowledge. Mark Murphy, our guide, will show us rock art, midden and village locations and offer insight into the Maidu culture.

Plan for a tour starting at 10:00 a.m. followed by a “**bring your own lunch**” social on the premises of the site. Come early and you will have an opportunity to enjoy the exhibits at the Maidu Museum & Historic Site, The Maidu Museum & Historic Site is open from **9:00 a.m. to 1:00 p.m.** on Saturdays.

The new exhibit “Preserving the Site: The Legacy of Myron Zents” runs from May 18th to September 8th. Through news articles, photography and objects from the museum’s collection it provides information on the foundation of the Maidu Museum and the important role Myron Zents played in preserving this historic site.

The entrance fees for the museum are as follows:

Fees: \$4.50/Adult

\$4.00/Child or Senior

\$16/Family of Four

For more information refer to

http://roseville.ca.us/parks/parks_n_facilities/facilities/maidu_indian_museum/default.aspx.

CLIMATE CHANGE – COAST LINE MAPPING

**Led by Michael Newland
October 7, 2012**

Michael Newland, Sonoma State professor and current SCA President, is leading a project to assess the effects of a potential rise of the ocean on archaeological sites near the California coast line as a result of global warming. Coastal Marin County is targeted to be the first area to survey. Teams of four volunteers each will perform coast line mapping to identify sites that may be in jeopardy. The Sacramento Archeological Society is signed up to provide volunteers. The date for the first survey has been set for October 7th. If you are interested to participate, contact John Foster at parkarky@yahoo.com.

SANTA CRUZ ISLAND ARCHAEOLOGY TOUR

**Led by Dr. Jennifer Perry, Channel Islands Archaeologist
October 26, 2012**

Dr. Jennifer Perry, Channel Islands Archaeologist and professor will be leading a tour of the natural and cultural history of the island with emphasis placed on the 13,000 year record of human occupation on the Channel Islands. The tour will start at Scorpion Anchorage, the location of native Chumash village sites and historic ranching operations, and will continue to archaeological sites and other island feature on the east end.

Food and beverages for the day will be provided. The cost of the event will be \$100 per person (which includes a donation to SAS). In addition a round-trip-boat transportation at a cost of \$56 for adults or \$51 for seniors per person will be arranged through Island Packers, 805-642-1393, www.islandpackers.com. The boat trip will leave from Ventura. Since the boat transport is sometimes canceled due to high winds, Dr. Perry suggested that we schedule the trip for a Saturday. If the trip is canceled, it could be rescheduled for the next day, Sunday.

In addition to this event we will expect to expand the archaeological activity in the area to attend the Natural History Museum in Santa Barbara and view pictographs in the Santa Barbara area on Friday, October 25.

Dr. Perry set the number of participants to a maximum of 15. The reservations will be made on a first come-first served basis by depositing \$100 per person. Indicate your interest now by contacting Jan Johansen at janjohansen@sbcglobal.net and make your reservation by July 15th by sending your \$100 per person to Jan Johansen payable to Sacramento Archeological Society, 343 Fox Hill Lane, Fortuna CA 95540.

SAS members will be given first priority before July 15th. Then the event will be opened to non-members.

This should be another fabulous outing.

SCHOLARSHIP RECIPIENTS

This year scholarship applications were at an all time high. We received 13 qualified applications. Four were from students at east coast schools. Others were from students attending California schools: Sacramento City College, CSU Stanislaus, Sierra Community College, Sonoma State University, Stanford University, UC Berkeley, and University of California, Santa Cruz. Out of this set five very deserving students were selected. One is doing graduate research. Each of the others will be attending a field school. All will present the results of their experience to the Society early in 2013.

Stephanie Chan

Stephanie is a senior/graduate student at Stanford University, majoring in Urban Studies (BA) and Anthropology (MA). She is interested in historical archaeology especially as related to Asian Americans. Her emphasis is on community collaboration. She wants to gain personal experience in archaeological fieldwork that can augment her Asian American studies. Stephanie served as a Public Archaeology Intern at the Market Street Chinatown Archaeological Project. Here she gained experience in collections management and community outreach. She will use the scholarship to defray costs of Denver University Amache Research Project. The school will be focusing on the Japanese American community of Amache. The histories uncovered during this field school will be important for Stephanie's Master research which will explore cultural continuity versus acculturation.

Alexandra Levin

Alexandra is a junior at UC Berkeley, majoring in Anthropology and Integrative Biology. She plans a career in archaeology. Alexandra has been a research assistant at University of North Dakota, Human Evolution Research Center, and Phoebe A. Hearst Museum of Anthropology. In these positions she gained experience sorting, cataloging, creating and entering material information into databases and actually working on archaeological and historical fauna assemblages. Alexandra will use the scholarship to attend a field school at Mono Mills. Mono Mills is a historical site in the Eastern Sierras of California that had a short and intense occupation during the Gold Rush era. She intends to use the information gained during the excavation at Mono Mills for her senior honors thesis. The thesis will compare the general dietary practices of the more remote mountain site to an urban site of the same era in San Francisco.

Rory Ondracek

Rory is a sophomore at the Sierra Community College, planning to attend Sacramento State University this fall, majoring in Archaeology. He is interested in gaining experience in archaeological field work. He will use the scholarship to defray costs associated with attending the IFR Catalina field school. The school's focus is basics of excavation and an introduction into Cultural Resource Management.

Jessica Tudor

Jessica is a senior at Sonoma State University, majoring in Cultural Resources Management. She plans a career as a Registered Professional Archaeologist in California. She has been an archaeological technician for Far Western Anthropological Research, URS Corp. and Pacific Legacy. Currently she is an archaeological assistant at the Anthropological Studies Center at Sonoma State University. Jessica proposes to use the scholarship to perform additional XRF and obsidian hydration on artifacts collected at CA-LAK-424. In 1984 DPR Archaeologist, Breck Parkman who led the excavation of LAK-424 near Clear Lake interpreted the site as a seasonal camp for prehistoric and emergent period groups. Initial obsidian hydration rim values suggested that the site was inhabited as early as 10,763 B.P. with more consistent occupation between 6800 to 1500 B.P. However, during the Middle Holocene (5000-8000 B.P.) harsh environment conditions caused substantial stratigraphic mixing and artifact erosion. As a result the standard method of measuring obsidian hydration rims has produced flawed results due to the

erosional impacts. Fortunately, a technique has been recently developed to produce more reliable rim measurement. This technique will be used to understand the time depth and prehistoric occupation of the Clear Lake Basin.

Erin Valadez

Erin is a senior at University of California at Santa Cruz, majoring in Anthropology. She has a passion for forensic science and a desire to use her skills in skeletal biology in collections management and curation. She has experience as an assistant to the UCSC Laboratory Manager doing collections management, electronic maintenance and running a porcine dissection lab for students. She also has four years of internship experience with the San Luis Obispo County Sheriff's Department as a coroner assistant. Erin will use the scholarship to defray costs associated with attending the Zamartze field school. The Zamartze site in northern Spain features the skeletal remains of a medieval populations resting above an earlier Roman site. The project will provide Erin an opportunity to learn excavation procedures of not only skeletal remains but surrounding materials such as tombs and grave goods.

ARCHAEOLOGICAL NEWS

“Ancient Migrants Brought Farming Way of Life to Europe”

Michael Balter discusses the movement of agriculture, which started in the Near East 8500 B.P and in N.W. Europe in about 5500 B.P.

“Agriculture was introduced to the continent from the Near East about 8500 years ago; it took about 3000 years for farming to reach northwest Europe; and the first farmers left detectable marks in the genomes of modern Europeans.” Now - - - “A study of ancient DNA from the Scandinavian burials . . . provides new farmers personally took the technology across Europe, and that the **first farmers of chilly northern Europe came from the continent's sunny Mediterranean south.**” The researchers concluded “that, at least in Scandinavia, **farming was brought in by genetically distinct farmers who originally hailed from the far-off south.** . . . As for why the prehistoric **hunter-gatherers** . . . the team points out that their ancient DNA does not closely match that of any contemporary population and may represent a gene pool that died out long ago.” (“Ancient Migrants Brought Farming Way of Life to Europe”, Science, 2012-04-27 p. 400 and 466-469 by Michael Balter)

“Experiments Probe Language's Origins and Development”

Dennis Normile's article notes that stone tool making activated the intention-reading areas of the brain.

Stone tool making activates areas of the brain that also are involved in language. Stone tool making, which dates back 2.6 million years to Oldowan stone cutting tools, appears to have assisted in the evolution of language. “One hypothesis is that the cognitive capabilities that supported tool making gave the toolmakers language-ready brains; then the benefits of instructing succeeding generations in how to make tools drove the emergence of language.” “Oldowan tool making activates the left ventral premotor cortex, a region previously shown to be involved in both manual grip coordination and phonological processing. Late Acheulean tool production relies on those same regions, they found, plus other areas of the brain, including the inferior frontal gyrus, which is associated with abstraction and hierarchical organization (needed for executing subgoals along the way to a final product, for example), as well as larger scale discourse and language processing.” “The results ‘establish plausible evolutionary links’ between specific tool making skills and language processing . . .”

“When observing Late Acheulean tool making, only those observers themselves skilled at tool making activated the intention-reading areas of the brain.” “... language itself is passed from generation to generation by teaching and learning, a cultural process.” (“Experiments Probe Language's Origins and Development”, Science, 2012-04-27 pp. 408-411 by Dennis Normile)

Maya Astronomical Tables - William Saturno discusses early evidence of Maya astronomy.

“Maya astronomical tables are recognized in bark-paper books from the late Postclassic period (1300 to 1521 CE.), but Classic period (200 to 900 CE.) precursors have not been found. In 2011, a small painted room was excavated at the extensive ancient Maya ruins of Xultun, Guatemala, dating to the early 9th century CE. The walls and ceiling of the room are painted with several human figures. Two walls also display a large number of delicate black, red, and incised hieroglyphs. Many of these hieroglyphs are calendrical in nature and relate astronomical computations, including at least two tables concerning the movement of the Moon, and perhaps Mars and Venus. These apparently represent early astronomical tables and may shed light on the later books.” (Science, 2012-05-11 pp. 643 & 714-717 by William Saturno)

“Infants' Flexible Heads Go Back Millions of Years”

This article notes that the skulls of 3 million year old early humans, like modern human infants, were not fused, possible due to bipedalism. In contrast the joint between the cranium's two frontal bones in chimps and bonobos fuses very shortly after birth, while early and later hominins tends to fuse at 2 years of age or later.

“A human infant's skull changes shape as it squeezes through the birth canal because its cranial bones don't entirely fuse together for at least 2 years after birth. A study online this week in the *Proceedings of the National Academy of Sciences (PNAS)* shows that early humans who lived nearly 3 million years ago also experienced this delayed fusion. One possible explanation is that bipedalism, which constrains the shape of the human pelvis, created obstetrical challenges even for smaller-brained human ancestors.

“A team led by anthropologist Dean Falk of the School for Advanced Research in Santa Fe, New Mexico, looked at the metopic suture (MS), the joint between the cranium's two frontal bones, in a large number of fossil early humans, modern humans, chimpanzees, and bonobos. The MS of chimps and bonobos, they found, fuses very shortly after birth, whereas the MS of early and later hominins tends to fuse at 2 years of age or later.

“But Robert Martin, an anthropologist at the Field Museum in Chicago, Illinois, cautions that the age of MS closure is “notoriously variable” in modern humans. A more reliable indicator of overall skull fusion, he suggests, would be the closure of the anterior fontanelle “soft spot.” <http://scim.ag/skullflex>“ (Science, 2012-05-11 p. 657)

“The Good Interred in Bones”

The article notes that, “... both iron and copper isotopes in archaeological bone samples can be used to determine an individual's gender ...”

“Our bones are constantly being replaced through a process' of resorption and regrowth. This requires a healthy blood supply to the bones, which also transports necessary elements. Bones are the main reservoir of calcium in the body, and they favor the lighter calcium isotopes. In an experiment with patients undergoing bed rest, which drives gradual bone resorption, Morgan *et al.* show that assaying the isotopic distribution of calcium in urine (which is derived primarily from the residual calcium in soft tissues) can detect changes in the balance of bone mineralization

more rapidly than other standard approaches. They quantify the loss in a physiological model that includes further isotope fractionation occurring in the kidneys. Separately, Jaouen *et al.* show that **measuring both iron and copper isotopes in archaeological bone samples can be used to determine an individual's gender** - an otherwise major challenge if certain distinguishing bones (e.g., pelvis) aren't preserved. Here, the isotope fractionation occurs elsewhere in the body, and differently in men and women, and the bones harbor these elements. – BH

Proc. Natl. Acad. Sci. U.S.A. 109, 10.1073/pnas.1119587109 (2012); American Physical Anthropology.10.1002/ajpa.22053 (2012).”

Cave Paintings

The 2012-06-15 issue of Science offers three articles on the subject of cave paintings in Spain, with one being dated back to 40,800 before present.

“A number of caves in Europe contain exquisite ancient art. Most of the art has been thought to be produced during the time of last glaciations by recently arrived modern humans, but dating of the art has been problematic because the art contains only minimal amounts of carbon for radiocarbon dating. Pike *et al.* (p. 1409; see the cover; see the Perspective by Hellstrom) have now obtained **U-series dates on the calcite crusts that formed over the art from 11 caves in northwestern Spain**. The ages from three caves are older than 35,000 years ago, and **one dates to nearly 41,000 years ago**. The earliest art used primarily red and was relatively formless; animal depictions appeared later. This dating is **near the time of the arrival of modern humans and, because Neandertals were also present, complicates identifying the artists.**” *Emphasis added.* (Science, 2012-06-15 p. 1358 by Stella Hurtley)

TREASURE AND ARCHAEOLOGY

John W. Foster, SAS President



As some of you know, I have been spending my last couple of years doing research in the Dominican Republic with my colleagues from Indiana University. This work started with a survey of Bahia Isabela on the north coast in 1993 looking for a Columbus shipwreck, so it's been 19 years since that first research visit. Who knew it was to last this long? I should have bought property down there! I've made 105 trips to DR over those 19 years, had a part in 4 TV documentaries, and recorded amazing cenotes, flooded caverns, shipwrecks, rock art caves and Taino village sites. I teach in the Indiana University program for underwater science and submerged

cultural resource management. This draws students from biological sciences, anthropology, geology and other fields who study the design and implementation of underwater parks and reserves.

Over the course of time, my colleague Charles Beeker has developed an effective program for establishing parks and sparking cultural tourism. It's called "Museos Vivos del Mar" – Living Museums of the Sea. Instead of salvaging cannon, anchors and artifacts from offshore sites, living museums are designed to preserve them in place. Usually the shipwrecks are embedded in some reef, so protecting them and their biological components allows divers or snorkelers to see real historic shipwrecks and experience the sense of discovery that drives archaeology. There are 6 living museum sites in place and community support is building around them. Instead of one time payoff for hauling up the artifacts, living museums allow selling visitation to the history over and over again. And, the better preserved the wreck site is maintained; the more attractive it is to tourists and the more revenue it generates. It's all about sustainability.

One of our newest candidate sites as a Living Museum is near the capital, Santo Domingo. It is a small cove called "La Caleta," where a merchant ship *Nuestra Señora de Begoña* was wrecked in 1725. The ship was bound from Caracas to Tenerife in the Canary Islands with a cargo of cacao when it ran into a

deadly storm. The captain chose to beach the ship in the only place his passengers could survive and he did so on May 23, 1725. The passengers and crew were saved, but their troubles began when the Spanish authorities discovered the vessel was registered as carrying 8,761 pesos of coinage and the survivors were discovered to have over 21,000 on their person!! A contemporary salvage attempt brought in divers and some additional silver, a topmast, some cacao and two anchors were recovered before sand buried the wreckage beyond reach of the divers.

Spaniards were meticulous in their records and smuggling gold or silver without paying the royal treasury tax was a serious crime. Captain Theodoro Garces de Salazar was held responsible, tried, convicted and sent to jail for 3 years for silver smuggling. The salvage divers recorded finding “six talegas (moneybags) of silver coins under the Captain’s bed.”

Fast-forward 288 years. Indiana University and yours truly are doing test excavations underwater in the shallow cove. *Begoña* artifacts begin to appear – a cannon, some crushed silver cups, musket shot, cannonballs, scattered ballast stones and the spigot from a wine cask. This is apparently the spillage area from the *Begoña* wrecksite where the ship’s contents were heaved up towards the beach. We carefully surveyed the cove and offshore area with a sidescan sonar and magnetometer, locating areas with buried metal. Some clusters of coins – silver Reales have been found. In 2010 I recovered a clump of silver coins in the shape of a satchel or bag. It weighed 15.3 lbs. Then a few weeks ago, we discovered two frozen popsicles of coins – former talegas. The bags are gone, but the coins are frozen in time. These are part of the contraband carried by the *Begoña* and lost in the wreckage.

It’s a treasure!! Some of my friends said after seeing the pictures, “Foster, you’ve been digging around for 40 years and this is the first time you’ve ever found anything worthwhile.” I have to disagree. The coins are great and they belong to the people of the Dominican Republic, but the fact that they tell us more about the history of the ship and it’s passengers – now that’s the real treasure. Very likely there are people in the Dominican Republic descended from the *Begoña* crew. So are we going to bring it all up? The answer is no. Only the shallow cove area has been excavated thus far. There the artifacts are exposed during storm events and people can run out from the beach to snatch metal concretions between the waves. Future excavations will be planned with authorities in the *Oficina Nacional Patrimonio Cultural Subacuatico*. We intend to carefully record the *Begona* site while preserving it for future study and appreciation. Deeper areas will remain preserved within a national park and Living Museum of the Sea -- a Treasure for the future.

Here's an article, “Children's Museum of Indianapolis Offers Unique Shipwreck Exhibit” on our exhibit at The Children's Museum of INDY.

<http://voices.yahoo.com/article/9605666/childrens-museum-indianapolis-offers-unique-shipwreck-11485572.html?cat=37>