



GLYPHS

The Monthly Newsletter of the
Arizona Archaeological and Historical Society
An Affiliate of the Arizona State Museum, University of Arizona
Founded in 1916



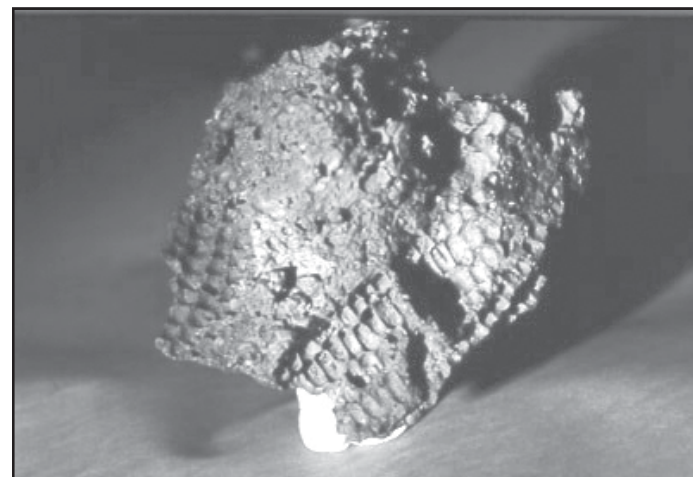
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Tucson, Arizona

May 2009

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Sunset Crater lava with impressions of prehistoric corn cobs. This artifact was found at a habitation site 4 km away from the closest lava flow and is thought to have been made as part of a ritual undertaking. Anthropological data strongly suggest religious mechanisms are highly adaptive during catastrophic events, enabling people to more readily accept the event and begin the recovery process. (Photograph by Helga Teiwes.)

Next General Meeting: May 18, 2009

<http://www.statemuseum.arizona.edu/aahs/aahs.shtml>

PRESIDENT'S MESSAGE

Membership



My term as President of AAHS will soon be over, so I have been thinking about how to stay involved in the Society after my Board term ends on June 30. A few things will change, but much will remain the same.

Of course, I will no longer be involved in Board meetings or in performing various duties of the President. Instead, I plan to volunteer to help the Society in some other way, probably by becoming a member of one of the Committees responsible for organizing AAHS programs.

The part that won't change is enjoying the many benefits of membership in AAHS. The Society offers many things to its members, and I personally benefit from lots of them.

Foremost for me is reading our publications. I originally joined AAHS in order to receive *Kiva*, and I still look forward to each issue. Every issue contains important research papers, as well as excellent book reviews. And our newsletter *Glyphs* contains lots of interesting information about what is happening at AAHS and in the world of Archaeology and History more broadly. It is a great source of information about upcoming activities and events.

I will certainly continue to attend field trips. In the past few weeks, I have attended two field trips that

were outstanding — very informative and enjoyable. In late March, noted archaeoastronomer John Fountain led a two-day field trip to the Painted Rocks area along the Gila River. He showed us a number of very interesting and diverse rock art sites, as well as examples of summit paths, geoglyphs, and an important historic site. Todd Bostwick, also an authority on rock art, joined us on the first day and helped John lead the rock art discussions. It was a wonderful opportunity to hear the complementary perspectives of these two scholars.

The second field trip was in early April and offered an opportunity to see a Puebloan migrant site in the Safford Basin, as well as the excellent ceramics collection at Eastern Arizona College in Thatcher. Bill Gillespie, BLM Archaeologist with the Coronado National Forest, gave an excellent tour of the Marijilda site, an interesting masonry structure consisting of at least 40 rooms and three plazas. We also saw some of the extensive agricultural features nearby as well as a second habitation site that is quite different from Marijilda but also appears to have been inhabited by Puebloan migrants. In the afternoon, we saw the ceramics collection at Eastern Arizona College that is both beautiful and important. This collection includes examples of a number of new

pottery types recently defined by Patrick Lyons of ASM.

Kudos to Board Member David McLean who organized both field trips. These are the sorts of activities that will keep me, and many others, coming back for more.

And of course there are the excellent lectures at our General Meetings. I won't be kicking off the meetings much longer, but I'll be there learning new things and occasionally picking up a book written by the speaker. I recently finished a terrific book by our January speaker, Carolyn

Boyd, about the rock art of the Lower Pecos, and have just started the interesting new book by Michael Whalen and Paul Minnis, our March speaker, on the sites neighboring Casas Grandes.

Speaking of the benefits of membership, membership renewal notices will be going out in mid-May. I hope you will join me in renewing your membership in AAHS so that you can help support the many fine programs of AAHS and continue to enjoy the benefits of membership.

—Peter Boyle, President

AAHS LECTURE SERIES

- All meetings are held at the University Medical Center, Duval Auditorium Third Monday of the month, 7:30–9:00 p.m.
- May 18, 2009: Mark Elson, *Human Adaptation to Catastrophic Events: Lessons from the 11th Century A.D. Eruption of Sunset Crater*
- June 15, 2009: Jeffery Clark, *Mounds and Migrants: New Perspectives on the Hohokam Collapse*
- July 20, 2009: William Graves, *History, Households, and Power in the Ancient Hohokam World*
- Sept. 21, 2009: Bettina Lyons, *Zeckendorfs and Steinfelds: Merchant Princes of the Southwest*

GLYPHS: Information and articles to be included in *Glyphs* must be received by the 10th of each month for inclusion in the next month's issue. E-mail me, Emilee Mead, at <emilee@desert.com>, or contact me at Desert Archaeology, Inc., 3975 N. Tucson Blvd., Tucson, AZ 85716; 520.881.2244 (phone), 520.909.3662 (cell), 520.881.0325 (FAX).

AAHS WEBSITE: *Glyphs* is posted each month and can be found on the ASM/AAHS website at: <<http://www.statemuseum.arizona.edu/aahs/aahs.shtml>>, and it can also be found at: <<http://www.swanet.org/zarchives/aahs/>>.

AAHS HAPPENINGS

TOPIC OF THE MAY 18 GENERAL MEETING

Human Adaptation to Catastrophic Events: Lessons from the 11th Century A.D. Eruption of Sunset Crater Volcano

by Mark Elson

The investigation of 40 prehistoric sites within 5-15 km of Sunset Crater Volcano has provided new information about human adaptation to this catastrophic event. New data suggest the volcano erupted for a very short time (weeks to months) sometime between A.D. 1050 and 1100, when nearby areas were densely populated by small, farming groups. Lava and volcanic tephra were deposited over an area of 2,300 km², dramatically changing both the physical landscape and the ideological world view of the prehistoric inhabitants.

Agricultural experiments indicate that an area of greater than 400 km² had to be abandoned due to the deposition of a cinder cover deeper than 20-30 cm, under which corn agriculture was no longer possible. This likely created thousands of volcano refugees, many of whom migrated 15-20 km north of Sunset Crater into the arid lower elevations that were now covered by a thin layer of cinders that acted as a moisture-retaining mulch.

Here they developed new agricultural methods to manage the mulch and insure agricultural success in an area receiving less than 200 mm of

yearly precipitation. This previously little inhabited area – now called Wupatki National Monument – soon became the site of some of the largest pueblo structures ever built in the Flagstaff area. The deliberate creation of corn-impressed lava-spatter agglutinate by the prehistoric inhabitants further suggests the initiation of ritual offerings to the volcano, which likely also played a key role in the successful adaptation of affected groups.

The significance of the Sunset Crater eruption to local populations is strongly underscored by the modern Hopi, who tell accounts of the eruption as part of their traditional history. The results of these investigations are used to examine human adaptation to catastrophic events in general, which may be particularly significant today given changing climatic conditions and increased population movement into potentially hazardous areas.

Suggested Reading:

Duffield, Wendell A.
1997 *Volcanoes of Northern Arizona*. Grand Canyon Association, Grand Canyon, Arizona.

- Elson, Mark D., and Michael H. Ort (editors)
2003 In the Shadow of the Volcano: Recent Research at Sunset Crater. *Archaeology Southwest* 17(1).
- Elson, Mark D., Michael H. Ort, Kirk C. Anderson, and James M. Heidke
2007 Living with the Volcano: The 11th Century Eruption of Sunset Crater. In *Living Under the Shadow: Cultural*

Impacts of Volcanic Eruptions, edited by Grattan and R. Torrence, pp. 107-132. Left Coast Press, Walnut Creek, California.

- Elson, Mark D., Michael H. Ort, S. Jerome Hesse, and Wendell A. Duffield
2002 Lava, Corn, and Ritual in the Northern Southwest. *American Antiquity* 67:119-135.

Speaker Mark D. Elson is Principal Investigator at Desert Archaeology, Inc., in Tucson, Arizona, and Adjunct Professor in the Center for Sustainable Environments at Northern Arizona University. He completed his undergraduate degree at the University of Rhode Island (1978) and received his masters (1980) and doctoral (1996) degrees in Anthropology from the University of Arizona. Mark has spent the past 25 years working in the American Southwest and has directed archaeological projects on the Navajo Reservation, in the Flagstaff area, and in the Tucson, Phoenix, and Tonto Basins. His research interests include prehistoric social organization and kinship systems, economic systems, the formation of social boundaries, and human adaptations to catastrophic events. With volcanologist Dr. Michael Ort, Mark is currently co-director of a multidisciplinary project investigating the effects of the eruption of Sunset Crater Volcano on the prehistoric inhabitants of northern Arizona.

CENTER FOR DESERT ARCHAEOLOGY'S ARCHAEOLOGY CAFÉ

The Center for Desert Archaeology and Casa Vincente invite you to the Archaeology Café, a casual discussion forum dedicated to promoting community engagement with cultural and scientific research. Meetings are the first Tuesday of each month at 6:00 p.m.; presentations begin at 6:15 p.m.

Casa Vincente is located at 375 S. Stone Avenue. The café is free and open to the community.

May 5: Panel Discussion, *Rio Nuevo: A Panel Discussion on Interpreting Tucson's Historic and Ancient Past through New Museums and Cultural Attractions*

ARTICLE SUBMISSIONS FOR GLYPHS: If you have research or a field project that would be interesting to *Glyphs* readers, please consider contributing an article. Requirements are a maximum of 1,000 words, or 750 words and one illustration, or 500 words and two illustrations. Please send electronic submissions to <jadams@desert.com>, or by mail to Jenny Adams, Desert Archaeology, Inc., 3975 N. Tucson Blvd., Tucson, Arizona 85716.

AAHS GRANT RECIPIENTS FOR 2009

The Society awarded \$4,000 in research and travel grants this year. The recipients of this year's awards are:

RESEARCH GRANTS:

Phil Geib (University of New Mexico): \$1,000 for AMS dating of five coprolite samples from Dust Devil Cave, Arizona, to access the antiquity of small-seed processing on the Colorado Plateau.

Marinella Lentis (University of Arizona): \$500 to conduct archival research on the art education curriculum at the Albuquerque Indian School.

Sarah Trabert (University of Iowa): \$500 to reanalyze the ceramics from El Cuartelejo, Kansas, and reassess the nature of Plains-Pueblo interactions.

TRAVEL GRANTS:

Brandon Gabler (University of Arizona): \$115 to travel to the Society for American Archaeology meetings in Atlanta, Georgia, to present the paper entitled, "Aggregation, Migration, and the Environment: Qualitative Approaches to the Puebloan Occupation of the Pajarito Plateau, New Mexico."

Michael Mathiowetz (University of California, Riverside): \$300 to travel to Mexico City to present the paper entitled, "The Mountain of Dawn: Sacred Landscape and Political Power at Paquime, Chihuahua, Mexico," at the 53rd Congreso Internacional Americanistas.

Susan Ryan (University of Arizona): \$300 to travel to the Society for American Archaeology meetings in Atlanta, Georgia, to present the papers, "Environmental Change, Population Movement, and the Post-Chaco Transition at Albert Porter Pueblo" and "The Roads Most Taken? Modeling Pedestrian Movement between Great Houses in the Mesa Verde Region."

Brenda Todd (University of Colorado, Boulder): \$100 to travel to the Society for American Archaeology meetings in Atlanta, Georgia, to present a poster contrasting social change at Chaco, Cahokia, and among the Chumash.

Noah Thomas (University of Arizona): \$300 to travel to the Society for American Archaeology meetings in Atlanta, Georgia, to present the paper entitled, "Mineral Wealth and Value: Tracing the Impact of Early Spanish Colonial Mining on Puebloan Pigment and Paint Production."

Meaghan Trowbridge (University of Arizona): \$285 to travel the Society for American Archaeology meetings in Atlanta, Georgia, to present the poster entitled, "Ceramic Implications for Feasting in the Chacoan World: A Matter of Size."

SCHOLARSHIPS:

Denise Ruzicka (University of Nevada, Las Vegas): \$300 to complete her M.A. thesis on Mimbres-Mogollon archaeoastronomy.

Mary Jane Wright (Northern Arizona University): \$300 to complete her M.A. thesis on the paleoethnobotany and palynology of Palisades site C:13:0099 in the Grand Canyon.

UPCOMING AAHS FIELD TRIPS

AAHS membership is required to participate in field trips. Prospective members may attend one AAHS field trip prior to joining.

May 29, 2009; 10:00 a.m.-12:00 p.m.

Roosevelt Red Ware Workshop

A special treat for AAHS members! Dr. Patrick Lyons, archaeologist and head of collections at Arizona State Museum, will host a 2-hour workshop on Roosevelt Red Ware (Salado polychrome pottery) just for us. Using the actual type specimens, as well as examples on exhibit in the Arnold and Doris Roland Wall of Pots, Dr. Lyons will explain Roosevelt Red Ware typology, discuss how these types are dated, and share the results of the latest research on the Salado phenomenon. The group is limited to 20 people. To reserve a space, contact Katherine Cerino at <kcerino@gmail.com>.

November 6-9, 2009

Caborca, Sonora: Rock Art, Archaeology, and History

Fiesta Tours, owned by AAHS members Cathy and Marshall Giesy, has agreed to offer a custom trip for AAHS members. They have done a similar tour for the Arizona Archaeological Society and gotten rave reviews.

A 4-day adventure in northern Sonora is planned to explore world class petroglyph sites. Visit the ranch of Puerto Blanco where the famous La Proveedora site is located, as are the sites of La Calera, San Jose, Lista Blanca, and Cerro Prieto. See several of the churches originally established by Father Kino in the late 1600s in the Altar Valley. A Trincheras archaeological site is located at the town of Trincheras, between Santa Ana and Caborca, which we will visit on the way down. Trincheras remains were also found at the Caborca rock art sites.

\$795 per person, double occupancy (\$90 single supplement; if only six people sign up, the fee will be \$1000 per person, double): includes transportation by 15-passenger van from Tucson, lodging, taxes, Caborca site entry fees, four lunches and three breakfasts, and a bilingual tour leader. A donation of \$100 will be made to AAHS in your name.

THE CORNERSTONE

Lava Ridge Ruin: Farming in a Cool, Dry Land How Did They Do It?

Jim Watson is trying to understand the strategies used by prehistoric Native Americans to survive in one of the most arid areas of the Colorado Plateau. Dr. Watson, Assistant Curator of Bioarchaeology, Arizona State Museum, and co-principal investigator Karen G. Harry, Associate Professor, Department of Anthropology, University of Nevada Las Vegas, are studying archaeological and environmental data associated with the Pueblo II (A.D. 1000-1150) occupation of a small, 14-room habitation site known as Lava Ridge Ruin, located on a small volcanic ridge under the shadow of Mount Dellenbaugh at the southern end of the Shivwits Plateau.

The project, begun in 2006, is a joint venture of the Arizona State Museum, the University of Nevada Las Vegas, and the National Park Service. The research focuses on understanding the subsistence and settlement strategies used by the prehistoric inhabitants and the factors that may have contributed to the emphasis on pottery production and trade in this region.

The plateau, located within the Parashant National Monument, has no permanent water sources, few springs, and inadequate rainfall in most areas to sustain dry farming. Despite this scarcity of water, archaeological surveys have docu-

mented a concentration of prehistoric farming settlements near the southern end of the plateau, where the elevation is higher and where pinyon-juniper woodlands and springs are relatively more abundant than elsewhere. Here, rainfall is generally adequate to grow the drought-resistant strains of corn that were available prehistorically, but the correspondingly shorter growing season would have made farming extremely risky. Modern weather data indicate the number of frost-free days in this high elevation area averages about 95, far less than the 120 days needed by prehistoric farmers for reliable agriculture. The environmental conditions of the Shivwits Plateau, therefore, must have posed major challenges to the farmers. Although longer growing seasons could have been obtained at lower elevations, these advantages would have been offset by the decreased rainfall in those areas.

The archaeological record indicates that – at least within the southern portion of the Shivwits Plateau – agriculturalists associated with the Virgin River Puebloan culture had settled the area by about A.D. 1000. These farmers built aboveground pueblos, constructed farming terraces, and survived in this seemingly unlikely environment for about 200 years, before abandoning the region

sometime between about A.D. 1200 and 1300. Aside from this barest of information, however, we know little about how these people lived and the strategies that they used to survive in this arid zone. The Virgin Anasazi remain the most inadequately understood of all the prehistoric Southwestern archaeological cultures, and this lack of research is even more pronounced in the Parashant National Monument. Although the pace of archaeological research has recently increased in the lowland areas of the Virgin Anasazi culture area, such is not the case for the upland zones. Research in the Parashant National Monument has previously been confined to the occasional small-scale survey or testing project, with virtually no archaeological excavation

projects conducted. This paucity of research has severely limited our understanding of the Virgin Anasazi culture.

The current project is in the process of remedying this situation. Over three field seasons, the team has found evidence for permanent occupation and an adaptation for agriculture particular to the clay-rich soil of the southern Shivwits Plateau.

*The Cornerstone is presented by:
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NEW AAHS T'S, HATS, & WATER BOTTLES

New AAHS t-shirts, hats, and water bottles are now available! Designed by AAHS member Janine Hernbrode (third from the left in the photo), they feature petroglyphs from Tumamoc Hill. Shirts are available in both traditional t-shirt style (\$15.00) and in a women's cute (\$16.00). The beige hat has a pull-down sun flap to cover the neck; a traditional ball cap is available in black. Both are \$15.00. The 24-oz water bottles are BPA-free; cost is \$12.00. We will be selling at AAHS meet-



ings this spring and at the Pecos Conference in August. If you just have to have one of these items and do not live where you are able to come to meetings, contact <kcerino@gmail.com> and I will be glad to mail them to you for the cost of the postage.

UPCOMING ARIZONA STATE MUSEUM EVENTS

3D Sales

May–June, 2009

Native Goods, the museum store, again offers its famous annual 3D sales! Enjoy 30 percent off for three days only on: Baskets, May 22–24; Jewelry, May 29–31; Carvings, June 5–7; Pottery, June 12–14; Textiles, June 19–21. (No compound discounts; discounts not available on consigned goods.)

Mata Ortiz and Paquime Learning Expedition

June 25–28, 2009

Meet famed potters and buy ceramics directly from them, enjoy ceramic-making demonstrations, explore cliff dwellings of the Sierra Madres, tour the Museo de las Culturas del Norte, visit early terraced hillside villages, shop local galleries. See <<http://www.statemuseum.arizona.edu/public/tours.shtml>> for complete itinerary.

Southern Arizona's Ranching Heritage Learning Expedition

November 8, 2009

Visit tour historic sites (Empire Ranch, Babocó mari Ranch, Audubon-Whittell Research Ranch, and WildEarth Guardians' State Land Restoration Project) and learn about the history of cattle ranching in southern Arizona, current efforts to preserve our ranching heritage, and the implementation of new methods to maintain/restore healthy ecological function to grasslands and watersheds. See <<http://www.statemuseum.arizona.edu/public/tours.shtml>> for complete itinerary. (Hosted by Arizona State Museum's Office of Ethnohistorical Research.)

OLD PUEBLO ARCHAEOLOGY

TUSD Ajo Service Center, 2201 W. 44th Street, Tucson, AZ
520.798.1201, <info@oldpueblo.org>

Mimbres Ruins, Rock Art, and Museums of Southern New Mexico

Pima Community College study tour

June 19–23, 2009

Archaeologist Allen Dart leads this comprehensive tour to southwestern New Mexico's Silver City area to visit Classic Mimbres pueblo ruins, Early Mogollon village archaeological sites, the Gila Cliff Dwellings, spectacular petroglyph sites, and a museum with one of the world's finest collections of Mimbres Puebloan pottery (the kind with the spectacular human and animal figures). Tour includes transportation, lodging, and entry fees. Depart via passenger van from Pima Community College, 401 N. Bonita Ave., 3:00 p.m., Friday; return by 5:00 p.m., Tuesday. Advanced reservations required: 520.206.6468. [\$759 double occupancy; \$2799 single occupancy]

AAHS MEMBERSHIP/SUBSCRIPTION APPLICATION

(A membership subscription makes a great gift for your loved ones!)

All members receive discounts on Society field trips and classes.
Monthly meetings are free and open to the public.

Categories of Membership

- \$45 **Kiva** members receive 4 issues of *Kiva*, 12 issues of *Glyphs*, and all current benefits
- \$35 **Glyphs** members receive *Glyphs*
- \$30 **Student Kiva** members receive both *Glyphs* and *Kiva*
- \$15 **Student Glyphs** members receive *Glyphs*
- \$75 **Contributors** receive *Glyphs*, *Kiva*, and all current benefits
- \$100 **Supporters** receive *Glyphs*, *Kiva*, and all current benefits
- \$250 **Sponsors** receive *Glyphs*, *Kiva*, and all current benefits
- \$1,000 **Lifetime** members receive *Glyphs*, *Kiva*, and all current benefits

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- Please do NOT release my name on requests for the AAHS mailing list.

MEMBERSHIP/SUBSCRIPTION INFORMATION

Visitors are welcome at all of the Society's regular monthly meetings but are encouraged to become members to receive the Society's publications and to participate in its activities at discount rates.

Memberships and subscriptions run for one year beginning on July 1 and ending June 30. Membership provides one volume (four issues) of *Kiva*, the Journal of Southwestern Anthropology and History, and 12 issues of the monthly newsletter *Glyphs*.

For a brochure, information, or membership/subscription application forms, contact:

Doug Gann, VP Membership
Arizona Archaeological and Historical Society
Arizona State Museum, University of Arizona
Tucson, AZ 85721-0026 USA
<dgann@cdarc.org>

Libraries and other institutions interested in institutional subscriptions to *Kiva* should contact the publisher, AltaMira Press, at <www.altamirapress.com> or 800.273.2223.

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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.

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