

La Pintura

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<https://arara.wildapricot.org>

Mary's Cave: An Extraordinary Rock Art Site in Mojave National Preserve, California

By Ryan Gerstner, Alan Garfinkel, David Nichols, and Christine Grimaldi Clarkson

This article presents research from a recent rock art study located within the Mojave National Preserve in eastern California. This project began in 2019 when the California Rock Art Foundation was contracted by the National Park Service to nominate four prehistoric rock art sites to the National Register of Historic Places (NRHP). In this report we discuss one of these sites, Mary's Cave, which was formally listed on the NRHP in July 2021. Located within Wild Horse Canyon in the Providence Mountains approximately 40 miles west of the Colorado River, Mary's Cave (CA-SBR-535/H; also known as Shelter Rock, Mary's Bedroom, and Wild Horse Rock Shelter) is a significant prehistoric rock art site in the eastern Mojave Desert (Christensen 2016; Christensen and Dickey 1996, 2005; Desautels and McCurdy 1969; Laird 1984; McCurdy 1969; Rafter 1987; Slifer 2000; Walker 2012, 2013). In an area well known for its extensive expressions of prehistoric rock art, Mary's Cave is exceptional

and of particular importance. The site incorporates multiple temporal components representing a number of significant and varied cultural activities spanning the Archaic to Late Prehistoric eras, through the middle of the 20th century. The prehistoric expressions include a rockshelter (Mary's Cave), rock art panels (pictographs and petroglyphs), cupules, flaked stone and ground stone artifacts, and related archaeological features. One of the most remarkable attributes of the rockshelter is the abstract imagery on the ceiling and walls. The floor of the shelter exhibits a large concentration of cupules, milling features, and petroglyphs. The historic component dates to the early to mid-twentieth century and includes a lean-to rockshelter (birthing shelter), remnant homestead, and associated cattle ranching activity.

Turn the page to read more about this fabulous site...

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President's Message

Greetings ARARA Membership! The summer months have invited us to participate and engage in various outdoor activities, such as heading into the field to continue working on rock art research projects and family gatherings. ARARA has also participated in various events, such as our online Zoom events, as well as many conferences and lectures that have been presented virtually, so folks can enjoy and participate wherever they chose, indoors or outdoors.

In June, ARARA had their first virtual conference. This was an event that brought us together again, enabling us to deliver the research and educational presentations from our membership. WOW, this was truly a successful virtual conference! We do applaud the conference committee, led by Mavis Greer and Jim Keyser and their team to produce a fantastic and enriching conference. I wish to acknowledge the team "behind the curtain," as these ARARA members volunteered their time to deliver our 2-day conference. Thank you to Jennifer Rilk (Huang), Marglyph Berrier, Troy Scotter, Belinda Mollard, Chris Gralapp, and Donna Gillette; to Dave Kaiser and his team that set-up the virtual stage; and for ALL the others that I did not mention here: you are greatly appreciated! Most of all, THANK YOU to all the attendees for spending a weekend with us.

The new ARARA board members have begun to settle into their positions, and we, the existing board, welcome their institutional knowledge, guidance and dedication. The board continues to meet monthly via Zoom, and the decision is to

continue to meet virtually, until we come together in June of 2022, in Great Falls, Montana. The board plans to hold their mid-point virtual meeting in February 2022, which will be held over the course of 2-days, from the comfort of our own spaces.

We look to our membership to support us by volunteering their time in holding positions, such as committee chairs and co-chairs, ad-hoc committees and appointments. The organization is still in need of filling these positions: Standing Committee-Membership Chair/Coordinator; Archives; Ad-Hoc Committee-Marketing; Appointments-Conference Registrar. Please reach out to the board members should you have any questions regarding these vacant positions. On the ARARA web page, there is a tab labeled, "Contact Us." We are accessible for questions.

The Board hopes to build the ARARA membership; please invite others to join our online events, encourage students to apply for an ARARA grant, and direct interested individuals to our website or to connect with one of the board members. We do wish to increase our membership, and I do believe we can: as members we can enlist new members.

During this time of COVID-19, and now these new variants that have evolved, please continue to remain safe and healthy in body and mind and continue to conduct your research and encourage others to join us in fulfilling ARARA's mission statement. ☉

—Respectfully,
Ann Brierty, President

CALL FOR PAPERS:

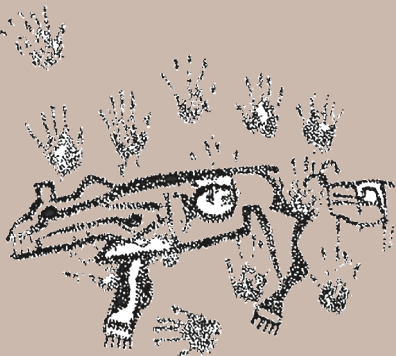
**Note the date
change!
One week later
than originally
scheduled.**

ARARA 2022 Conference June 17-20, 2022

Deadline for Submission is April 1, 2022

ARARA invites proposals for presentations at the 2022 Conference in Great Falls, Montana.

For more information on submitting your paper, go to: <https://arara.wildapricot.org/Conf-Call-For-Papers-2022>



2020-2021 Education Committee Report

By Karen Steelman

THE EDUCATION Committee has been active this past year. Karen Steelman continued to serve as Chair, with Margaret Berrier, Amanda Castañeda, Tim Dodson, Jan Gorski, Mavis Greer, Ellen Martin, Sherry Mitchell, Kendra Rodgers McGraw, Troy Scotter, and Scott Seibel as active members. Linda Olson served as the Board Liaison for the committee.

The Education Committee developed a new Undergraduate Research Student Award for up to \$1000 to support rock art research. This is in addition to the Graduate Student Research Award for up to \$2500 to support rock art research. The Graduate Student Research Award has now been awarded for three years. There were 12 applicants for the Graduate Student Award and two applicants for the new Undergraduate Research Award. The Review Panel consisted of Margaret Berrier, Amanda Castañeda, Tim Dodson, Jan Gorski, and Troy Scotter. Amanda chaired the review panel and publicized the awards by sending the announcement to universities all over the United States and on social media. We thank the committee for their service to the organization and helping students!

The recipient for the Graduate Student Research Award is Lucy Gill from the University of California at Berkeley and the recipient for the Undergraduate Student Research Award is Robert McBride from the University of Tennessee at Knoxville. Congratulations!

In addition, there were seven students from all over the world presenting their research at the virtual ARARA conference in June. We welcome students and encourage your future participation in ARARA.

For the 2022 ARARA conference, the Education Committee is still hoping to hold a Project Archaeology workshop on educational activities for elementary teachers and ARARA members who are interested in volunteering in local schools.

For next year, Karen is stepping down and Tim Dodson has graciously volunteered to Chair the Education Committee for 2021-2022. We encourage any ARARA members interested in the Education Committee to volunteer! ✨

Picture Cave, Missouri, Sells for 2.2 Million

PICTURE CAVE, in Missouri, is one of the most important rock art sites in North America. It contains over 300 pictographs of birds, animals, and symbols. It also displays many anthropomorphs in various positions (dancing, fighting in battle, healing, etc.) and shows substantial detail in clothing and accoutrements. Despite pleas and attempted negotiations by the Osage Nation, the property was purchased via auction by a private bidder. Worryingly, the fate of this sacred and irreplaceable site, and the lands around it, is unknown. ✨

Monthly Online Lecture Series

ARARA MEMBERS would love to hear about your new rock art discovery, recording project, conservation effort or new idea for interpretation. Please contact us at: <https://arara.wildapricot.org/Contact> to submit your idea. You can view previous monthly lectures on our YouTube channel:

<https://www.youtube.com/c/ARARARockart/videos>

2021 Annual Business Meeting Minutes

June 3, 2021, Held via Video Conference

DUE TO the pandemic, the 2021 ARARA Annual Conference was conducted virtually Zoom on June 12th and 13th. The program and abstracts are included in *La Pintura*, Volume 47, Number 2 (June 2021). The 2021 ARARA Annual Business Meeting began as scheduled at 9:00 a.m. (PDT) on June 13, 2021. President Ann Brierty welcomed those in attendance and the meeting was called to order at 9:02 a.m.

Highlights are noted below, while the full President, Vice-President, Treasurer, Nominating Committee, and Conservation & Preservation Committee reports are included in *La Pintura*, Volume 47, Number 2 (June 2021).

President's Report: Ann Brierty

- Ann described the structure of the Board and how Board Liaisons work with ARARA Committees throughout the year during our monthly zoom meetings.
- Ann asked the ARARA membership to contact Board members if you would like to serve on a specific committee as a Chair or Co-Chair.
- The Archives Committee continues to fact-find for a permanent home for ARARA's collection. Currently, the items are being stored in a private facility called Iron Mountain.
- *La Pintura* newsletter editor is Linda Hylkema and asks for submissions for ARARA's excellent newsletter.

Vice-President's Report: Linda Olson

- Linda highlighted the accomplishments of ARARA Committees with full reports expected in upcoming *La Pintura* issues.
- Linda thanked Belinda Mollard for her work on the ARARA Facebook page, especially the #FridayRocks entries. She also thanked Margaret Berrier and other Facebook managers who share content.
- Linda asked for volunteers for the Marketing Committee.
- Linda reported that the Education Committee has been active, with the development of a new Undergraduate Research Student Award. There were 14 applicants for these awards! In addition, there are seven students presenting at this virtual conference.
- Linda highlighted ARARA's Online Webinar Series, presented on the second Saturday of each month. ARARA now has 218 subscribers for our YouTube channel. Special thanks to Peter Anick and Dave Kaiser!
- Thanks to Linea Sundstrom for her work as Chair of the Conservation Committee. They have distributed over 4,500 backpack tags as part of a Visit with Respect program.
- Special thanks to Margaret Berrier and the Awards Com-

mittee! Start planning your nominations for next year's round of awards.

- Linda encouraged us all by stating that "you will be amazed at what a difference you can make as a volunteer!" She invites the membership to become active in committees.

Treasurer: Troy Scotter

- Troy shared the financial statements produced by Jack Wedgewood, the previous ARARA Treasurer. Troy thanked Jack for his service to ARARA. Financial statements and a Treasurer's report will be posted in *La Pintura*.
- Troy thanked Donna Yoder, Bob Mark, and Evelyn Billo for their work on the 2019 conference at Northern Arizona University. ARARA made about \$16,000 on the 2019 conference. There was no conference in 2020; therefore, it is a bit easier to see some of ARARA's financials without the conference expenses and revenue. When we take away the conference revenue, Troy noted that our membership dues are not covering our administrative costs. Publication costs are down as we are no longer printing *La Pintura*. There was more expense for the January 2020 mid-year board meeting, as we have board members who live further away. However, for 2021, this expense is eliminated with the use of Zoom, which is much less expensive but not as effective. We are down to \$111,000 in reserve for ARARA.

Nominating Committee Chair: Jim Royale

- The Nominating Committee served an additional year due to the pandemic, with the addition of Leigh Marymor who replaced Sharon Urban. Jim thanked all members who served.
- There was a slate of seven candidates, with the election administered by ARARA's webmaster. There were 130 valid votes cast in the election. Peter Anick, Margaret Berrier, Amy Gilreath, and David Kaiser were elected to the ARARA Board for the at-large director positions.

AIRA Update: Dave Kaiser

- Dave updated members about the distribution of the *American Indian Rock Art* volume. Expect the printed book in your mailbox later this year. If you were a member last year, you will receive an AIRA volume. If you are a member this year, you will receive an AIRA volume next year.
- Meeting was adjourned at 9:25 a.m. (PDT) followed by a tribute to Daniel McCarthy, a long-time ARARA member who passed away this past year. ✨

Mary's Cave: An Extraordinary Rock Art Site

Mary's Cave is a complex archaeological expression with varied occupations and functions. The primary purpose of the site appears to have changed over time with use by different ethnic groups. Native ethnographic data identifies the site as a place of religious and ceremonial importance, with an emphasis on creation, renewal, and fertility (cf. Laird 1984; Rafter 1987).

This rock art study entailed archaeological fieldwork, archival research, and interviews. Digital photography was employed along with standard archaeological site recording utilizing sub-meter data collection. Photogrammetric 3D modeling was undertaken within Mary's Cave, but is not included in this report. Extensive archival research identified all past site records and publications relating to the site. Field research was led by Ryan Gerstner, and archival research was performed by Dr. Alan Garfinkel and Christine Grimaldi

Clarkson. Photographers include Tom Hnitaw and German Cervera. Fieldwork assistants include Annie Gerstner and Matthew Lawler. This study focuses on an important rock art site, Mary's Cave (CA-SBR-535/H), which in July 2021 was formally listed on the National Register of Historic Places (NRHP).

Environment

Setting

Mary's Cave is located within Wild Horse Canyon, below the eastern edge of Wild Horse Mesa and on the eastern flank of the Providence Mountains about 40 miles west of the Colorado River (Figure 1). The site is situated within lands designated as the Mojave National Preserve — an area managed by the National Park Service (NPS) as part of their 1.6-million-acre reserve. The Mojave National Preserve is bounded to the north and south by major interstate highways



Figure 1. Location of Mary's Cave (CA-SBR-535/H).

I-15 and I-40 respectively. The Nevada–California state line functions as most of the Preserve’s eastern boundary. Wild Horse Road runs 700 meters northeast of the site, while a remnant dirt road approaches the site from the northeast. The site is located approximately 600 meters northwest of the mouth of Saddle Horse Canyon and an ephemeral drainage bisects the site boundary in an east/west direction. A series of large washes meander through Wild Horse Canyon just west of the site.

Geology

The geology of Mojave National Preserve is complex and diverse due to igneous and metamorphic activity and structural deformations. Erosional processes altered the landscape resulting in rock outcrops dating mainly from a Precambrian age. The Preserve is composed of isolated mountain ranges and ridges separated by alluvium-filled, large, and irregular valleys. Bisecting the Preserve are a series of northeast-trending mountain ranges—the Providence, Mid Hills, and New York ranges. The principal valleys within the Preserve include Ivanpah, Kelso/Cedar Wash, Lanfair Valley, Devils Playground, Piute Valley, and the northern Fenner Valley.

Aridity and Water

At first glance, the extreme aridity, lack of water, and limited plant and animal resources in the eastern Mojave Desert would seem to preclude an enduring aboriginal occupation. However, dynamic environmental changes provide a suitable setting for adaptable indigenous people. Native occupation of the Eastern Mojave Desert Region has been confirmed from the late Pleistocene through Euroamerican contact. The location and intensity of that activity perhaps tracked environmental perturbations (Altschul et al. 1998). The most drastic decline in precipitation was during the Medieval Climatic Anomaly (MCA) (circa CE 970 to 1350). This was a time of multi-decadal, epic droughts.

Background

At least seven additional prehistoric sites occur nearby, at the confluence of Saddle Horse and Wild Horse canyons, and Mary’s Cave is likely part of an archaeological complex associated with seasonal hunting and gathering activities (Christensen and Dickey 1996). Numerous studies have explored Mary’s Cave and nearby Counsel Rocks (CA-SBR-291) as sacred centers for Native American fertility rites, puberty initiation, and associated astronomical observations (Christensen 2016; Krupp 1983:42-43, 1997:100-110;

Laird 197:94, 1984:352-353; Rafter 1985, 1987, 1991; Slifer 2000:71-73; Walker 2012, 2013). The imagery, cave orientation, and ongoing research provides evidence linking the site to astronomical events.

Mary’s Cave is nested within an outcrop of rhyolitic, welded-tuff that forms a small, hollowed-out rock shelter (Figures 2 and 3). Immediately adjacent to the shelter is a “tinaja,” a small, naturally formed water basin that was modified in the historic period with a concrete dam as a livestock reservoir. Mary’s Cave affords a striking panoramic view of the eastern horizon and occurs at 4,100 feet elevation. Floristically, the area is located within a Joshua Tree Woodland Alliance (Sawyer and Keeler-Wolf 2006).

Mary’s Cave is a small shallow rock shelter containing elaborate polychrome rock art panels (Loci C and W; Figures 4 and 5). The floor of the shelter (Locus F) contains a complex of cupules, ground stone slicks, basin metates, and bedrock mortars, along with four petroglyphs (Figure 6). Located 16 meters (m) northeast of the shelter, across a small drainage, is a second small rock art panel (Locus B) that is displayed on the southwest face of a massive rhyolite boulder. Locus B contains four petroglyph elements and two painted elements. Positioned below Locus B is a shallow bedrock mortar (Feature 13). Also situated outside of the shelter is an isolated bedrock milling basin (Feature 12). A very sparse flaked stone artifact scatter is dispersed throughout the site along with a portable metate (A1) and a chopper/core tool (A2). A collector’s (looter’s) pile, containing flaked stone artifacts (A3-A6), was identified along a foot path leading to the shelter. Great Basin Pecked Style (Heizer and Baumhoff 1962; also known as Western Archaic [Malotki and Dissanayake 2018:150-155]). Petroglyphs are present on the floor of the shelter, possibly representing a pre-Numic occupation (between circa 6000 BCE to 500 BCE). The pictographs in Mary’s Cave are largely abstract with just two representational anthropomorphs being depicted. The paintings are examples of the Great Basin Painted (Heizer and Baumhoff 1962: 207) and Grapevine Styles (Christensen and Dickey 2001, 2009). The shelter’s rock art likely dates to the late prehistoric (circa 500 BCE to CE 1800). The pictographs along with a single instance of scratched rock art suggest a late prehistoric Numic occupation, most likely Chemehuevi (Southern Paiute) or Patayan (ancestral Hokan/Yuman) Aha Makav (Mohave).

Euroamerican activities are also an important part of the traditions associated with the site. The historic component of the site includes an early 1900s birthing shelter (Feature 10) located near Mary’s Cave. This feature is a lean-to rock shelter with stacked rock walls (Figures 7 and 8) in which a child was born during a winter storm between 1910 and ..1915



Figure 2. Milky Way night shot, long exposure, view to northwest.



Figure 3. Mary's Cave, Locus C, "fisheye" view to east.

(Rob Blair Personal Communication 2019). The name Mary's Cave (also referred to as Mary's Bedroom) derives from this locally well-regarded, historic event in which Mary Kennedy and her husband, Roy Wood, sought shelter at this place.

Two decades later, the Petit family developed the property as a component of 7IL Ranch and constructed irrigation features during the 1930s. An arroyo a few meters north of the shelter is where a natural tank or cistern is nested. The tank held water in early May 2005 (Campbell 2007:198-199). Mark Petit left his signature etched into the back wall of Mary's Cave overlain and superimposed on top of a pictograph element as "MP 7IL 1934."

Chemehuevi oral tradition tells of a "woman of the cave" being impregnated with the rays of the rising sun (Laird 1976:161-162; Rafter 1985:116) and anthropologists recognize Mary's Cave as her home. On the ceiling of Mary's Cave are natural holes made dark and glossy by people reaching into these apertures (Rafter 1987:29). These physical phenomena mirror Chemehuevi myth, telling of Hukwampi (Sun Spider) returning his grandson, Wildcat, descending him through a reddened sky hole. The notable Chemehuevi ethnographer, Caroboeth Laird, believed that descent was akin to a shaman's "rebirth" (Laird 1984:312).

This trajectory of sacred beliefs is nested in the fulfilment of the sun's strong guardianship, with the Native reverence for the role it plays in holding the earthly directions in play—integrated in a cycle of harvests, fertility, and seasons. Such metaphors imply a daily transition from day to night and provide a window into the themes of renewal, resurrection, and rebirth that are so intertwined and prominent at Mary's Cave across time.

Time Period of Occupation and Use

Regional Chronology

While the Eastern Mojave is historically characterized by its lack of water, its earliest inhabitants enjoyed a somewhat cooler and moister climate. Numerous lakes could be found in the valleys that contain dry playas and saline ponds. Between 13,500 and 8,000 years ago (calibrated radiocarbon ages before present [cybp]), Native American settlements were centered around lakes and marshes where the shorelines provided plant and animal foods and the raw materials necessary for fashioning tools, clothing, and shelters.

During the earliest stages of human settlement, in the late



Figure 4 (above). Panoramic within Mary's Cave, Loci W and C.

Figure 5 (below). Panoramic DStretch within Mary's Cave, YRE enhancement, Loci W and C.



Pleistocene, the desert was characterized by Joshua trees, pinyon pines, sagebrush, and junipers that were distributed over a much broader area and at lower expanses than they are today. The initial occupation of the East Mojave dates to this Paleoindian Period and is marked by isolated finds of Western Clovis fluted projectile points discovered near a few of the pluvial lakes. Ages for this basement culture range from 13,500 to 11,500 cybp (Moratto et al. 2019; Sutton et al. 2007).

Aboriginal occupation after the Clovis expression retained a lacustrine adaptation and transitioned from the late Pleistocene to early Holocene with its most concentrated signa-

tures associated with the Lake Mojave Tradition (12,000 to 8,000 cybp). Lake Mojave culture is recognized by its hallmark artifacts, Western Stemmed projectile points (e.g. Lake Mojave and Silver Lake types). Post-glacial warming ushered in changes in the local flora. Pinyon-juniper and Joshua tree forests were reduced in area moving upwards in elevation (Pippin 1998). Coincident with these changes, creosote entered the local flora and occupied low-lying valley floors and shallow basins.

Entering into the Archaic, two dry periods occur within the Middle Holocene (circa 5250 to 4930 BCE and 4400 to 3180 BCE) (Altschul et al. 1998). In the Late Holocene, wet

(pluvial) and dry (drought) periods are recognized (Pippin 1998). Yet the modern flora was uniformly present by the initiation of the Middle Holocene (circa 7000 BCE). Native American occupation intensified and endured throughout the lengthy expanse of the Archaic. Finally, with the Late Prehistoric, prehistorians recognize the ultimate elaboration of the ethnographically recognized tribal groups (Byrd 1998; Warren 1984).

Diagnostic Archaic point forms (Pinto, Elko, Gypsum, and Humboldt) attest to limited use of the Eastern Mojave by wide-ranging bands of hunter-gatherers dating from about 8,000 to 2,000 cybp (Warren 1984). These Middle to Late Archaic people were responsible for much of the rock art throughout the area (Christensen 2014; Sutton et al. 2007; Warren 1984). Pottery was introduced at approximately CE 700 and is correlated with a Patayan presence in the region (Christensen 2014). The Patayan immigration is suggested to be an expansion from the south into the contiguous uplands, moving upwards and along the Lower Colorado River Valley (Christensen 2014; King 1981).

Dating

For paintings and petroglyphs, differential weathering, patination, revarnishing, and superimposition provide a working relative chronology. The chronological position of specific rock art styles is typically developed based on patterned associations with temporally sensitive artifacts (Gilreath and Hildebrandt 2008). A useful strategy, employing multiple methods of rock art dating, allows researchers to cross-check results (cf. Rogers et al. 2010).

There are no temporally diagnostic artifacts that have been identified at Mary's Cave; however, rock art styles provide general ages. Pictographs in Mary's Cave are considered examples of the Great Basin Painted Style (Heizer and Baumhoff 1962: 207) and Grapevine Style (Christensen and Dickey 2001, 2009) and the pictographs in the shelter likely date to the late prehistoric (circa 500 BCE to CE 1800). Western Archaic (Malotki and Dissanayake 2018) rock drawings (petroglyphs) at Mary's Cave have an initiation date of ca. 6000 BCE and a terminus of circa 500 BCE, perhaps persisting to circa CE 1 (cf. Comstock 2013). Great Basin Scratched rock art has a suggested age from ca. CE 1300 to Euroamerican contact (Gilreath 2007; Gilreath and Hildebrandt 2008; LaPierre and Garfinkel 2013). One instance of scratched rock art (Locus B, Elements 3 and 4) at CA-SBR-535/H is superimposed over a Great Basin Pecked element (Locus B, Element 2) with differential degrees of patination or revarnish. This superimposition supports recurrent use of the site over time, as does the multiple incidents of rock art

production and the representation of different styles.

Grapevine Style rock art has a suggested age range from AD 700-750 enduring to historic times (Christensen and Dickey 2001, 2009). Grapevine rock art is recognized for its well-executed symmetrical, rectilinear, and geometric elements. One classic element of this style is an enclosed or circumscribed cross. Applying photo enhancement software (DStretch) provided a discernable painted element (Locus C, Boulder 4, Element 25) resembling an enclosed/circumscribed cross and appears to indicate a relationship between this painted image and this well-known rock art style.

Merle F. Walker, an astronomer at the University of California, Santa Cruz, completed a twenty-year study (1988-2008) at Mary's Cave and Counsel Rocks considering their astronomical significance (Walker 2012, 2013). This extensive research provides a discussion of Mary's Cave in a lengthy monograph specifically related to Mary's Cave. This authoritative work is supplemented by others (Rafter 1987) supporting the hypothesis that Mary's Cave functioned as an astronomical observation point for predicting and viewing the sun at summer solstice sunrise and equinox (Figure 9). Walker demonstrates that summer solstice observations would have been possible only when the sun rose north of a prominent notch on the visible horizon. Given the changing alignments of the sun on the horizon over time and based on a detailed analysis of the painted elements, Walker (2012:3-31) argues that summer solstice sunrise could only have been observed during certain prehistoric time frames—specifically from 500 BCE to CE 800 and again from CE 1450 to the historic era. This correlation is based on the angle and placement of the sun as it changes over time on the horizon.

Rock Art Styles, Archaeological Cultures, and Ethnic Groups

The pictographs and petroglyphs at Mary's Cave have affinities with the Grapevine Style, a signature of the Patayan (Christensen and Dickey 2001, 2009). The historic Hokan/Yuman affiliated ethnolinguistic groups (e.g., Aha Makav, Quechan, Cocopa, and Maricopa) are recognized as descendants of the Patayan expression. These more recent Native groups were indigenous pre-contact peoples who had homelands along the lower Gila River and Colorado River (McGuire and Schiffer 1982).

Alternatively, the Chemehuevi, a Southern Paiute affiliated group, are classified as having a language represented by the Numic branch of the Utoaztecan linguistic stock. The Chemehuevi and their ancestors were the likely artisans for some of Mary's Cave rock art. The Numic are groups classified as affiliated with Great Basin Paiute and Shoshone languages



Figure 6. Floor of Mary's Cave (Locus F), view to southeast.

and recognized as late arrivals to the area during the Late Prehistoric. It has been documented that the Chemehuevi moved westward into the eastern Mojave around 1500 CE and are currently residents with reservation lands along the Colorado River (Earle 2009; Kelly and Fowler 1986).

The Aha Maka (Mohave) occupy the Fort Mojave Reservation nested between Bullhead City and Needles. The Aha Makav are also part of the Colorado River Tribes Reservation at Poston, Arizona (Earle 2009; Stewart 1983). The Chemehuevi are a single ethnic group that is part of sixteen distinct Southern Paiute communities (Kelly and Fowler 1986). Kelly (1934) identifies one group of Chemehuevi, the Tim-pa-shau'-wa-got-sits that lived in the Providence Mountains. This ethnic subgroup may have been the people who further embellished the more ancient Archaic rock art with scratched designs (aka Numic or Great Basin Scratched) at Locus B.

Mary's Cave

Mary's Cave (Feature 1) exhibits an elaborate polychrome pictograph panel composed of 174 individual painted elements (Figures 10 and 11). The panels appear to illustrate several discernible symbolic references to cosmological interactions including trailing sunbursts and solar symbols with metaphoric horizon markers (Figures 12 and 13; Laird 1984; Rafter 1987; Walker 2012, 2013). On the floor of the shelter there are 61 individual cupules and four abstract curvilinear petroglyphs within a complex of ground stone milling features (Figure 14). Immediately north of Mary's Cave, across a minor drainage, is a second small rock art panel. A sparse lithic scatter occurs across the entire site, along with isolated bedrock mortars and a portable metate.



Figure 7. *Birthing Shelter (Feature 10), south entrance, view to northwest.*



Figure 8. *Birthing Shelter (Feature 10), north entrance, view to south.*

Bedrock Milling Features

Mortars ($n = 14$), milling basins ($n = 7$), and grinding slicks ($n = 6$) have been pecked and ground into the floor of Mary's Cave (Locus F). On the cave floor are an additional 61 individual cupules along with the milling features (Photos 3 and 4). The preparation and processing of plant foods on-site is suggested by the milling basins and mortars within Mary's Cave and over the site itself as represented by isolated milling features. A number of these features show extensive use. Complete repatination of milling features and a high degree of polish across the floor of the shelter supports recurrent and intensive site use. Such efforts would be associated with extended seasonal occupation and frequent site use. Alternatively, given the extensive ritual and ceremonial context

of Mary's Cave, medicinal and/or psychotropic plants could have been ground and processed by ritual-adept Native doctors (shamans).

Cupules

An ancient rock art type that occurs within Mary's Cave is known as cupules or cup-marks. These are small, human-made, circular hollows or depressions pounded or ground into the rock surface. Cupules are some of the earliest forms of rock art dating back in the Old World to as early as 400,000 years ago (Bednarik 2008). Many theories for the meaning and purpose of cupules associate them with fertility rites or "increase ceremonies." Ethnographic data from indigenous California Natives appears to support a fertility association with cupules (Hedges 1983:14; Loeb 1924:248; Slifer 2000:76). Additional studies indicate that, in certain instances, the dust from cupule production was smeared on a Native woman's body. This "rock flour" was said to ensure pregnancy and is also tied to "increase rites" as a way to ensure ample subsistence resources (Bednarik 2008; Garfinkel and Williams 2011:49). Other researchers believe that cupules, especially those found in the Eastern Mojave Desert, are associated with esoteric rituals and serve as a source of supernatural power (Christensen 2016:69).

Vulviforms

A universal symbol that appears to represent fertility is called vulvas or vulviforms (Slifer 2000:48-52). These U-shaped symbols are recognized worldwide as having been employed in prehistoric art since 30,000 BCE (Gimbutas 1989:99). Vulva images are compound metaphors symbolizing creation, sources of the waters of life, physical regeneration, and spiritual transformation (Gimbutas 1989:99; Slifer 2000:48-49). There are at least five painted vulviform symbols (Figure 15) identified at Mary's Cave (Rafter 1987). These paintings suggest that the cave might have been employed as part of a fertility ceremony, girl's puberty rite, or were perhaps involved in calendrical notations representing a woman's menstrual cycle (Crosby 1984:134-135; Rafter 1987:30; Slifer 2000:68-82).

Lithic Scatter and Midden

Unmodified flaked stone materials and formalized flaked stone tools are indicative of on-site lithic reduction—specifically flaked stone tool use, repair, and production. Lithic material is composed of rhyolite and opalite toolstone varieties available locally. The flaked stone scatter on site is composed of ~30 tertiary flakes with the majority being fashioned of



Figure 4. Summer solstice sunrise at base of the conical peak.

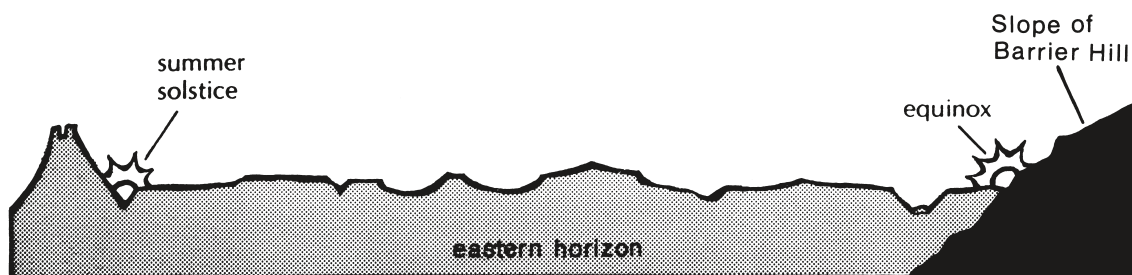


Figure 5. Sunrise positions as viewed from Shelter Rock.

Figure 9. Sunrise positions as viewed from Shelter Rock (Rafter 1987).

rhyolite (70%) and the remainder of opalite (30%). There is no direct evidence for an intact subsurface cultural deposit. However, soils on the ground surface within the site appear darkened by ash and charcoal, perhaps indicating that a subsurface archaeological deposit could be present. No archaeological excavations have been conducted on the site or in its near vicinity. A brush fire in 2005 deposited charcoal and ash throughout the site.

Historic Use

The historic occupations and associated archeological materials can be separated into two periods. Circa 1910 – 1915: The Birthing Shelter (Feature 10) consists of a lean-to rock shelter with stacked cobble walls. The feature was improvised as a shelter between 1910 and 1915 by Roy Wood (the namesake for Wood’s Wash) and his wife Mary Kennedy. This historic feature is the location where Kennedy and Wood took shelter and delivered their child during a winter storm (Rob Blair personal communication 2019). The feature occurs within a historic refuse scatter (Concentration

1) consisting of cans and bottle fragments dating to the early to mid-twentieth century. Sun-colored, amethyst glass fragments confirm an early 1900s occupation of the site. Another historic feature which may date to this same period includes a rectangular cobble foundation (Feature 7).

Circa 1930 – 1940: Two decades later, the Petit family acquired the property and named it the 7IL Ranch. Mark Petit left his signature (Photo 8) marking the back wall of Mary’s Cave as “MP 7IL 1934.” Additionally, the initials ED are on the back wall of Mary’s Cave.

Previous Investigations

The earliest Euroamerican descriptions of East Mojave rock art were fashioned by Jedediah Smith during his 1826 travels (Casbier 1983). Later, in the 1850s, government-sponsored sorties were conducted by Lorenzo Sitgreaves and A.V. Whipple (Haenszel 1995; Sherer 1994).

Mary’s Cave was first mentioned in a formal archaeological site record in 1969 when Albert J. McCurdy filed his documentation with the California Historical Resources

Information System (CHRIS) (McCurdy 1969). McCurdy and Roger Desautels completed a survey of the Wild Horse Canyon rock art (petroglyphs and pictographs) in association with the San Bernardino County Museum (Desautels and McCurdy 1969). Carobeth Laird (1984:320) notes Mary's Cave in an extended discussion relating to Chemehuevi sacred narrative in relationship to its rock art depictions (Laird 1984:312). Numerous studies have explored Mary's Cave as a sacred center for fertility rites, puberty initiation, and related astronomical observations (Laird 1984; Rafter 1985; Walker 2012, 2013).

Don Christensen and Jerry Dickey (1996) developed an updated site record with detailed, measured drawings and accompanying metrics for the bedrock milling and cupule features. A 2005 post-burn site survey of Mary's Cave noted that the front lip and portions of the roof had been disturbed by soot (Christensen and Dickey 2005). Dorothy Ettensohn, Mineral Collection Manager at the Los Angeles County Museum of Natural History, tentatively identified pigment sources at Mary's Cave and Counsel Rocks (Campbell 2007:198-199). Mary's Cave was briefly referenced and discussed in an overview on cupule sites in the Eastern Mojave Desert (Christensen 2016:69 and Tables 1-3).

Research from 2019 to 2020 of Mary's Cave by the California Rock Art Foundation Inc. (CRAF) provides an extensive photographic and Geographic Information Systems (GIS) mapping study supporting this National Register of Historic Places nomination (Gerstner and Garfinkel 2021). CRAF was contracted by NPS for an intensive update and review of the site including a revised and updated set of Department of Parks and Recreation (DPR) 523 site record forms. These efforts included extensive digital photographs of Mary's Cave applying photographic enhancement technology (DStretch) - a post-processing photographic software (Harman 2019).

Counsel Rocks

To understand and appreciate Mary's Cave, a brief overview is offered for the nearby Counsel Rocks (CA-SBR-291) located 250 meters to the northeast. Mary's Cave and Counsel Rocks (CA-SBR-291) are similar—both having received extensive scholarly attention focused on their astronomical and mythological associations (Krupp 1983:42-43, 1997:100-110; Laird 1984:302-320; Rafter 1985, 1987, 1991; Slifer 2000:71-73; Walker 2012, 2013).

Counsel Rocks consists of “a natural circle of large volcanic tuff boulders” (Rafter 1985:109). One boulder known as “Womb Rock” has a wind-eroded tunnel passing through it. The floor of the tunnel has petroglyphs with a “darkened, glossy surface” apparently “made by the continual rubbing of

bodies passing through the hole” (Rafter 1985:109). Rafter documented the winter solstice sunrise through a narrow gap and noted the play of light with the design on the floor of Womb Rock (1985:113-114). Dr. Edward C. Krupp, Director of the Griffith Park Observatory, determined that certain astronomical events could also be recognized as a play of light shining through a hole in an overhang at Counsel Rocks (Krupp 1983).

Sacred Narrative and Mary's Cave

The mythology of the Chemehuevi supports Counsel Rocks' astronomical interpretations and also bolsters the related cosmological significance of Mary's Cave. A Chemehuevi oral tradition tells of a “woman of the cave” that would go outside each morning, lie down with her legs wide apart, and open herself to the rising sun. One morning, Tavapitsi, Sun, showered its rays upon the woman and caused her to conceive (Christensen 2016:69; Laird 1976:161-162, 1984:352-353; Rafter 1985:116, 1987:25-30; 1995:31-32).

Rock art elements containing a “typical vulva with appendages” and “a sun-like symbol with seven rays and a phallic symbol” are noted as representative of this myth at Counsel Rocks (Rafter 1985:116). Rafter (1987:28) states, “If Womb Rock ... (aka Counsel Rocks)... is the Woman of the Cave exposing her uterine cavity to the... sunrise, then quite possibly Shelter Rock (aka Mary's Cave) is the nearby Woman Cave, her home (Rafter 1987:28).”

Rafter noted several, nearly identical designs connecting the two sites. Equinox and summer solstice sunrise could be viewed at Mary's Cave. On the equinox, the first gleam of the sun appears at the junction formed by the slope of a hill and the horizon. On summer solstice sunrise, the sun appears to the northeast, in a v-shaped notch at the base of a conical peak (Rafter 1987:27; Walker 2012, 2013).

On the ceiling of Mary's Cave are a number of natural holes, with some of these holes outlined in red pigment (Figure 16). Two particular holes are deep, surrounded with radiating red lines, and exhibiting a dark, glossy surface perhaps created by people continually reaching their fingers into these holes (Rafter 1987:29). Laird (1984:312) posits these holes (Laird 1984: Figure E) as mirroring key elements from Chemehuevi mythology.

Oral traditions tell of Hukwampi (Sun Spider/Black Spider, aka black widow spider) after swallowing his grandson, Wildcat, returns him to earth by descending him through a red sky hole. Laird sees an equivalency of the embellished red-ringed, starburst-like ceiling holes in Mary's Cave as the physical representations of this sacred narrative. Further, she echoes Rafter's notion that Wildcat in descending from a red hole is the symbolic equivalent of a shaman's “rebirth”

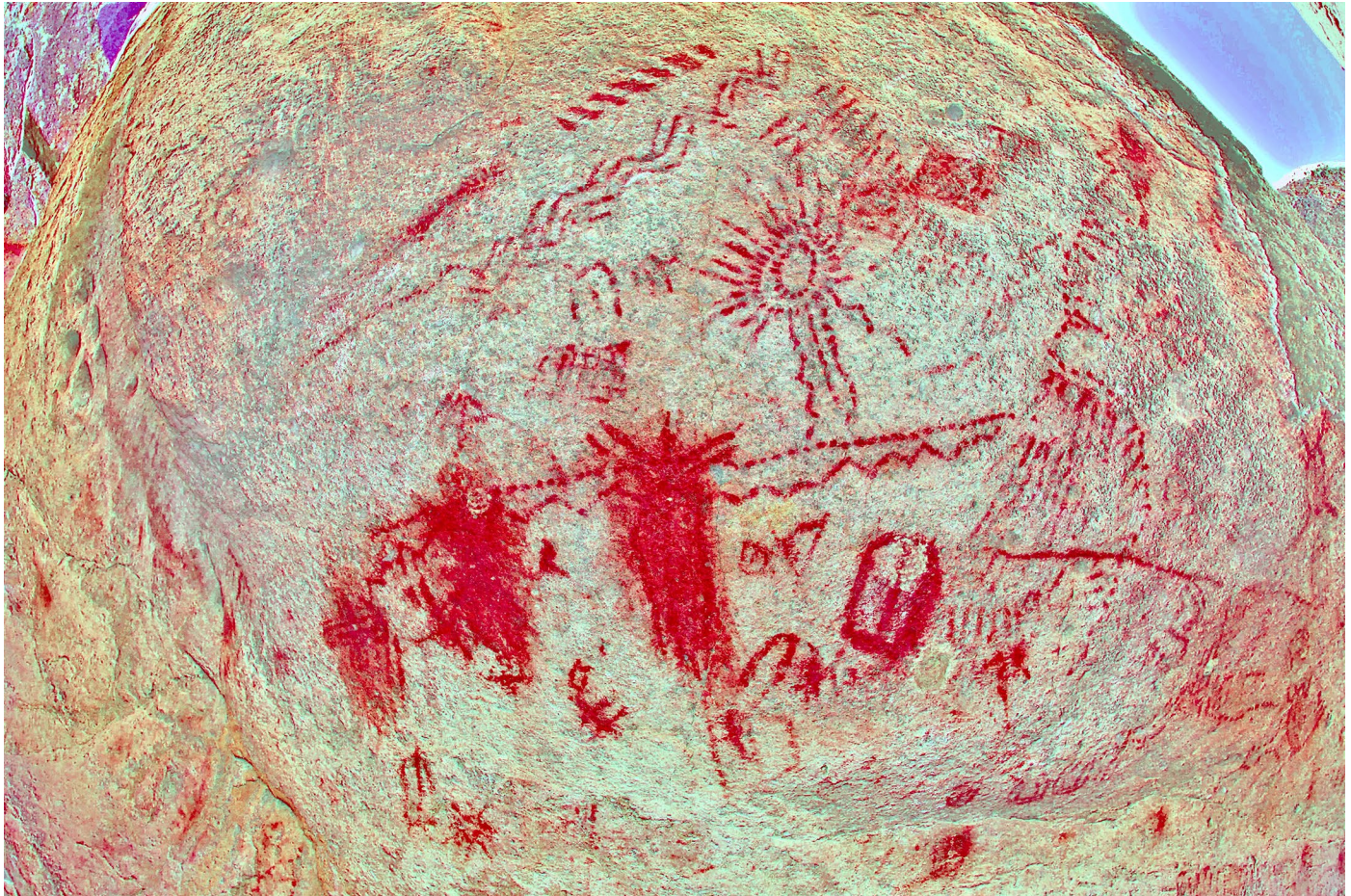


Figure 10. Mary's Cave, Locus C, fisheye DStretch, YRE enhancement.

(Laird 1984:312). This rebirth relates to the shaman's journey in trance—first appearing as “dead” and then emerging back to life after his “soul flight”—visiting the celestial plane (Vitebsky 2001:70-73).

Pigment and Technique

Dorothy Ettensohn, Mineral Collection Manager at the Los Angeles County Museum of Natural History, tentatively identified pigment sources at Mary's Cave and Counsel Rocks. “The white appeared to be an impure gypsum or gypsum indurated with silica, while the black color came from an iron oxide in a frothy, andesite-like volcanic rock. White and black rocks in washes in the general area of the two caves were easily crumbled and ground into possible pigments” (Campbell 2007:198-199). Red, purple, and orange pigments are likely rendered from red ochre or hematite (Fe_2O_3), while various compounds and mixtures are responsible for the variety of red hues present (Campbell 2007:27).

Producing paint generally requires grinding raw minerals

into a fine powder before being mixed with a binder. The application technique at Mary's Cave appears to be entirely finger-applied, a technique in which wet paint was applied to the shelter walls and ceiling with smearing and dotting action. On the shelter floor, red pigment occurs around the periphery of a single cupule (Locus F, easternmost cupule). The red ringed cupule might be indicative of pigment processing and the nearby groundstone features could have been employed for processing activities related to paint production.

Discussion—Significance

Rock art has been shown to be characteristic of indigenous societies throughout the world. Anthropologists have found that these foraging cultures simultaneously exhibit an exceedingly complex and sophisticated ideology with extensive and elaborate oral traditions focusing on the world of the spirit. The latter include elegant sacred narratives, extensive oral traditions and mythology, and intricate ritual and ceremony. As well, it is important to appreciate the deep and intimate understanding that Native peoples have



Figure 11. Mary's Cave, Locus C, figure for scale, view to east.

of the natural cycles of earth and sky and their sophisticated knowledge of the local landscape in which they traveled.

These cosmologies incorporate a shamanistic and animistic association of religious practices that allowed their members to embrace a vision of the universe in which individuals could interact freely with the spiritual realm and peer into the world of the supernatural. Altered states of consciousness (both commoners and shamans) could be acquired through a variety of means either through smoking Native tobacco or through dancing, drumming, singing, or meditating. Supernatural power could be gleaned through these activities and by these means it was possible to re-experience the creation of the world, obtain aid from spirit helpers and supernatural guides, communicate with supra-mundane beings, and even foretell the future (cf. Laird 1976, 1984; Stewart 1983; Whitley 2000).

Researchers have reported that the collection of both pictographs and petroglyphs in such a concentrated appearance (as is found in Mary's Cave) is unparalleled in the Eastern Mojave Desert Region. Therefore, Mary's Cave site is one of the few in California and the Great Basin that has been so thoroughly researched and verified through scholarly studies as an authentic aboriginal astronomical observatory. Further, its complement of imagery testifying to this purpose is even more uncommon, making the site a superlative example of this class of prehistoric archaeoastronomical sites.

Ethnic Heritage, Philosophy, and Religion

The ethnic heritage, the philosophical basis for the indigenous cosmology, and Native American religion are certainly closely intertwined. Religion is defined by anthropologists as

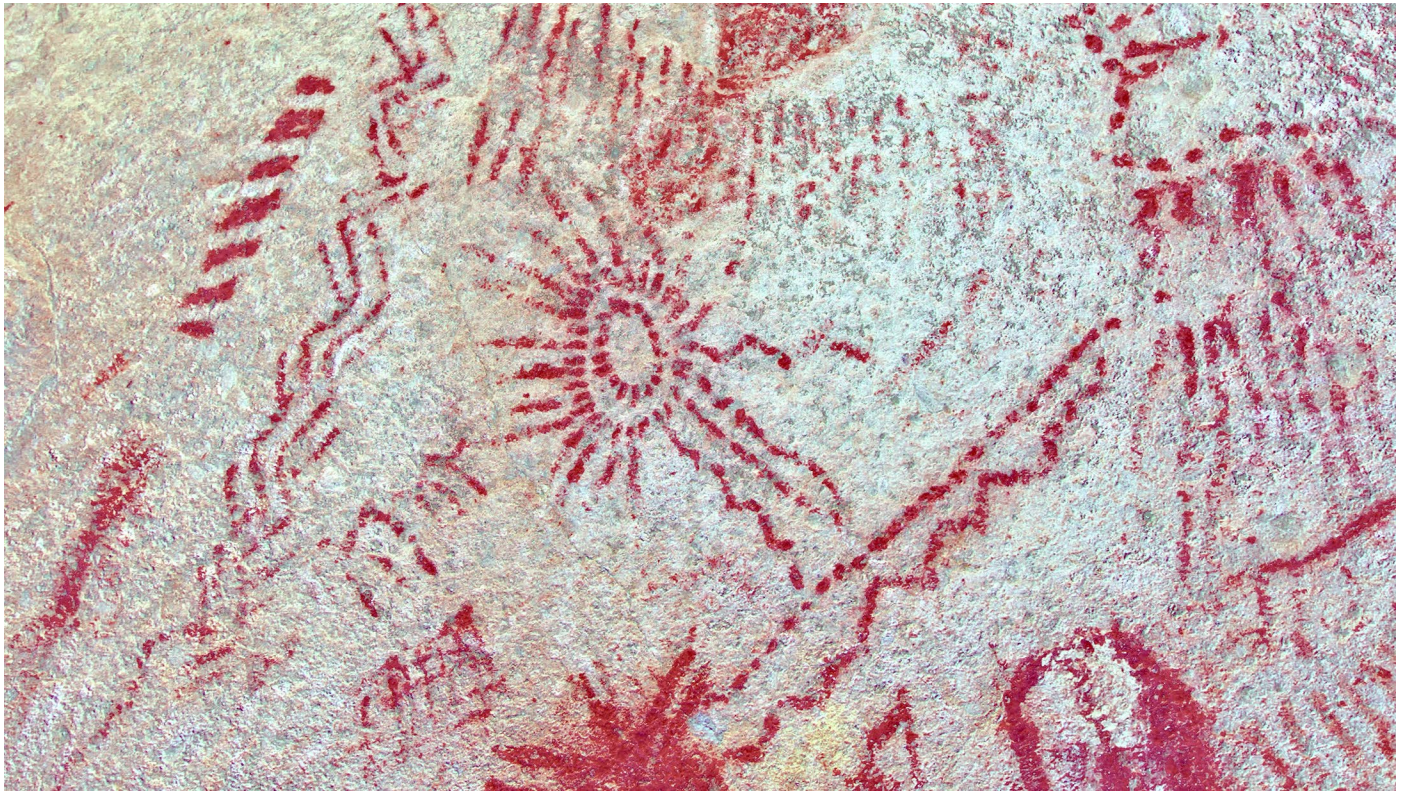


Figure 12: Mary's Cave, Locus C, close-up, DStretch YRE enhancement.

a coherent system of shared beliefs in supernatural powers, beings, and forces based on faith. The belief systems of both foragers and agriculturalists in precontact California and the ancestors of the historic Native groups that inhabited Mary's Cave centered on animism and shamanism.

In animism, deities take the form of the elements of nature including wind, rocks, trees, animals, and celestial bodies (sun, moon, and stars). In shamanism, visionaries act as religious adepts, and include men and women who have voluntary access and direct control - connections with the world of the spirits. Broad cross-cultural comparisons and interpretations of the aesthetics have identified shamanism as one of the prime motivations for the production of rock art (Whitley 1994, 2000).

Archaeoastronomy

Archaeologists concerned with the study of astronomy find that the orientation and layout of prehistoric sites sometimes relate to the earth and sky (Whitley 2011:154). Theories that propose connections between rock art and ancient astronomical observations emerged in North America in the 1970s. Based largely on the ethnographic research of John P. Harrington, astronomical interpretations of rock art

in California were initially proposed by Travis Hudson and Ernest Underhay (1978) and henceforth became a popular subject. During the 1980s and 1990s, most California rock art studies focused on the development and identification of regional styles or traditions (Heizer and Clewlow 1973; Sonin 1995; Whitley 2000).

Recently, archaeoastronomy has re-emerged as a promising approach to rock art research (Grimaldi Clarkson 2015, 2016; Walker 2012, 2013). Many advances in rock art and archaeoastronomy have been tied to ethnographic research. The inclusion of ethnography in archaeological rock art investigations has resulted in proposed connections between rock art, Native mythology, indigenous cosmology, and ancient astronomy (Grimaldi Clarkson 2015, 2016; Hudson and Underhay 1978; Saint-Onge et al. 2009; Schiffman 1988). In contextualizing his work on Mary's Cave, professional astronomer Merle Walker (2013) introduces his studies with the following:

We may gain some insight into the astronomical knowledge of the users of the site...and into their astronomically related ceremonies and practices. In some instances, we may also be able to establish the time periods in which the observations were made. Secondly, by studying the



Figure 13: Mary's Cave Locus C, Boulder 4, Element 13, grayscale.

petroglyphs and/or pictographs..., we may gain a greater understanding of the meanings of these symbols.

Walker (2013) provides a personal observation and assessment of the significance of Mary's Cave with the following reflections:

The ancient observers were thus provided with a means of determining and predicting the date of the summer solstice which was not only spectacular, but was also highly accurate and required observations over only a relatively small period of time... at the summer solstice, the upper limb of the rising sun, as observed from Shelter Rock (Mary's Cave), first appears in the bottom of a V-shaped notch on the eastern horizon. The emergence of the solar limb, precisely in the bottom of the "V," is a dramatic and spectacular sight. It was likely even more so during the ancient occupation of the site... the first rays of the sun sometimes exhibited the "green flash," due to atmospheric refraction, and on one occasion in 1988 a deep, vivid blue flash was observed.

Art and Communication

Because of the elegance of rock art designs, the painted and pecked images have exceptional aesthetic and artistic distinctions that provide a link to ancient indigenous cosmology transcending the existential elements of modern Western culture. The nature and meaning of rock art are subject to ongoing studies. Some rock art scholars have argued that certain rock art panels are a preliterate means of visual communications likened to an ancient codex. Rock art researchers have argued persuasively that certain rock art panels encapsulate creation stories, oral traditions, and sacred narratives within their formalized and patterned structures (Boyd 2016; Garfinkel et al. 2009)

Rock Art Drawings—Petroglyphs

Mary's Cave is characterized by an enduring chronological expression representing what seems to be a number of ethnic groups and a diversity of cultures. The earliest indica-

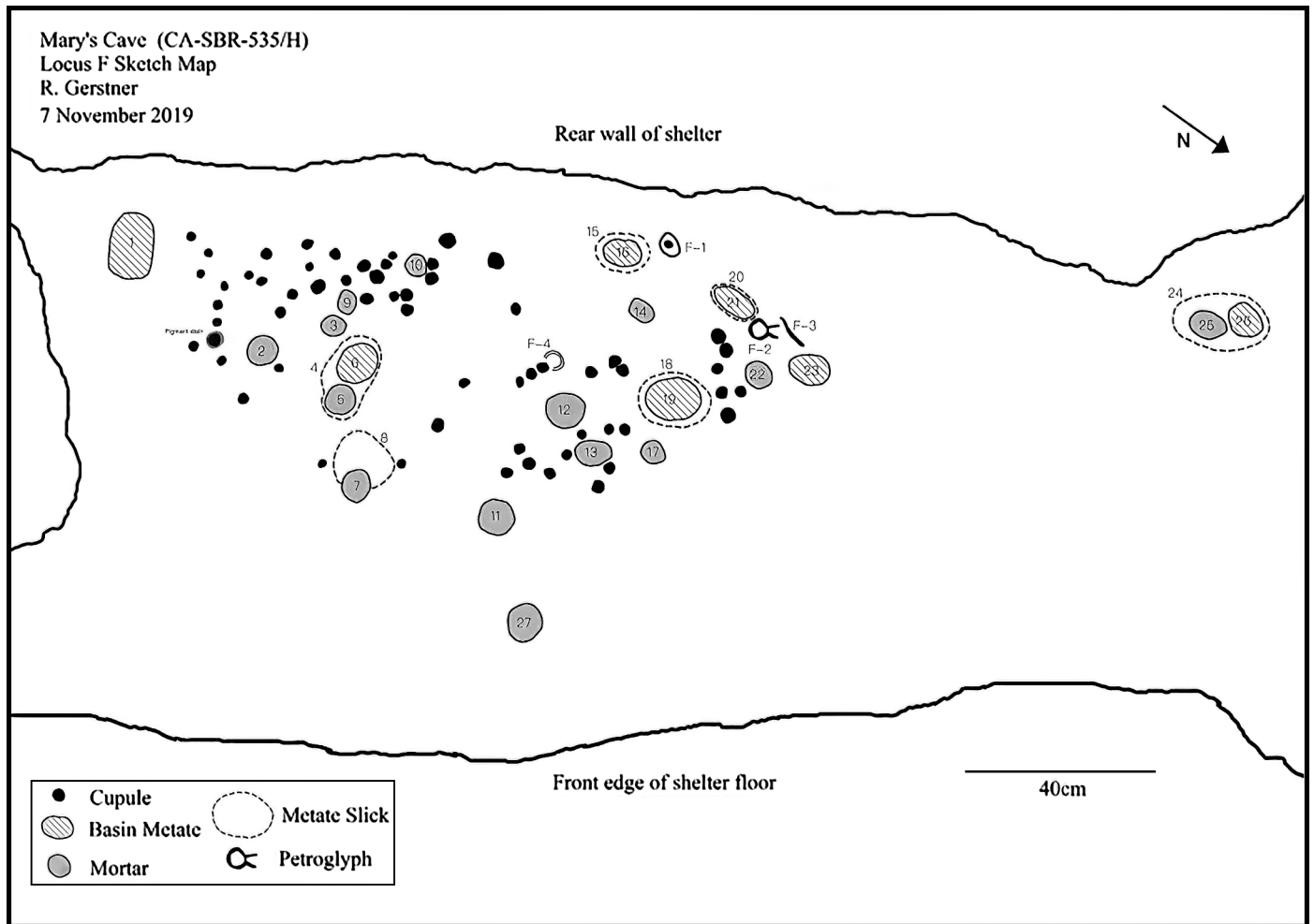


Figure 14. Mary's Cave, Locus F map.

tions of prehistoric cultural activity provide ages as great as 6,000 BCE and are identified with the cultural period known as the Middle Archaic. Aboriginal use of Mary's Cave during this early span of time may have been more limited and is typically identified as pre-Numic. The pre-Numic are the ancient predecessors of the historic Southern Paiute Branch of Numic known as the Chemehuevi. Great Basin Pecked (Heizer and Baumhoff 1962; also known as Western Archaic) style petroglyphs represent deep time early cultural activity (circa 6000 BCE to CE 1). The petroglyphs at Mary's Cave also appear to exhibit relationships with the Grapevine Style—a signature of the Patayan cultural pattern (Christensen and Dickey 2001, 2009). The historic Hokan/Yuman affiliated ethnolinguistic groups (e.g. Aha Makav, Quechan, Cocopa, and Maricopa) are recognized as the historic descendants of the Patayan. The petroglyph elements representative of this early period includes four curvilinear abstract elements on the floor of Mary's Cave, four elements on a nearby boulder (Locus B), and the 61 individual cupule petroglyphs found

on the shelter floor.

Rock Art Paintings—Pictographs

The most riveting characteristic of Mary's Cave is the extensive multicolored painted rock art panels that embellish the ceiling and walls of the rock shelter. This is the aspect of the site that has garnered the most academic attention and spawned a plethora of detailed research and authoritative scholarship (Laird 1984; Desautels and McCurdy 1969; Krupp 1983:42-43, 1997:100-110; McCurdy 1969; Rafter 1987; Slifer 2000:71-73; Walker 2012, 2013). The rock art elements thematically appear as a series of abstract elements with celestial connotations. As Rafter (1987) and Walker (2012, 2103) note, these images give the viewer the feeling that here is communicated some of the cosmic alliterations captured by the Native peoples who occupied the space for astronomical observations and religious rituals.

Multiple researchers have documented that there is

a strong relationship between the images that appear at Mary's Cave complemented by a viewshed of the eastern horizon. Detailed recordings over many decades support the notion that multiple images in the shelter represent the appearance of the sun and others appear as notations on the sequence, timing, and iteration of the summer solstice sunrise as the sky-watchers await this mid-year hallmark. Other researchers allude to pictographs on the ceiling that visually elaborate the oral traditions of Chemehuevi sacred narrative mythology.

Religion

Mary's Cave is a valuable resource providing a window into Native prehistoric religious metaphor and imagery,

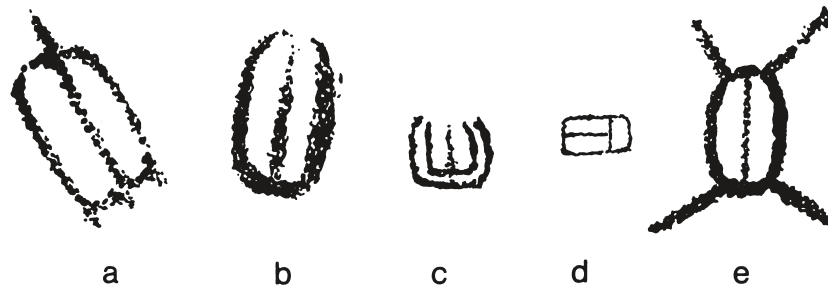


Figure 15. Vulviforms identified within Mary's Cave (Rafter 1987, Figure 9).

presenting a wealth of ancient complex symbolism. Visitors to the site experience an unobstructed viewshed shared by prehistoric people. They can experience a landscape context very much akin to its original, natural setting. These characteristics, including the exceptional condition of Mary's Cave itself are some of the key features supporting the site's major significance.

Place

The place where Mary's Cave is located is one of the keys to its research value and import. Since the site is of great prominence due to its demonstrated merit as an observation platform for viewing the summer solstice sunrise, it is of great value that the context of the property has not been significantly impaired. The location retains its original integrity in allowing the unobstructed view of the distant horizon.

The setting for Mary's Cave has changed very little from the prehistoric and historic context displayed by its archaeological materials and features. The topography remains the same and is critically important to our understanding and possible further research into the archaeoastronomical alignments. The vegetation in the immediate vicinity mirrors the native

landscape in its overstory and much of the annual spring wildflower display represents Native ethnobotanicals. This element of the property's integrity can provide an enriching experience to the general public, Native Americans, rock art scholars, archaeologists, anthropologists, and astronomers.

Design

Mary's Cave retains its integrity of design since the discrete activity areas are part of the natural landforms and none of the rock art (pictographs or petroglyphs) have been relocated or moved. Also, the original location of the very large natural water catchment is still present and has not been extensively damaged. Its original morphology can be easily reconstructed. The intra-site patterning of historic

features including the lean-to rock shelter in which Mary Kennedy gave birth, and the physical manifestations of the historic 7IL cattle ranch can still be reconstructed based on its remnant features. The signature of Mark Petit leaving his mark on the back wall of Mary's Cave as MP 7IL 1934 further testifies to the interconnections between prehistory and history for the property.

Condition

With respect to feature preservation, the prehistoric and historic archaeological features are in a good to very good condition. The pictographs in Mary's Cave can be reconstructed through DStretch and though faded, are largely intact. The cupules and bedrock milling features are nicely preserved without any extensive damage due to natural weathering or cultural disturbance. The birthing shelter for Mary Kennedy and her husband is in a startling excellent condition with standing rock walls and even the original nail(s) still in place that held the tarp during the snow storm. The 7IL Ranch historic cattle ranch has many of the remnant elements of the working ranch and the overall plan of the enterprise can be reconstructed.



Figure 16. Pigment embellishing natural hole on ceiling of Mary's Cave, detail.

Workmanship

Workmanship relates to the artistry and sophistication in design. Certainly, the rock paintings within Mary's Cave give the viewer pause. A visitor to the cave is unquestionably awe struck by the quality and skill that was necessary to fashion the cosmic mural across the ceiling of the shelter and on its rear wall. The talented artisan was able to replicate celestial movement and the various motions of the astronomical bodies. One could interpret the panel as the path of the sun across the sky, the movement of a solar disk, star patterns, and perhaps even a comet with a tail (Figures 13).

Historic Significance

It is interesting and significant that Mary's Cave served as both a place of prehistoric as well as historic significance. The California Rock Art Foundation research team had an opportunity to interview, document, and formally identify the precise location for the birth of Mary Kennedy's child (ca. 1910-1915). The oral testimony (Rob Blair personal

communication 2019) and verification of the intact physical attributes of the historic archaeological feature of the lean-to birthing shelter (Feature 10) have value and provide another facet of site significance. Since the incident and feature are the basis for the site's namesake, the historical facets work together to provide significant historical value to the notoriety and research interest of the site and place for both Native people and historic Euroamericans.

The 7IL Ranch historic cattle ranch has many of the remnant elements of the working ranch and the overall plan of the enterprise can be reconstructed. The intra-site patterning of historic features includes the physical manifestations of the historic 7IL cattle ranching area that can still be reconstructed based on its remnant features.

The historic significance of Mary's Cave brings to the fore a continuous association with both the Native and Euroamerican acts of giving birth. This is seen from the Native viewpoint both in the human realm and the cosmic landscape of creation. Mary's Cave has been called a "Fertility Shrine" by leading scientists in the field of rock art and archaeoastronomical studies (Krupp 1997:109; Slifer 2000:72, Walker

2012, 2013). It has been argued to be so for the Native people in prehistoric times and perhaps metaphorically for a locally prominent Euroamerican family in the historic era (Mary Kennedy and Woods).

As the shelter for the birth of Mary Kennedy's child in the early 1900s Mary's Cave became the source of local folktales and the eponym for the site. In a remarkable state of preservation and integrity, the shelter contributes to the site's significance by the early documentation of a pioneer family and their historic association with the region (including the naming of Wood's Wash). The subsequent Petit family and the 7IL Ranch (Ausmus 1989; Papierski 1993) played a significant role in the earliest Euroamerican settlement and initial developments leading to an enduring Euroamerican presence in the Eastern Mojave Desert.

Discussion—Research Potential

Prehistoric Lifeways

The primary prehistoric expression at the property is prehistoric rock art. Several types of rock art are represented in a very rare co-occurrence (abstract and representational paintings, petroglyphs, cupules, vulviforms, and rock art associated with astronomical observations). These rock art types are typical of various time spans and their related cultural expressions are still poorly understood. Excavations of the open-air archaeological deposits at the temporary campsite associated Mary's Cave could help in understanding the types of prehistoric activities conducted.

Future analytical techniques may allow researchers to determine what the purpose of the milling basins in the rock shelter were for and what kinds of materials were processed in those features (e.g. pigment, psychotropic substance [jimsonweed [aka *Datura* spp.]], and/or plant foods [corn meal, Native economic plants -chia, Indian rice grass, bulbs, corms, and tubers]). Residue analysis of the ground stone features will provide insight regarding the sites function.

Dating

The circa 6000 BCE to CE 1940 period of significance reflects the site's prehistoric and historic cultural materials and associations. The latter include the aboriginal artwork of the Archaic Period through Euroamerican occupation in the first half of the twentieth century.

Dating is no easy task in the world of rock art research. Relative dating represented by blocks of time is the norm and provides a set of working estimates that are presented as guides and are open to further support or refutation as continued chronology building and refinement takes place.

A number of scientific and experimental methods are being applied and are under development including dating of the organic binders in pigment applying AMS radiocarbon dating. Other means of rock art dating include optical stimulation luminescence (OSL), and portable x-ray fluorescence (XRF) of desert varnish, and many others. The status of each method is being evaluated in the scientific literature and judgement awaits as to their relative validity and applicability. The benefits and detriments of the various chronometric tools cannot be adequately or appropriately treated here.

Nonetheless, Mary's Cave is an excellent outdoor laboratory to test and compare these dating techniques in the near and distant future. Given that the site has been properly documented and exhibits site integrity, it requires in-place protection critical for future researchers who wish to better understand the site. Dating of the site is still in its infancy and many techniques that might apply to the site are under development. When these methods are tested and deemed reliable they can be further refined by applying them to the imagery at Mary's Cave. The site will serve as an important testing ground for newer means of rock art dating.

Archaeoastronomy

Christensen (2016:69) suggests that the cupules in Mary's Cave might be further related to the archaeoastronomical alignments demonstrated for the cave – specifically with reference to light and shadow events. He references Rafter's research in Joshua Tree National Monument (Rafter 1995:34-35, Figure 8) as examples of these phenomena. These archaeoastronomical properties for Mary's Cave rock shelter have not been investigated in this regard.

Conclusion

Rock art affords a unique window into past cosmology (worldview), religion, sociopolitical organization, philosophy, and informs on the ethnic attribution of the artisans who created it. It is especially relevant and offers insights into Native American ideology contextualizing notable prehistoric lifeways. The circa 6000 BCE to CE 1940 period of significance reflects the site's prehistoric and historic cultural materials and associations, from artwork of the Archaic Period through Euroamerican occupations in the first half of the twentieth century.

Considering both the prehistoric and historic expressions of Mary's Cave provides a distinctive association for its exceptional characteristics. Foregoing the limited effects of minor graffiti and the deteriorating elements of time, erosion, and natural weathering, the physical integrity and largely undamaged nature of the site still provides an excellent

platform for continued study. Given that the surrounding environs are in such a largely unimpaired state, the site is a qualified candidate for continuing archaeological investigations—including landscape studies, subsurface archaeological excavations, and related ethnographic research on the place of site as to its ethnic affiliation, religious implications, and role it played in the sacred landscape of the region. Mary's Cave displays the artistry of the eastern Mojave Native people and the relationship of the rock art images to their religious and astronomical beliefs. The precise details of the religious cosmology represented at Mary's Cave are unknown, yet the lengthy occupation span represented, the artistry exhibited, and the natural setting of the cave and its related unimpaired viewshed warrant designation and preservation.

Mary's Cave was found eligible for the National Register of Historic Places at the local and regional levels of significance under Criterion D in the areas of Archaeology: Prehistoric, Ethnic Heritage: Native American, Philosophy, Religion, Art, Communications, and Archaeology: Historic—Non-Aboriginal and Criterion C in the area of Art. The unparalleled concentration of painted and pecked rock art at Mary's Cave supports the premise that the site was a central and significant place with ceremonial, religious, and cosmological relevance connecting it to a much broader regional tradition. Rock art is one of the rare archaeological datasets that provide a glimpse into the worldview of the ancients.

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La Pintura Information/Submissions

La Pintura is the quarterly newsletter published by the American Rock Art Research Association. Subscription to this publication is a benefit of membership in ARARA. Beginning with Volume 47-1, *La Pintura* is being produced digitally only. Back issues of *La Pintura* are available electronically on the ARARA website: arara.wildapricot.org.

ARARA members love to read about your new rock art discovery, recording project, or new idea for interpretation. For that to happen, *La Pintura* needs you to submit articles on current research or fieldwork. Doing so will make *La Pintura* a better journal.

Editorial deadlines insure timely publication of each issue. Deadlines for submissions are:

- May 1 (June)
- August 15 (September)
- November 15 (December)
- February 15 (March)

La Pintura is edited by Linda Hylkema,
araraeditor@rockart.us

The editor extends an open invitation to members to submit articles, news, letters to the editor, book reviews, and other items of interest to ARARA members.

Letters to the Editor: No special format necessary.

News Items: Please provide pertinent information such as the event, time, place, cost (if any), group or person in charge, who to contact, address, and deadline.

Articles: Manuscripts of original research are welcome. They should embrace sound principles of investigation and present data in a clear and concise manner. Consult the ARARA Style Guide at: <https://arara.wildapricot.org/AIRA>

Current Events: Current events and news of items of interest to our members that need public notice prior to the next issue of *La Pintura* should be submitted to ararawebmaster@rockart.us.

American Rock Art Research Association

Mission Statement: ARARA is a diverse community of members with wide-ranging interests who are dedicated to rock art preservation, research, and education in order 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.

About ARARA: ARARA is a 501(c)(3) 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.

Code of Ethics: ARARA subscribes to the following Code of Ethics (make a hotlink?) and enjoins its members, as a condition of membership, to abide by the standards of conduct stated herein.

ARARA on Facebook: Content for consideration should be submitted to Scott Seibel, scottseibel@cox.net

ARARA's Official Website: arara.wildapricot.org. Considerable information about our organization is provided at our official website.

Additional Contacts and Information: contact Conference Chairs via <https://arara.wildapricot.org/Contact>

Annual Meeting, 2022

- Conference Chairs, Mavis Greer and Donna Gillette
- Local Committee, Jim Keyser

All Other Correspondence: The official mailing address is: ARARA c/o Troy Scotter, 569 East 320 North, Orem, Utah, 84097-4817.

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For all Membership matters contact: Membership annual fees are:

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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 membership year, reduced conference fees, and current news in the field of rock art.

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