

**2012 Arizona Archaeological Council
Fall Conference**

and

1st Biennial Verde Valley Archaeology Symposium

*Patterns, Problems, and Possibilities:
Is the Southern Sinagua Still a Valid Cultural Construct?*

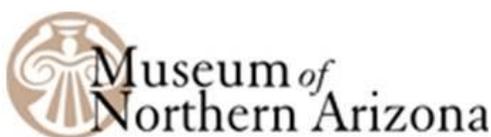
Presentation Abstracts



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Keynote Address

The Verde Valley as a Microcosm of Southwestern and American Archaeology

Peter J. Pilles, Jr.
Coconino National Forest

The Verde Valley has been the subject of archaeological examination for over 400 years. Although lagging in the scale and extent of archaeological work in comparison to other areas, the Verde reflect the focus and theoretical approach that have characterized the rest of the Southwest. This report will summarize the history of archaeological investigations in the Verde Valley and the various interpretations and orientations that have resulted from it. Information gaps will be identified and suggestions made for future directions to better understand the prehistory of this important part of the Southwest.

The Verde Salt Mine Revisited: Sinagua Salt Mining and Ritual Burials in the Verde Valley

Nancy Jo Chabot and Todd W. Bostwick

In the mid-1920s, Earl Morris of the American Museum of Natural History in New York, and Byron Cummings, Director of the Arizona State Museum in Tucson, independently visited the commercial mining of a salt deposit (sodium sulphate) near Camp Verde, Arizona, after receiving reports of prehistoric artifacts and human remains being found. Both Morris and Cummings collected a variety of artifacts from prehistoric tunnels exposed by the commercial operations, which were then put into the collections of their respective museums. Additional artifacts were donated by the mining company, Western Chemicals, Inc. Cummings also found two human mummies within the salt deposits. Morris published a brief report in 1928 on his 1926 visit, although Cummings failed to write a report on his two visits in 1926 and 1927. This paper presents the results of a detailed study of their investigations, including an interview with Emil Haury about his involvement in one of Cummings' fieldtrips as a student, and summarizes the re-analysis of 150 artifacts retrieved from the salt mine and currently housed at the two museums. In addition, the paper discusses radiocarbon (AMS) dates obtained on five wooden pick handles and one cedar bark torch, which firmly place the artifacts in the Tuzigoot phase of the local Southern Sinagua Culture. Finally, the ritual acquisition of salt in the American Southwest is examined, including the comparison of the Verde salt mine with another prehistoric salt mine in southern Nevada that was excavated in the 1920s by Mark Harington of the Museum of the American Indian in New York City.

Two Traditions of Pottery-making in the Verde Valley

Andrew L. Christenson

Two principal plainware pottery categories made in the Verde Valley -Verde Brown/Red and Tuzigoot Plain/Red - differ rather dramatically in clay source and temper. Evidence for these differences is provided from petrographic work on sherds from the GRR Site in Cottonwood, Tuzigoot Ruin, and sites in the 89A expansion project between Cottonwood and Sedona. Although the evidence is limited at the moment, the possibility that Prescott Gray Ware was made in the Verde Valley is also briefly examined.

Lithic Technology at Tuzigoot and Montezuma Castle National Monuments: A Southern Sinagua Case Study

Ashlee Bailey

Tuzigoot and Montezuma Castle National Monuments

William Bryce

Southwest Archaeology Research Alliance

This presentation discusses the preliminary findings of the recent analysis of bifacial tools recovered from the Verde Valley National Monuments. The tools include a diverse projectile point assemblage indicative of various archaeological cultures and a relatively large biface assemblage. We discuss spatial and temporal patterns in stone tool manufacture and lithic material use. While arrow points vastly dominate the assemblage, the inhabitants curated earlier dart points for use in functional, and likely symbolic, activities. In addition, the problem of the Sinagua label to Verde Valley inhabitants is considered through a comparison of Northern and Southern Sinagua projectile point data.

The Verde Valley Archaeology Center: A Community's Efforts to Protect and Promote the Ancient Heritage of the Verde Valley, Arizona

Todd W. Bostwick, Kenneth J. Zoll, Steve Ayers, and Jim Graceffa

Verde Valley Archaeology Center

The Verde Valley in central Arizona has an incredible legacy of human occupation dating back to PaleoIndian times. In order to facilitate the protection and promotion of this ancient history, the Verde Valley Archaeology Center was established in Camp Verde as a not-for-profit 501(c)(3) organization in 2010. The mission statement of the Center is to preserve archaeological sites and materials, to curate them locally, and to make them available for research and education; to develop partnerships with American Indians, cultural groups and the communities we serve; and to foster a deeper understanding of human history in the Verde Valley through the science of archaeology. This paper describes the history of this organization and its various activities and programs, including a quarterly newsletter, regular public lectures, an American Indian Film Festival, a Festival of American Indian Arts, an Archaeology Fair, field school opportunities, an active prehistoric ceramic laboratory, a summer college intern program, and an archaeology press. The Center has collection and preservation policies, a strategic plan, and a website that provides information about the Center's policies and events - verdevalleyarchaeology.org. The Center has developed partnerships with the Yavapai-Apache Nation, the Coconino National Forest, the Prescott National Forest, the Archaeological Conservancy, and the Arizona Archaeological Council. Recently, the Town of Camp Verde has provided a building in downtown Camp Verde that will serve as the Center's headquarters for curation purposes, exhibits, a learning center and an archaeology for kids area.

A Macro-regional Perspective on Obsidian Procurement and Exchange in the Verde Valley

Jeffery J. Clark
Archaeology Southwest

This paper examines obsidian procurement and exchange patterns in the Verde Valley and surrounding regions utilizing x-ray fluorescence (XRF) sourcing. Obsidian sourcing provides a complement to ceramic provenance studies, permitting archaeologists to reconstruct networks probably associated with males. Limited XRF sourcing of obsidian from the Verde Valley is augmented by the Southwest Social Networks Database. This database includes more than 4800 sourced obsidian artifacts from 148 late precontact (A.D. 1200-1500) sites throughout the western U.S. Southwest. Available evidence suggests a dramatic increase in obsidian use after ca. A.D. 1300 with an emphasis on the San Francisco Volcanic Field.

An Analysis of Prehistoric Pit Structure Architecture in the Middle Verde Valley

Stewart Deats
EnviroSystems Management, Inc.

Pit structures are one of the more common cultural features found at Formative era habitation sites across the American Southwest. Archaeologists have long recognized differences in the size and architectural characteristics of pit structures. This variability has been used to help construct culture histories and define material culture traits for particular geographic regions. Over 20 sites with pit structures have been excavated in the Middle Verde Valley. However, an in-depth comparative analysis of these pit structures has not been conducted. This paper aims to compile much of the available information on pit structures in this region dating from the Late Archaic to the Tuzigoot phase. The data on more than 90 pit structures are analyzed for synchronic and diachronic patterns using attributes such as floor area, shape, depth, construction methods, subfeature configuration, site elevation, and function.

Specialized Ceramic Production in the Early Formative Period in the Arizona Desert

David E. Doyel

Barry M. Goldwater Range, East, Luke Air Force Base

Production of pottery for exchange played a significant role in Early Formative period (ca. A.D. 1-700) socio-economic patterns in the Sonoran Desert of Arizona. Sweetwater phase (ca. A.D. 600-700) pottery (N=10,000 sherds) recovered from the Mustang site (AZ U:6:87(ASM)) in the lower Verde River Valley contained spatially discrete temper types from multiple regional production sources. The decorated pottery was produced in the middle Gila River Valley, 80 km distant, and more than half of the plain and red wares were not produced locally. Specialized production in the Early Formative established some initial conditions for subsequent economic and cultural elaboration.

Prehistoric Agricultural Sites and Features Found in Full Coverage Surveys of the Verde Valley

Jerry Ehrhardt

For the past twelve years the Verde Valley Chapter of the Arizona Archaeology Society has been conducting full coverage archaeological surveys in several areas in the Verde Valley that lie along the foothills of the Mogollon Rim. We have recorded over four hundred previously unknown Pueblo III sites that include prehistoric masonry structures, roasting pits, water catchments and reservoirs, with agricultural sites/features that range from simple rock alignments to elaborate waffle gardens. The majority of the agricultural sites in the Verde Valley were on hillside slopes that were either irrigated by the sheet wash of rainfall, or the diversion of water flow from surrounding washes. Pot irrigation was also possible with water from springs and natural bedrock storage tanks found near these agricultural fields.

“Colonies, Traders, and Traits” Revisited

Paul R. Fish
University of Arizona

Suzanne K. Fish
University of Arizona

Peter J. Pilles, Jr.
Coconino National Forest

In 1977, the authors compiled a then-exhaustive distribution of material traits to summarize and evaluate Hohokam and local interactions in the Verde Valley and Flagstaff regions. Since that time concepts of what constitutes “Hohokamness” have changed substantially and much more information is available from Hohokam territories to the south and regions to the north. We can now search for constellations of evidence that suggest shared patterns due to a pervasive underlying cultural background, modes of trade, population exchange, and transferal of institutions and ideology. We explore these highly variable kinds of interrelationships using selective case studies.

Two to Four Inches of Lime Dirt: Public Archaeology and the Development of Old and New Interpretations at the Castle A Site

Matthew C. Guebard
National Park Service

This paper addresses archaeological work at the Castle A site (AZ 0:05:95), located within the Montezuma Castle boundary. Initially excavated by Martin Jackson in 1933, Castle A is one of several sites investigated with New Deal Era funding. Based on Jackson’s interpretation of stratigraphic evidence, he believed a catastrophic fire destroyed the site long after abandonment; an interpretation that has persisted for over 75 years. A reanalysis of field data coupled with archaeomagnetic dating suggests this interpretation is incorrect. Instead, evidence points to a large fire and possible violence resulting in the abandonment of the site during the late 14th Century.

Location, Location, Location: Cavate Dwellings at the Mindeleff Site, Verde Valley, Arizona

Susan D. Hall
Desert Archaeology, Inc.

Cavate dwellings are clusters of artificial cave-like rooms carved into cliff faces of unusually soft rock. One of the finest cavate sites in the Southwest is in the Verde Valley, right across the river from Beasley Flat. Here the effects of geology and erosion produced the perfect conditions for building a large, but compact village overlooking the Verde River and convenient to arable land on its floodplain to the west. The site includes at least 343 rooms in the remains of 89 dwelling units. This presentation describes the qualities that made cavate dwellings practical and comfortable at this unique and highly desirable site.

The Differential Use of Flaked Stone through Time at Grey Fox Ridge (AZ N:4:110 (ASM))

Gregory Haynes
EnviroSystems Management, Inc.

Grey Fox Ridge is a multicomponent habitation site on the flood plain of the Verde River near Tuzigoot Pueblo. Excavations by EnviroSystems Management revealed 18 pit houses and 21 burials that generally predate the development of masonry pueblos. Substantial differences were found in the use of flaked stone between the earliest Dry Creek Phase features and other features that date to later Formative phases. In general, the number of material and artifact types gradually increased, suggesting significant changes in the length of residency and the stabilization of trade/exchange ties through time. Among other things, comparisons with other sites in the area support these findings.

Pre-Columbian Agaves in the Southwestern United States: A New Way of Looking at Species and their Landscapes.

Wendy Hodgson and Andrew Salywon
Desert Botanical Garden

The importance of agaves to Mesoamerica's cultures has distorted the plants' role for cultures north of the U.S. - Mexico border. Pre-Columbian farmers cultivated several species of agave in Arizona dating to at least A.D. 600 that have persisted in the landscape to the present. Most probably originated in northern Mexico and were traded as far north as Grand Canyon. Verde Valley is a region of intense agave cultivation, having at least four of the five known domesticates. Landscapes and plants should be viewed from a cultural, rather than "natural," perspective that helps discern cryptic species and requires interdisciplinary collaboration.

From Native Americans to New Agers: Changes in Place Names and Cultural Landscapes in the Red Rock Country of Sedona, Arizona

Steven R. James
California State University at Fullerton

The naming of geological, geographical, and cultural features on the landscape is an important aspect of all human societies as a means of understanding and recognizing one's place within the physical and cultural environment. Place names bestowed upon the land, however, reflect use, ownership, and control of the landscape by the dominate culture. In the Red Rock Country around Sedona, the etymology of most place names are derived from Anglo-Americans who moved into the region after the Yavapai-Apache conflicts of the 1860s-1870s and established settlements along Oak Creek and elsewhere in the Verde Valley. These and other contributions to regional place names, including designations for prehistoric archaeological ruins, spectacular red rock geological formations, western movies filmed in the area, and New Age vortex sites are discussed based on the author's archaeological investigations in the region during the past three decades.

Late 19th Century Archaeology in the Verde Valley, Arizona: The Work of Edward Palmer, Edgar Mearns, and Other Early Investigators

Steven R. James
California State University at Fullerton

Peter J. Pilles, Jr.
Coconino National Forest

Southwestern archaeologists working in Arizona today have probably read about the Verde Valley investigations conducted by Mindeleff and Fewkes during the 1890s for the Bureau of American Ethnology, Smithsonian Institution. However, earlier explorations were made by Drs. Edward Palmer and Edgar Mearns, two military surgeons stationed at Fort Verde following the Civil War. Although Palmer and Mearns became well known for their biological science contributions, they also conducted some of the first excavations at Montezuma Well, Montezuma Castle, and other sites in the Verde Valley. In 1890, Mearns published the results of his excavations and the first archaeological survey of the valley. The work of these two men and other early investigators are not well-known to modern archaeologists and are described in this presentation.

Correlating Groundwater Features with Archaeological Sites

David Johnson

In 1996 while locating groundwater sources in Peru I realized the ancient inhabitants mapped aquifers (areas of high permeability) flowing independently of the rivers with geoglyphs, habitation, cemetery, ceremonial and astronomical sites. Recent site surveys in Arizona and New Mexico have also shown this correlation exists. This paper will discuss a variety of sites in the Verde Valley where ancient manmade surface features are associated with aquifers. This is a new approach to expanding our knowledge of the Native Americans who lived here prior to 1492.

Before the Sinagua: Paleo- and Archaic-Indian Occupation of the Verde Valley

Ronald S. Krug

Peter J. Pilles, Jr.
Coconino National Forest

Because few well controlled studies were available, Fish and Fish (1977) concluded: "One of the more glaring deficiencies in the archaeological knowledge of the Verde Valley is information pertaining to the kinds, frequencies and distributions of sites for any time horizon".

Utilizing GIS/GPS mapping of unique Paleo- and Archaic-Indian projectile point types with established temporal ages recovered in the Verde Valley, this paper addresses advances in the knowledge base since that 1977 review. It will demonstrate progressive population density and migration patterns in the Verde Valley over a 10,000 year time span from the Paleo-Indian through Archaic eras.

The Tuzigoot Phase: Settlement Patterns, Trade, and Population

Peter J. Pilles, Jr.
Coconino National Forest

The Tuzigoot Phase (A.D. 1300-1400) is the culmination of the Southern Sinagua, when the population aggregated into about 50 large pueblos regularly spaced at 3 km. (1.8 mi.) intervals across the Valley. Another spacing, of about 30 km. (20 mi.), seems to occur between the very largest sites and may be a pattern that links to other large pueblos across central Arizona. Social Integration is inferred from specialized rooms, large features, and site plans. The Southern Sinagua had a dynamic trade system; however, there is a striking lack of interaction with their closest neighbors, the Salado. Previous arguments for abandonment have included overpopulation and soil exhaustion; however, estimates of food production and population suggest these are unlikely.

Now you See 'em, Now you don't: In Search of Yavapai along State Route 89A

Peter J. Pilles, Jr.
Coconino National Forest

Following the end of the Tuzigoot Phase, the Yavapai appear to be the sole occupants of the Verde Valley. Practicing a hunting and gathering life-style, physical evidence of their presence is difficult to discern. As part of the highway salvage project for the widening of SR 89A, an extensive site with artifacts indicating Yavapai occupation was tested by the Coconino National Forest with the help of various volunteer groups in hopes of confirming that a number of rock-cleared areas were the remains of Yavapai brush structures. This report summarizes the results of that testing project, which concludes that seeing such structures is easier than proving they exist.

Bird and Animal Sacrifices in the Sinagua Culture

Roberta K. Serface

In prehistory, birds and other animals have been used for ritualistic sacrifice in many cultures of the southwestern United States and Northern Mexico. There are many excavation reports, from all areas of Arizona, noting bone artifacts found in this type of setting; however, the Southern Sinagua Culture area seems to be lacking in information. Reports from early excavations in this area such as Tuzigoot, Montezuma Castle, Wupatki, Ridge Ruin, and Jackson Ranch, to name a few, mention macaw remains. However, there was no detailed information and the bone artifacts were not reanalyzed until later when Hargrave (1970) wrote his study of *Mexican Macaws*.

In 2001 McKusick wrote an extremely in-depth study of birds used for ritualistic ceremonial sacrifice called *Southwest Birds of Sacrifice*. With the information given it seems that all prehistoric cultures in Arizona had some religious need for macaws, turkeys and other species. From the Ancestral Puebloans to the north, Mogollon to the east, and Hohokam to the south, birds were an important part of these prehistoric cultural activities. New information for the Sinagua area can only be gathered when future excavations take place. This paper will explore previous reports of ceremonial sacrifice of birds and animals in the Sinagua region with an attempt to find out why and when those rituals ended.

Prehistoric Mortuary Patterns in the Verde Valley of Arizona: An Update and Synthesis

Kimberly Spurr
Past Peoples Consulting, LLC

Stewart Deats
EnviroSystems Management, Inc.

Patterns of mortuary behavior, including burial location, treatment of the deceased, types of mortuary offerings, and rituals observed during burial, provide important information about human societies. Recent excavations in the Verde Valley increase our understanding of prehistoric Southern Sinagua mortuary behavior and offer information useful for refining and revising earlier interpretations. Comparison of mortuary patterns and bioarchaeology of the human remains also illuminates relationships between the Southern Sinagua and other cultural groups, providing a more cohesive view of regional prehistory.

Late Prehistoric Plain Ware Production and Exchange in the Verde Valley

Christopher N. Watkins
Logan Simpson Design, Inc.

A detailed analysis of existing museum collections from Montezuma Castle and Tuzigoot have led to the identification of temper types associated with two plainware ceramic production zones in the Verde Valley. Substantial quantities of plain ware ceramics were exchanged between Verde Valley populations in late prehistory, suggesting that residents were closely integrated. Plain ware ceramics were only infrequently exchanged with settlements to the south and east. Using ceramic and other data, I argue for the presence of a meaningful social boundary between the late prehistoric inhabitants of the Verde Valley and Perry Mesa.

The Development of Solar Observation Methods in the Verde Valley

Kenneth J. Zoll

The prehistoric farming people of the Verde Valley, identified as the Sinagua, occupied the area from about AD 600 to 1400. It has been shown that the Hopi of Northeastern Arizona are culturally affiliated with the prehistoric Sinagua culture. The sun watching techniques by the Hopi have been well documented, so similar associations were likely present in Sinagua society.

The Sinagua used the harsh landscapes to their benefit. They learned to cultivate the land by closely linking their lives with the solar cycle. The open skies and surrounding jagged horizons made it easy to watch the seasonal migration of the sun. A planting calendar guided the agriculture and a ritual calendar helped the ancient peoples perform ceremonies that would ensure the perpetuation of the cosmos.

This paper presents the results of seven years of field investigations of several Hopi ancestral sites to identify and document sun watching practices among the Sinagua. A wide variety of such practices have been recorded from sun watching stations with rock art markers to light and shadow interaction with rock art panels. The sophistication of these observations range from the coupling of natural features with the concept of solar direction, to the development of shadow “instruments,” some with registration marks to improve accuracy. These sites show a developmental sequence among the Sinagua of increasing complexity.