

Membership Year 2012  
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# La Pintura

The Official Newsletter of the American Rock Art Research Association  
Member of the International Federation of Rock Art Organizations

<http://www.arara.org>

## Time to Register— IFRAO 2013, Albuquerque

By Peggy Whitehead and Mavis Greer

**I**N a few short months, ARARA will host our international colleagues. The session and individual presentation calls have closed, and we have a full program of rock art research around the world to be enjoyed by conference participants. However, our mission is not only to educate ourselves about this important resource but also to “communicate to a broad audience the significance of rock art as a non-renewable resource of enduring cultural value and an important expression of our shared cultural heritage.”

In support of that Mission Statement, IFRAO 2013 is proud to sponsor four public lectures by well-known and respected scholars. The congress will be opened with one of these public events. Our featured opening speaker is Dr. Jean Clottes. He is a past IFRAO President and Retired General Inspector for Archaeology and Scientific Advisor for Prehistoric Rock Art at the French Ministry of Culture. The abstract for his talk entitled *From Cave Art to IFRAO* is posted on our new IFRAO2013 web section Special Events. Check this section of the IFRAO2013.org web site for changing and updated information on public lectures and other special events of the congress.

The evenings of conference week will have public lectures by distinguished archaeology and anthropological scholars. One of our featured evening speakers is Polly Schaafsma, who is well-known for her books on regional rock art and general rock art theory, as well as her early research and lifelong commitment to recording and the study of Southwestern images. Another is Dr. Lawrence Loendorf, a past president of ARARA. He was one of the first archaeologists to use excavations to learn about rock art. He has published books and professional articles on the petroglyphs and pictographs of the Plains and Southwest. He is the founder of Sacred Sites Research Foundation, which is devoted to recording and preserving rock art. And yet another featured lecture will

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## Condor de los Andes Award to Jane Kolber

**C**ONGRATULATIONS are in order to Jane Kolber, recent recipient of the Condor de los Andes Award at the IFROA 2012 Congress in Bolivia. This is the highest distinction offered by the Bolivian government. Accomplishments of this internationally respected researcher that were highlighted at the award presentation follow.



*Jane Kolber, pleased upon receiving the  
Condor de los Andes Award.*

She began her career as art teacher and pursued this activity for more than 30 years. For more than 20 years she directed rock art classes in a course about indigenous groups of the USA in Cochise College, Arizona. She worked in the Rock Art School of Arizona for nine years. In the 1990s she organized and directed rock art recording projects in north Mexico with the National Institute of Anthropology and History (INAH). Of particular importance is her work in Chaco Canyon National Monument, National Historic and Cultural Chaco Park where she has worked for many

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IFRAO 2013... *continued from page 1*

be by Dr. Karl Taube. Dr. Taube was named a College of Humanities, Arts, and Social Sciences distinguished lecturer in 2008. His study of the iconography of pre-Columbian cultures of Mesoamerica and the American Southwest helps us to understand the social structure and religious symbols of prehistoric cultures.

The ARARA Conservation Committee is also planning a public-oriented project to be held on Saturday, May 25, 2013. In response to recent publicity regarding the need to clean areas of Petroglyph National Monument, this project is designed to bring together congress participants and local interested people to volunteer their time and energy toward site upkeep. This project is under the direction of Dr. Linea Sundstrom, ARARA Conservation Committee Chair, and Dr. Matt Schmader, Superintendent of Open Space with the Parks and Recreation Department of Albuquerque.

Registration to IFRAO 2013 is open, and you are encouraged to register now. Field trip descriptions and sign-up information will be sent to you once your registration is complete. Registration forms can be found on the IFRAO2013.org web page. If you do not have internet access, please request registration information via regular mail from:

IFRAO 2013 Conference Registration  
Donna Yoder, Registrar  
2533 W. Calle Genova  
Tucson, AZ 85745-2526 ❄️

IFRAO 2013 is accepting advertisements for the conference program. We are expecting an attendance of about 750 people from around the world. The following rates apply to black-and-white advertisements. The program will be 8.5 x 11 inches in size:

- Full Page - \$500
- Half Page - \$250
- Quarter Page - \$150

Please send a pdf of your complete advertisement specifying the size at which you want it to print, to Mavis Greer, Program Chair, [mavis@greerservices.com](mailto:mavis@greerservices.com).

Please send your check, made payable to IFRAO 2013, to the following address: Donna Yoder, IFRAO 2013 Registrar, 2533 W. Calle Genova, Tucson, AZ 85745-2526. ❄️

Kolber... *continued from page 1*

years (since 1975, together with Donna Yoder). In South America her recording methods are applied, which fellow rock art researchers know of through her publications and the workshop she directed as part of the Fifth International Rock Art Symposium in Tarija in 2000.

**Selected publications include:**

Kolber, Jane

1997 Managing a New Rock Art Site. *Trabalhos de Sociedade de Portuguesa de Antropologia e Etnologia* Vol. 37(3-4): 119-124. Porto, Portugal.

Quijada, Cesar A., Jane Kolber, and Erendira Contreras

1997 The Rock Paintings of El Leoncito, Sonora, Mexico. *American Indian Rock Art* 23:137-146. American Rock Art Research Association, Tucson, Arizona.

Kolber, Jane

2000 Variations of Human Figures Through Time and Space at Baird's Chevelon Steps. 1999 *International Rock Art Congress Proceedings* Vol. 1: 67-74. American Rock Art Research Association, Tucson, Arizona.

Quijada, Cesar A., and Jane Kolber

2000 The Rock Art of La Cantera, Sonora, Mexico. 1999 *International Rock Art Congress Proceedings* Vol. 1:81-92. American Rock Art Research Association, Tucson, Arizona.



Jane Kolber in front of the sunwatching station on Fajada Butte in Chaco Canyon, New Mexico.

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## Spiral Petroglyphs Could Represent Pit Traps Excavated By Ant Lions

By Howard Topoff

Department of Psychology, Hunter College of CUNY, New York, NY

*Acknowledgement: I thank archaeologist Matt Zweifel for introducing me to the spiral pictographs.*

**I**N mid-April, 2012, I visited several shallow caves in the Vermilion Cliffs near Kanab, Utah, and in the company of a Bureau of Land Management (BLM) archaeologist, I viewed numerous petroglyphs on the walls of two overhangs. The sites we visited are associated with the Virgin Branch, a distinct branch of the Ancestral Puebloans on a level with the Mesa Verde and the Kayenta branches. The age of the glyphs is unknown, but most likely date to the Pueblo I through Late Pueblo II period (A.D. 700-1200), based on their association with the other glyphs on the same panels. The petroglyphs included depictions of elk, water striders, and people. As a biologist specializing in insect behavior, I was particularly intrigued by several circular and spiral petroglyphs (Figure 1). Although the archaeologist reminded me that it is not always possible to know the meaning of all petroglyphs, I recognized the spirals as the pit traps of ant lions. I was then told that these spirals are very common throughout the Southwest, and occasionally include a “squiggly” line (called a doodle) that starts from the periphery of the spiral and moves outward. Upon hearing this, I was convinced that the spirals are meant to illustrate ant lion pits.

Ant lions are members of the insect order Neuroptera, along with Dobson flies. The larvae construct funnel-shaped sand traps by moving backwards, spiraling in a circular motion, and using their flat heads to flick sand out of the developing funnel (Topoff 1977; Tuculescu et al. 1975). The

trap takes about 30 minutes to complete. As it slowly moves in a spiral, the pit gradually gets deeper, until the slope angle reaches the angle of repose (the steepest angle the sand can maintain, where it is on the verge of collapse from even a slight disturbance). When the pit is complete, the larva waits beneath the lower vertex of the pit, with its long, piercing mandibles just below the surface. When an ant (or other suitably small insect) enters the funnel, the dry sand collapses, the ant falls to the bottom, and the ant lion impales it with its mandibles. After sucking out the ant’s hemolymph, the dried ant is flicked out of the pit.

Adult females lay eggs in sandy areas. When the larvae (of most species) hatch, they move backwards, and flick sand by jerking their head upwards. This is the doodling phase (ant lions are often called doodle bugs) and the winding groove in the sand can stretch for a meter or more. During the doodling phase, the larvae are looking for a place to construct their funnel trap (Figure 2). Since even a light rain can ruin the trapping properties of the sand, pits are typically constructed in a sheltered area. A rocky overhang is a place of choice. Indeed, at the base of both caves, I counted more than 50 ant lion pits, all constructed as close to the base of the wall as possible (Figure 3).

The most common interpretation of spiral petroglyphs that have squiggly lines is that the line extends out from the spiral. If my hypothesis is correct, and the line is indeed a doodle, the correct interpretation is that the line extends toward and ends at the spiral.

Spirals are a common rock art element in local Ancestral Puebloan art, and ant lion larvae do appear on Mimbres pottery (Figure 4). Given that just about every rocky overhang with a sandy bottom is replete with ant lion pits, any people making petroglyphs must have been very familiar with these organisms. And just as spirals are common in rock art all over the world, so too are the approximately 2,000 species of ant lions found worldwide. If petroglyphs are more than familiar objects—objects that have considerable meaning in the lives of these people—it would indeed be interesting to know their significance. Spirals and concentric circles are a common motif in Ancestral Puebloan rock art, and some spirals have clearly been shown to be associated with solstices. As far as I know, the hypothesis that the petroglyphs represent ant lion traps has never been proposed.

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Figure 1. Spiral petroglyph in Vermilion Cliffs  
(photograph by Howard Topoff).

Ant Lions... *continued from page 3*

**References Cited**

Topoff, H.  
1977 The Pit and the Ant Lion. *Natural History Magazine* 86: 64-71.

Tuculescu, R., H. Topoff, and S. Wolfe  
1975 Mechanisms of Pit Construction by Ant Lion Larvae. *Annals of the Entomological Society of America* 68:719-720. ❄



Figure 2. Doodles leading to pits excavated by ant lions (photograph by Howard Topoff).



Figure 3. Ant lion doodle followed by spiral pit excavation (photograph by Howard Topoff).

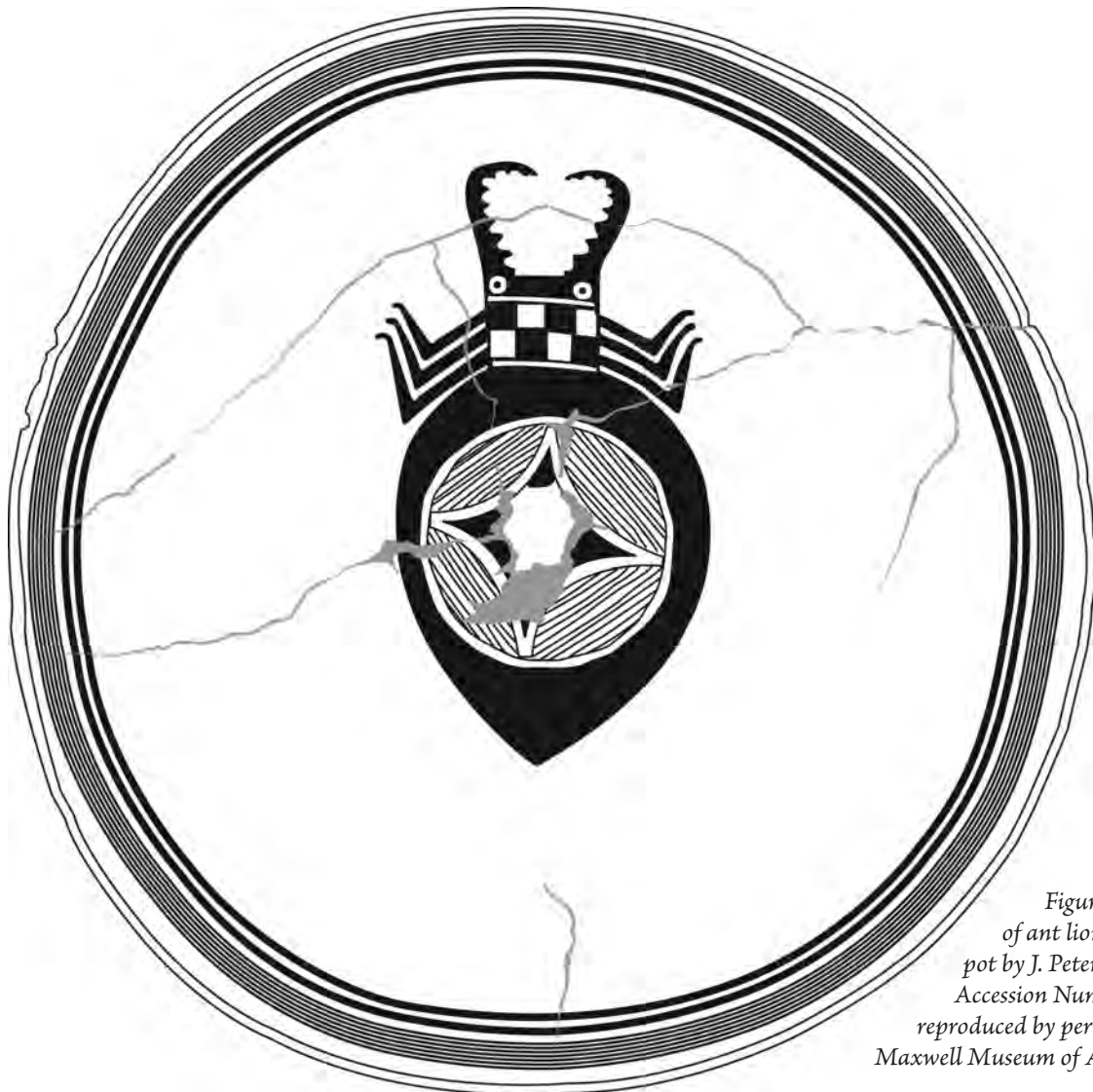


Figure 4. Drawing of ant lion on Mimbres pot by J. Peter Mundwiler. Accession Number 40.2.240 reproduced by permission of the Maxwell Museum of Anthropology.

## Mexico City Meeting Discusses Baja California Archaeology and Rock Art

By Dr. Eric Ritter, Dr. Jon Harman, and Ken Hedges

**B**ALANCES and Perspectives 2012, the 13th Binational Meeting on the Anthropology and History of Baja California, was held in Mexico City on September 24-25, 2012. This meeting is a partnership between Baja California archaeologists working for INAH (the Mexican Instituto Nacional de Antropología e Historia) and groups from the United States: the Society for California Archaeology and the Bureau of Land Management (BLM). ARARA participants included Dr. Jon Harman, Ken Hedges, and Dr. Eric Ritter, all of whom presented research papers and took part in several panel discussions.

After an informal day of meeting, greeting, sharing management and research interests, and acquiring the formal agenda and logistics, participants, organizers, and visitors were bused to the venue at the magnificent National Museum of Anthropology for two packed days of papers, panel discussions, and informal coordination. The final day of the conference included a field trip to ongoing archaeological

excavations and laboratory analyses in the ancient Aztec marketplace beneath Alameda Central (a large park in Mexico City established by the Spanish in 1592) and to Templo Mayor (the main Aztec temple destroyed by the Spanish and now a museum). There was also a guided visit to the INAH salvage archaeology curation facility housed in a historic building from the Colonial past.

The 28 papers presented focused on the archaeology, cultural resource management, history, and contemporary indigenous cultures of the Baja California peninsula and neighboring southern California and Arizona. Presenters were from Mexico and the U.S., including academicians, government heritage resource specialists, ecologists, historians, private sector archaeologists and ethnographers, and Indians from Baja California.

The archaeology papers were broad in scope. The first few were directed toward an unusual Baja California flaked stone technology (blade), obsidian trade and acquisition,



*The great stone carving depicting the dismembered goddess Coyolxauhqui, found buried at the foot of the main stairs of the Templo Mayor and now on display in the museum there. The carving is 3.25 meters across and weighs 8 tons. For the story of Coyolxauhqui and her death at the hands of her brother Huitzilopochtli, see <http://archaeology.asu.edu/tm/pages2/sala4.htm> (photograph by Ken Hedges).*

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Baja California... *continued from page 5*

and cultural assemblages with likely relationships to Alta California, bringing up the possibilities of diffusion or direct transmission versus independent invention. Other studies centered on prehistoric marine animal exploitation and environmental reconstructions that offer comparative lessons for U.S. scholars and managers.

Rock art was a popular topic and new techniques (DStretch), site conservation measures, and questions of southwestern North American styles were broached. Jon Harman gave a paper on Great Mural sites in Baja California, using DStretch to discover patterns in the placement of the paintings. Ken Hedges talked about the history of the La Rumorosa archaeological site. Eric Ritter discussed sites on the east side of the peninsula near Bahía Concepción. Individual heritage resource projects in the northern part of the peninsula and comparative information from southern California work demonstrate striking similarities in the archaeological evidence, with increasing attention by Mexican and American scholars on broad questions of prehistoric behavior disregarding the border, including appropriate field work strategies.

One paper of special interest dealt with the archaeological work being undertaken for a proposed wind farm in the northern fringes of Baja California that will produce power to be transmitted across the border to California customers. From an American perspective such work in Mexico is grossly underfunded. Some of the broad excavation unit patterning can be a good model for U.S. archaeologists and further comparative studies from counterparts on the U.S. side need to be encouraged by meetings such as this.

The second day's papers offered perspectives on coastal exploration by early Spanish traders who plied the coast of the Californias (sometimes shipwrecking with resulting archaeological remains); Native American canoes caught in the California current and lost in the peninsula after floating down from Canada and the U.S.; Mission studies including salvage of exposed burials; and establishment and proper oversight of heritage location guides and prehistoric and historic site stewardship by local inhabitants. An interesting paper discussed the effects of U.S. Colorado River water control on the indigenous inhabitants of the Mexican side and the environment of the delta.

The final papers dealt with the indigenous people of northern Baja California themselves, their language retention,



*INAH salvage archaeological facility in Mexico City  
(photograph by Jon Harman).*

cultural relationships among members of the same tribe split by an international border, and the increasing restrictions on cultural exchanges and cross-border visits to relatives. The Cucapá, Paipai, Kiliwa, and Kumiai people themselves offered cultural insights and songs and dances demonstrating retention of some of their cultural traditions.

Indian groups in northern Baja California are certainly involved with INAH and various scholars and institutions in maintaining many of their cultural traditions, and continuation of exchanges with relatives in the U.S. is to be encouraged notwithstanding more restrictions being placed on cross-border journeys.

A very significant aspect of the meeting was the formal and informal exchange of information and ideas on heritage-related management and research as applied to California and Baja California since the international border is arbitrary with respect to prehistoric, historic, and contemporary indigenous cultures. It is clear that support for cultural resource management and research regarding heritage resources is on the upswing in Baja California. However, developmental projects where archaeological sites are present and avoidance is not generally possible result in low-funded mitigation and little coordination with indigenous cultures.

In part the lack of coordination is due to the historic placement of tribal members in certain remote communities. This low level of coordination is especially acute where large energy projects are planned along the Mexican side of the border with the resulting energy transmitted by power line or pipeline to the U.S.. Furthermore, only modest cross-border coordination is apparent although meetings such as this will help increase information sharing. ❄️

## Third International Rock Art Symposium Held in Havana, Cuba

By William Breen Murray

THE Third International Rock Art symposium was held from November 19-23, 2012, in La Habana, Cuba, in conjunction with the XI International Anthropology Conference. These biannual meetings are organized by the Cuban Anthropological Institute (Instituto Cubano de Antropología/ICAN) in collaboration with the Grupo Cubano de Investigadores de Arte Rupestre (GCIAR), the Archaeological section of the Office of the Historian of the city of Havana, the Montañé Museum of the University of Havana, and the Fernando Ortiz Foundation. This year's organizing committee was ably headed by Racso Fernández Ortega who was on hand for every detail of the meeting.

Academic sessions were held at the Colegio Universitario de San Gerónimo, a notably modern and well-equipped locale in the heart of old Havana. More than 60 participants from Latin America and Europe attended. Besides the Cuban participants, rock art session presenters came from Portugal, Spain, Argentina, Costa Rica, Mexico, Venezuela, and Panama, with Mexico having the largest contingent of foreign participants. Your editor was an invited lecturer for the joint program and the only U.S. participant.

Three invited lectures began each day's joint session, followed by individual papers in parallel morning and afternoon sessions for the two conference groups. In addition, other collateral activities spiced the program of activities, including ample time to enjoy Cuban hospitality and rhythms at leisure, and see Old Havana's striking architecture and monuments which have earned it designation as a World Heritage site.

As is customary at these meetings, the conference's inauguration on Monday was dedicated as a homage to recently deceased researchers in the fields of anthropology and rock art studies. This year's honorees were French anthropologist Claude Levi-Strauss, and archaeologists Ricardo Alegría (Puerto Rico), Lothar Bergmann, a German archaeologist who worked extensively in Spain, and Eloy Linares Málaga (Peru), each recognized for their lifetime of contributions to rock art research and preservation in their respective countries.

On this occasion, the organizers also paid a special tribute to a living researcher, Mexican archaeologist Rubén Manzanilla López, for his ongoing contributions to the



*Stilt dancers entertain passers-by in the streets of old Havana (photograph by Breen Murray).*

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Havana, Cuba... *continued from page 7*



*Rock art excursion group to Cueva de Diago (photograph by Breen Murray).*

development of rock art studies in Cuba.

The homage ceremony was capped by a short pilgrimage to the nearby garden of San Francisco Cathedral and a wreath-laying at the tomb of Cuba's pioneer cave explorer and distinguished rock art researcher, Dr. Alfredo Núñez Jiménez, who is buried there.

Other collateral events during the meetings focused on art. An art exhibition was inaugurated on the second day of the conference at the ICAN's office, gallery, and museum in Old Havana. It featured specially commissioned works thematically inspired by rock art from three Cuban artists. They contrasted with five bark paintings by Australian native artists which were received as a donation to the museum. At another event later in the conference, an exhibit of photographs of Altamira and its replica by Cuban photographer David Rodríguez Camacho was presented in the same installations.

Although some participants were unable to attend, the 24 papers presented in the rock art sessions covered a broad gamut of topics and types of rock art and maintained a high academic standard. The majority dealt with rock art studies in Cuba and Mexico, but the rest of Central and South America, as well as the Iberian peninsula, were well represented. A full discussion of the academic program is impossible; nevertheless, some papers merit special comment.

Perhaps the highlight of the conference was the presentation of a replicated shield of an Aztec warrior by Mexican archaeologist Victor Arribalzaga and his description of how it was made. Petroglyphic shield motifs have been identified at several sites in the Valley of Mexico and triggered a search for illustrations and descriptions of Aztec shields in colonial documents. These provided sufficient detail to guide a reconstruction using the original materials which allowed a test of its resistance and effectiveness. The shield's reed frame and thick matting would have provided significant protection in combat and was even bullet-proof against the types of firearms used by the Spanish. The colorful feather-decorated shield was another donation to the ICAN's permanent museum collection.

Dr. Luz Graciela Joly Adames of the Autonomous University of Chiriquí (Panama) was another of the invited lecturers. Dressed in the native attire of that region, she described how large round stones decorated with petroglyphs were accidentally uncovered during construction of an aqueduct. Although now out of archaeological context, their imagery relates to female fertility and may indicate a ritual use.

A number of papers focused on management and conservation issues, including presentations from Mexico, Cuba, Venezuela, and Argentina. Like many of the Antillean islands, Cuba's rock art occurs mainly in underground caves,





*Victor Arribalzaga explaining the replica of an Aztec warrior shield (photograph by Breen Murray).*

many of which are exposed to special risks.

Rising sea levels predicted under conditions of global warming pose one such risk in relation to Cuban coastal sites. Divaldo Gutiérrez and his colleagues discussed these risks in a study which forms part of a broader UNESCO initiative. According to predictions, the Antillean chain is an especially high risk area where some dramatic changes in shoreline configurations of all the larger islands, including Cuba, will put many rock art sites under water by the end of the century. As another facet of this effort, a paper by the same authors described their preliminary exploration of an isolated coastal area of eastern Cuba which resulted in the discovery of new painted sites.

In Mexico, conservation problems stem from the scale and complexity of the archaeological patrimony. Carlos Viramontes described how planned management of access and community participation in the state of Guanajuato were integrated into a new model involving federal, state, and local authorities in archaeological study and preservation.

In Venezuela, Luis Cardozo addressed a very different issue, describing how plans for tourist visitation clashed with the natives' plans for the same petroglyph site which continued in use as a burial ground by the native population.



*Our editor with Raczo Fernandez Ortega, head of the organizing committee.*

Cuban cave sites are also vulnerable to natural damage as well as uncontrolled visitation, and many have suffered severe damage from graffiti. For the rock art group, an optional field excursion on Friday to the Cueva de Diago, about an hour from Havana in the adjoining province of Mayabeque, rounded out the program. It provided a dramatic example of the scale of the graffiti problem. Graffiti names and dates literally cover all available areas of the cave walls, the oldest of which dates back to the 1860s.

The field trip was followed by a closing ceremony and buffet offered by the conference host organization at a Havana family recreational center, during which the director of the ICAN, Dr. Pedro Pablo Godo, announced that special meetings will be held during the next year with Mexico and Portugal in order to develop collaborative research projects. Your editor also extended a special greeting from ARARA and an invitation for Cuban participants to attend the upcoming International Congress next year in Albuquerque. ❁

## Got Layout Skills?

Do you use InDesign software? Would you like to help with the IFRAO 2013 DVD layout? I will provide the template and the articles/papers including graphics. You would lay out one session's papers and email them back to me. This would be a short-term project starting in January and completed by April 1, 2013. If you are interested, please contact Peggy Whitehead at [whw-pjw@att.net](mailto:whw-pjw@att.net).

# Treasurer's Report

Respectfully submitted, Garry Gillette, Treasurer  
November 19, 2012

## Balance Sheet June 30, 2012

### Assets

Current Assets:	
Cash in Bank-Checking	63,864
Cash in Bank-CD's	<u>88,135</u>
Total Current Assets	\$ 151,999

### Liabilities and Equity

Current Liabilities:	
Accounts Payable	\$0
Total Current Liabilities	<u>\$0</u>
Total Liabilities	\$0

### Fund Equity

Beginning Fund Equity (Cash + CD's):	142,055
Current Year Increase	<u>9,944</u>
Total Liabilities & Equity	\$ 151,999

## Income Statement

July 1, 2011 – June 30, 2012

### Revenues

Conference Revenues:	
Auction	3,743
Registration	27,875
Vendor Room	<u>1,632</u>
Total Conference Revenues	\$ 33,250
General Revenues:	
IFRAO Clothing Sales	314
Donations and Matching Funds	1,665
Education Donations and Sales	2,651
INORA	425
Membership Dues	17,526
Insurance Rebate	351
Publications Sales:	
DVRAC	1,065
General Sales	2,006
Subtotal Publications	<u>3,071</u>
Total General Revenues	\$ 26,003
<b>Total Revenues</b>	<b>\$ 59,253</b>

### Expenses

Awards:	
Bock	376
Other	<u>1,279</u>
Total Awards	\$ 1,655
Committees	
Education	\$ 806
Conference Expenses:	
Accommodations	3,767
Food and Facilities	14,275
Honorariums	100
Field Trips	358
Receptions and Hospitality	112
Refunds	<u>1,000</u>
Total Conference Expenses	\$ 19,611
IFRAO:	
Clothing	1,648
Other	1,353
Pens	408
Planing	<u>189</u>
Total IFRAO	\$ 3,598
Office & Administrative:	
Board Meetings	2,929
B of A Charge	152
Portable Computer	820
Conference Planning	92
DVRAC Expense	653
DVRAC Rental	6,000
Filing Fees	835
Insurance	1,615
Miscellaneous Admin	94
Office Supplies	215
INORA	690
SAA Administration	<u>30</u>
Total Office and Administrative	\$ 14,125
Publications:	
La Pintura	3,800
Miscellaneous	258
Postcards	232
V38 Expenses	<u>5,774</u>
Total Publications Expenses	\$ 10,035
<b>Total Expenses</b>	<b>\$ 49,830</b>
Net Operating Gain/(Loss)	\$ 9,423
Interest Earned -CD's	\$521
<b>Current Year Gain/(Loss)</b>	<b>\$ 9,944</b>

## Rock Art Bookshelf – Article

## Bedrock Basins in the Sierra Nevada, Alta California

James G. Moore, Mary A. Gorden, and Thomas W. Sisson

*California Archaeology* 4(1): 99-122

Reviewed by Jon Harman

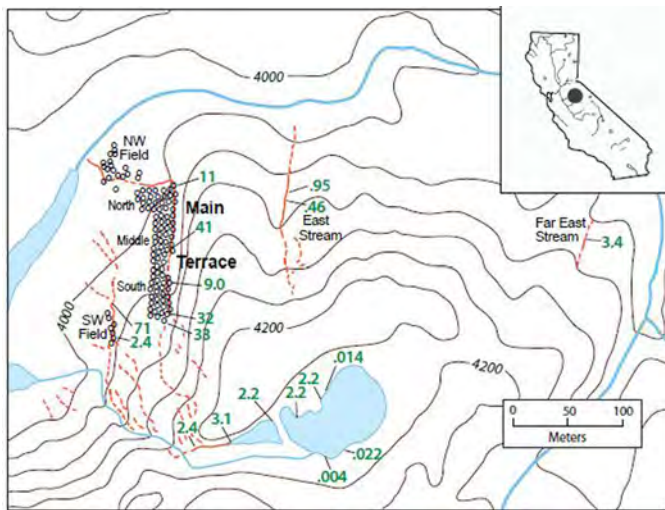
METER-sized granitic bedrock basins in the Sierra Nevada have been reported and speculated on for more than a century. Opinions as to their origins, whether natural or man-made, have ebbed and flowed over the same time period. If they are man-made, the basins are among the largest and most permanent artifacts remaining from California Native peoples.

This report in the Society of California's journal summarizes the latest thinking about the basins, and includes recent dating results as well as a description of a basin cluster in the northern Sierra that was used for salt collection. The second author, Mary Gorden, is well known to *La Pintura* readers as an expert in the rock art and ethnology of southern Sierra Nevada's Native Americans.

The basins are found on the western flank of the Sierra Nevada. Over 1000 are in a belt from east of Merced to Lake Isabella, California. A hundred kilometers further north, a group of 369 basins is clustered inside an area the size of a football field near a rare salt spring. Although both basin areas have been known for a century, only recently have both areas been considered together as representing the same phenomena.

### Northern Basins

A United States Geological Survey (U.S.G.S.) report by Moore and Diggles (2009) brought knowledge of the northern basins to a wider audience and gave a boost to the theory that all basins were man-made. The evidence for the man-made origin of the northern basins is compelling. They are found in linear arrangements along a salt spring, and presumably were used in the collection of salt for trade. Aside from one basin along the South Fork of the American River, this cluster of basins is the only one found outside of the southern belt. They are a striking archaeological feature unlike anything else reported from North America. The U.S.G.S. investigations are summarized in the report. Scientists have measured the flow rate and salinity of the springs and estimated the amount of salt available for harvesting each year. They have also compared this to the total volume of the basins and found a surprising match between available resource and production capacity.



Map of northern basin cluster, from Moore and Diggles 2009.

### Southern Basins

The southern basins are found in a 200-kilometer-long belt generally in groups of two to six. The largest grouping consists of 31 basins. They are mostly found at elevations from 1,700 to 2,200 meters above mean sea level. There has been much speculation over the past century as to their origins. Were they man-made or natural, and if man-made, what was their purpose? The northern basins have decidedly changed this debate in favor of them being man-made. The problem with the southern basins is that they could not have been used for salt gathering. This report presents a new hypothesis: the southern basins were used as water cisterns during the time of the Medieval Climatic Anomaly, A.D. 800-1350, a time of warmer, drier weather. The time frame comes from dating evidence reported here: volcanic ash found recently (2010) in two basins near Sequoia National Park has been analyzed and found to be from an eruption dated at A.D. 1350. During this time period the southern basin area would have been a much more productive environment, but subject to summer drought, hence the need for the water storage that the basins provided.

...continued on page 13

Kolber... *continued from page 2*

Kolber, Jane

2001 Recording, Protecting and Studying Navajo Rock Art: A Project in Chaco Canyon. *American Indian Rock Art* 27:17-24. American Rock Art Research Association, Tucson, Arizona.

Kolber, Jane

2002 Métodos variados en la documentación del arte rupestre: Adaptando los métodos a las necesidades especiales y las limitaciones de sitios e investigadores. Documentación y Registro de Sitios de Arte Rupestre. Actas de la Sección 1 del V Simposio Internacional de Arte Rupestre, Tarija, Sept. 2000. *Contribuciones al Estudio del Arte Rupestre Sudamericano* 6:31-42. Sociedad de Investigacion del Arte Rupestre de Bolivia, La Paz.

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2002 Great Anasazi Rock Art of Chaco Canyon: Possible and Probable Implications. *American Indian Rock Art* 28:169-180. American Rock Art Research Association, Tucson, Arizona.

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Kolber, Jane

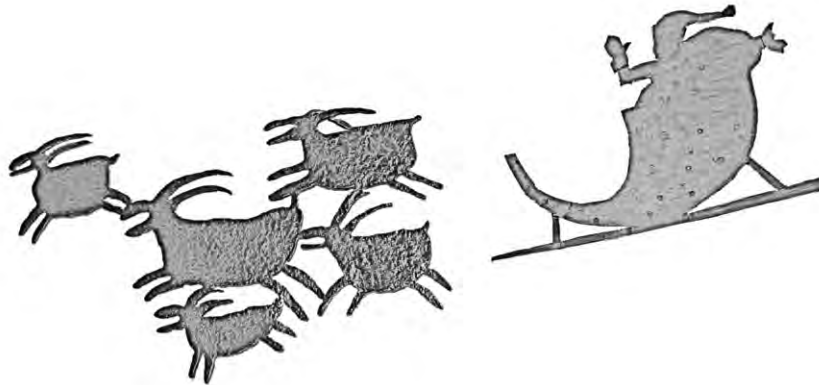
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## Membership Renewal Notice

ARARA membership is due on January 1. Watch for your Membership Renewal reminder in the mail, or visit the ARARA website, download your Membership Form from the following link, and send it with your remittance to the address on the form. Many thanks, and Best Wishes for the Holidays! Here's the link:

[www.arara.org/arara\\_membership\\_form.pdf](http://www.arara.org/arara_membership_form.pdf)



Rock Art Bookshelf... *continued from page 11*

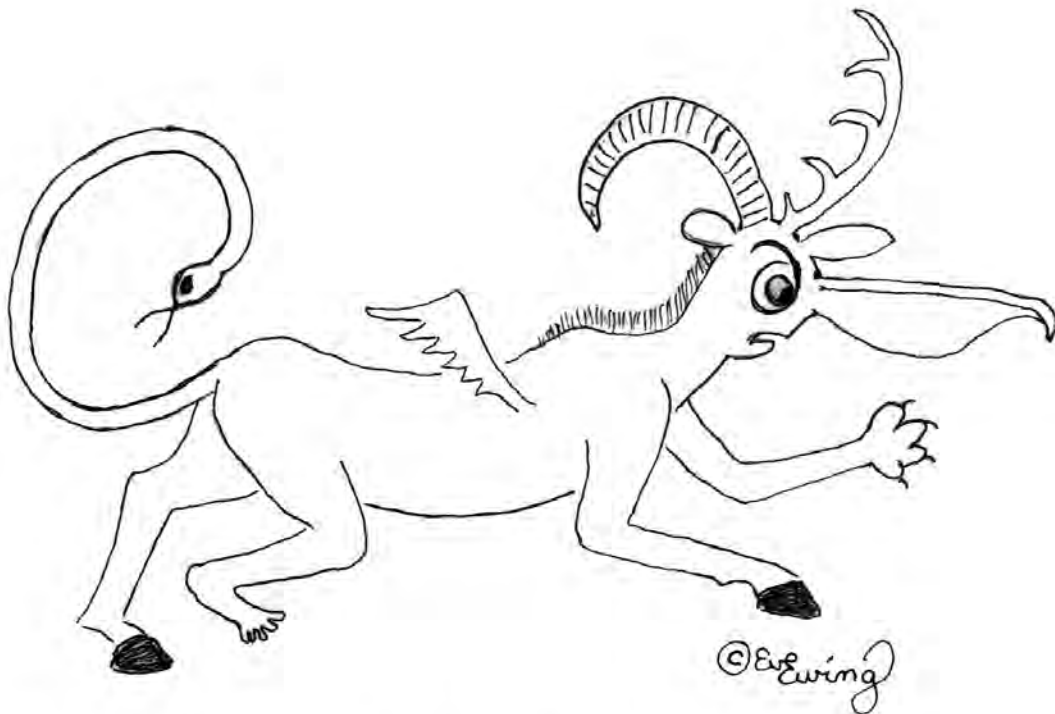
Although the basins are not rock art, they are a very significant man-made rock feature. I think *La Pintura* readers will find this report fascinating. I also think that the new “cistern” theory will not end speculations on their origin and function, so there will be more to come about these mysterious basins.

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**Volunteer Help to  
 Clean-up Petroglyph  
 National Monument**

ARARA’s Conservation Committee is proud to announce an opportunity to help at Petroglyph National Monument in Albuquerque. We are working with the City of Albuquerque on a park clean-up day. This will be Saturday, May 25th—the day before the ARARA/IFRAO 2013 conference officially begins. This will be a fun and useful way to get up-close and personal with Albuquerque’s amazing rock art! Details and instructions for signing up will come later, or contact [linea.sundstrom@gmail.com](mailto:linea.sundstrom@gmail.com).



**“Transformation sucks!”**

## Call for Papers for *La Pintura*

**ARARA members would love to read** about your new rock art discovery, recording project, or new idea for interpretation. *La Pintura* needs members to submit articles on current research or fieldwork. Doing so will make *La Pintura* a better journal. Editorial guidelines can be found on the inside back cover of every issue.

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To insure timely publication of each issue of *La Pintura*, please follow the following schedule of deadlines for all editorial copy and other submissions:

- Issue 1: February 1
- Issue 2: May 1
- Issue 3: August 1
- Issue 4: November 1

Send all materials for inclusion in *La Pintura* to:  
William Breen Murray, Editor  
**WBMurray1@yahoo.com**

### International Newsletter on Rock Art

**INORA** — *The International Newsletter on Rock Art*, edited by Jean Clottes and published in French and English three times a year (February, June, November) — is available to ARARA members for \$25 a year. Subscribe through ARARA and save the \$10 French bank charge. The 32-page newsletter contains the latest international rock art news. To subscribe, send a check for \$25 **made out to ARARA** to:

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## ARARA Addresses

ARARA has several addresses. To get the most timely response, please send your inquiry to the right place.

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**Postal mail for the *La Pintura* Editor may be sent to:**

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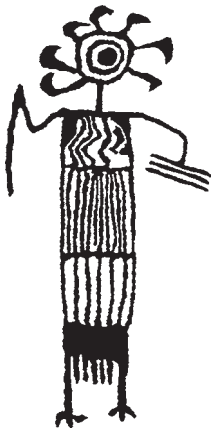
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**amy@farwestern.com**

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For information on the **ARARA Archive, Library, and publications** available for sale, contact:

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The **American Rock Art Research Association** is a non-profit organization dedicated to encourage and to advance research in the field of rock art. Association members work for the protection and preservation of rock art sites through cooperative action with private landowners and appropriate state and federal agencies.

The **Association** strives to promote non-destructive utilization of rock art for scientific, educational, and artistic purposes. This is accomplished through a wide-ranging program to inform and educate the members as well as the general public regarding the rock art heritage of the United States as well as worldwide. These goals are communicated through the quarterly newsletter, *La Pintura*. Annual

three-day conferences give both members and others interested in rock art the opportunity to share professional papers, slide presentations, and informal discussions.

Membership in the **American Rock Art Research Association** is open to all with an active interest in research, non-destructive use, and preservation of rock art, regardless of their nationality or country of residence. Membership fees are:

Donor	\$120.00
Family	\$50.00
Individual	\$45.00
Society/Institution	\$60.00
Student	\$35.00

\*Student rate requires photocopy of current student ID. Foreign members please add \$5.00 for Canada/Mexico, \$10 for other countries.

Membership runs from January 1 through December 31 of each year. The Association is concerned primarily with American rock art, but membership is international in scope. Benefits include *La Pintura*, one copy of *American Indian Rock Art* for the year, reduced conference fees, and current news in the field of rock art. More importantly, membership means a shared concern for the ongoing conservation and preservation of one of the most significant elements of our heritage. Send memberships to:

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*La Pintura* is published by the American Rock Art Research Association. All Editorial material for *La Pintura* should be sent via e-mail to the Editor, William Breen Murray, at [WBMurray1@yahoo.com](mailto:WBMurray1@yahoo.com). Opinions expressed in signed articles are those of the authors and do not necessarily represent the views of the American Rock Art Research Association. *La Pintura* solicits articles, news, letters to the editor, and other items of interest to its readers. Please observe the following criteria for all manuscripts submitted. **Letter to the Editor:** No special format necessary. **News Items:** Please indicate all pertinent information such as the event, time, place, cost (if any), group or person in charge, who to contact, addresses, and deadlines. Rock Art current events and news items of interest to our members that need public notice prior to the next issue of *La Pintura* should be sent to ARARA's monthly electronic newsletter "ARARA Online." Contact Amy Gilreath at [amy@farwestern.com](mailto:amy@farwestern.com). **Articles:** Manuscripts of original research are always welcome. They should embrace sound principles of investigation and present data in a clear and concise manner. Consult *American Antiquity* for body copy, notes, literature citations, and the proper format for References Cited. Articles are subject to editing for length. Please submit all materials intended for publication via e-mail ([WBMurray1@yahoo.com](mailto:WBMurray1@yahoo.com)). Please include author's name, title or profession, affiliation, city, state, and return e-mail address. Send illustrations as e-mail attachments. Submit line drawings as 1200dpi bitmap .tif files and black-and-white or color photographs as 300dpi high-quality-level .jpg images. Materials that cannot be e-mailed may be sent to the mailing address: ARARA, Attn: Amy Gilreath, Far Western, 2727 Del Rio Place, Suite A, Davis, CA 95618.

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The **American Rock Art Research Association** subscribes to the following Code of Ethics and enjoins its members, as a condition of membership, to abide by the standards of conduct stated herein.

1. All local, state, and national antiquities laws will be strictly adhered to by the membership of **ARARA**. Rock art research shall be subject to appropriate regulations and property access requirements.
2. All rock art recording shall be non-destructive with regard to the rock art itself and the associated archaeological remains which may be present. No artifacts shall be collected unless the work is done as part of a legally constituted program of archaeological survey or excavation.
3. No excavation shall be conducted unless the work is done as part of a legally constituted excavation project. Removal of soil shall not be undertaken for the sole purpose of exposing sub-surface rock art.
4. Potentially destructive recording and research procedures shall be undertaken only after careful consideration of any potential damage to the rock art site.

5. Using the name of the **American Rock Art Research Association**, the initials of **ARARA**, and/or the logos adopted by the **Association** and the identification of an individual as a member of **ARARA** are allowed only in conjunction with rock art projects undertaken in full accordance with accepted professional archaeological standards. The name **ARARA** may not be used for commercial purposes. While members may use their affiliation with **ARARA** for identification purposes, research projects may not be represented as having the sponsorship of **ARARA** without express approval of the Executive Committee.

The **ARARA** Code of Ethics, points 1 through 5, was adopted at the annual business meeting on May 24, 1987. The Code of Ethics was amended with the addition of the opening paragraph at the annual business meeting, May 28, 1988.

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