



**Joint 56th  
Caddo  
Conference  
and 21st  
East Texas  
Archeological  
Conference**



**PROGRAM AND ABSTRACTS FOR THE 56<sup>TH</sup> CADDO  
CONFERENCE AND THE 21<sup>ST</sup> EAST TEXAS  
ARCHEOLOGICAL CONFERENCE**

**PROGRAM**

**Friday, March 28, 2014**

9-9:10 A.M. Introduction to the Caddo Conference and the East Texas Archeological Conference

**9 A.M.-4 P.M. Posters**

9:10-9:30 A.M. Using Google Earth as GIS: A Look at Caddo Sites in Southeastern Oklahoma, *by Robert L. Brooks (Oklahoma Archeological Survey, Norman, Oklahoma)*

9:30-9:50 A.M. 2013 Excavations at Spiro, *by Patrick C. Livingood (University of Oklahoma, Norman, Oklahoma), Scott W. Hammerstedt (Oklahoma Archeological Survey, Norman, Oklahoma), Jami J. Lockhart (Arkansas Archeological Survey, Fayetteville, Arkansas), Tim Mulvihill (Arkansas Archeological Survey, Fayetteville, Arkansas), Amanda L. Regnier (Oklahoma Archeological Survey, Norman, Oklahoma), George Sabo III (Arkansas Archeological Survey, Fayetteville, Arkansas), and John Samuelsen (Arkansas Archeological Survey, Fayetteville, Arkansas)*

9:50-10:30 A.M. “The Spiro Story” Film and Introduction by Elsbeth L. Dowd

**10:30-10:50 A.M. Break**

10:50-11:10 A.M. Caddo Connections to the Iconography of the Eastern Woodlands, *by Eloise Frances Gadus (Prewitt and Associates, Inc., Austin, Texas)*

11:10-11:30 A.M. What is a Picture Worth? Soule’s Caddo Homestead and Visions of Ancient Caddo Life, *by Ann M. Early (Arkansas Archeological Survey, Fayetteville, Arkansas)*

**11:30 A.M.-1:00 P.M. Lunch**

1:00-1:20 P.M. Archaeology, Culture, and K-12 Education, *by Sheila Richmond (Creole Heritage Center, Natchitoches, Louisiana)*

1:20-1:40 P.M. Oral History is the traditional form of Caddo history: The poems I have created from Caddo oral history preserve traditions for future generations, *by Guyneth Bedoka Cardwell (Kadohadacho Historical Society)*

1:40-2:00 P.M. Information derived from Burials from the Rowland Clark Site (41RR77), Red River County, Texas, *by Jesse Todd (AJC Environmental LLC, Carrollton, Texas)*

**2:00-2:40 P.M. Break**

2:40-3:00 P.M. A Possible Mississippian Ceramic Whistle, *by Mark Howell (Winterville Mounds State Park and Museum, Greenville, Mississippi) and James A. Rees, Jr. (Vice President, Arkansas Archeological Society and Research Associate at The University of Arkansas Museum)*

3:00-3:20 P.M. Resurrecting Old Pattonia: Uncovering the Lifeways of a 19th Century Shipping Port Community, *by Zachary M. Overfield (Perennial Environmental, Austin, Texas)*

3:20-3:40 P.M. The George C. Davis Mound Site: A Celestially-Oriented Site Lacking Multi-Mound Solar Alignments, *by Mark J. Richard (Louisiana Archaeological Society, Lafayette, Louisiana)*

**4 P.M. Caddo Conference Organization Board Meeting**

## Saturday, March 29, 2014

### 9 A.M.-4 P.M. Posters

#### 9 A.M. Current Research in Caddo Archeology Session

9:00-9:10 A.M. Jeffrey S. Girard (Northwestern State University of Louisiana, Natchitoches, Louisiana), Current Research at the Mounds Plantation Site

9:10-9:20 A. M. Ross C. Fields (Prewitt and Associates, Inc., Austin, Texas), Current Research at the Sabine Mine

9:20-9:30 A. M. Robert Z. Selden, Jr. (Center for Regional Heritage Research, Stephen F. Austin State University, Nacogdoches, Texas) and Michael Dee (School of Archaeology, University of Oxford, Oxford, England) On Caddo Corn: Using Chronometric Hygiene and Bayesian Statistics to Model the Entrance, Preservation, and Recovery of *Zea mays* within the Ancestral Caddo Territory

9:30-9:40 A.M. Tom Middlebrook, Current Research in Nacogdoches County, Texas

#### Presentations

9:40-10:10 A.M. Da?kaninnih hayuh: The OKC 2013-14 Caddo Language Class, *by Alaina Poole (Caddo Tribal Member), Tracy Newkumet Burrows (Caddo Tribal Member), Genny Deer (Caddo Tribal Member), Donna Williams (Caddo Tribal Member), Yonavea Hawkins (Caddo Tribal Member), Robin Williams (Caddo Tribal Member), Marion Ramirez (Caddo Tribal Member), Joshua Calhoun (Caddo Tribal Member), Jennifer Wilson (Caddo Tribal Member), Jeri Redcorn (Caddo Tribal Member), Tim Dowd (Southmoore High School), and Elsbeth Dowd (Sam Noble Museum, University of Oklahoma, Norman, Oklahoma)*

10:10 A.M.-10:30 A.M. A Reconstruction of the Caddo Salt Making Process at Drake's Salt Works, *by Paul N. Eubanks (Dept. of Anthropology, University of Alabama, Tuscaloosa, Alabama)*

#### 10:30-10:50 A.M. Break

10:50-11:10 A.M. Hearing and Hunting: Congenital Defects in an early Late Archaic male, *by Catrina Whitley (Bioarchaeology Support, Midlothian, Texas)*

11:10-11:30 A.M. New Evidence for Ceramic Trade Between the Late Prehistoric Occupants of the East Fork and the Caddo Peoples, *by Wilson W. Crook, III (Houston Archeological Society, Kingwood, Texas)*

#### 11:30 A.M.-1:00 P.M. Lunch

1:00-1:20 P.M. An Introduction to CRHR:ARCHAEOLOGY, by *Robert Z. Selden, Jr.* (Center for Regional Heritage Research, Stephen F. Austin State University, Nacogdoches, Texas) and *Dillon M. Wackerman* (Center for Digital Scholarship, Stephen F. Austin State University, Nacogdoches, Texas)

1:20-1:40 P.M. French Colonial Pottery recovered from Recent Excavations in Northwest Louisiana and Deep East Texas, by *Tom Middlebrook, George Avery, and Morris K. Jackson*

1:40-2:00 P.M. A Caddo Community in the Ouachita Mountains, by *Mary Beth Trubitt* (Arkansas Archeological Survey, Arkadelphia, Arkansas), *Meeks Etchieson* (U.S.D.A. Forest Service, Hot Springs, Arkansas), *Leslie L. Bush* (Macrobotanical Analysis, Manchaca, Texas), and *Vanessa N. Hanvey* (Arkansas Archeological Survey, Arkadelphia, Arkansas)

2:00-2:20 P.M. A Reanalysis of Strontium Isotopes from the Crenshaw Site: Implications on Caddo Interregional Warfare, by *John R. Samuelsen* (Arkansas Archeological Survey, Fayetteville, Arkansas)

2:20-2:40 P.M. Titus Phase Caddo Community Organization in the Upper Big Cypress Creek Basin of Texas: The Evidence from the Tankersley Creek Sites, by *Ross C. Fields* (Prewitt and Associates, Inc., Austin, Texas)

**2:40-3:00 P.M. Break**

**3-4+ P.M. Round Table Discussion**

- How do we recognize and study past communities in the Caddo area, discussion coordinated by Jeffrey S. Girard and Ross C. Fields. Panel: Ross C. Fields, Jeffrey S. Girard, Scott Hammerstedt, Amanda Regnier, John Samuelsen, and Mary Beth Trubitt

## ROUND TABLE DISCUSSIONS

### Discussion of Caddo Communities

**Discussion Coordinators:** Jeff Girard and Ross Fields

**Roundtable Topic:** How do we recognize and study past communities in the Caddo Area?

**Background:** Communities can be viewed as settlements or groups of settlements organized to coordinate social interaction, subsistence and technological production, exchange, facility construction, defense, ritual, and other activities. Communities can be based on factors such as allegiances to leaders, rituals, important events or commemorations of such (histories), religion and symbolic systems, kinship, and notions of common ancestry (ethnicity). Some recent studies consider notions of social identity as primary for defining communities. Important to the consideration of Caddo communities are notions of spatial contiguity, spatial boundaries, and the presence of central places, although communities also can involve networks of identity and communication that may lack spatial contiguity, connecting settlements in different geographical areas and creating divisions at local spatial levels. This roundtable will discuss (1) expectations regarding the nature and spatial distributions of material culture in the archaeological record in respect to notions of community; and (2) how researchers define and interpret communities in different parts of the Caddo Area.

#### Issues for Discussion (among others):

- What kinds of archaeological traits do we expect to cluster in geographically circumscribed areas (and why)? How do we recognize networks of communication that lack spatial contiguity?
- To what degree did landscape conditions (uplands, major floodplains) and subsistence practices influence the nature and spatial configurations of communities?
- Were there cosmic or other cultural structural principles that may have factored in the ways that communities were defined and organized?
- Did Caddo communities constitute relatively stable, functionally integrated entities likely to leave archaeological signatures reflected well by traditional archaeological systematics? Or were communities unstable, being constantly subject to the whims of human agency and unpredictable events, resulting in archaeological patterns that are not in accord with conventional frameworks used to organize data. What are the implications for archaeological taxonomies, and for use of historic or ethnographic models (e.g., Hasinai or Teran map)?
- How variable were communities across the Caddo Area and for different periods of time?
- To what degree were Caddo community organizations similar to those in other areas in the Southeast?

## ABSTRACTS

**Using Google Earth as GIS: A Look at Caddo Sites in Southeastern Oklahoma, by Robert L. Brooks (*Oklahoma Archeological Survey, Norman, Oklahoma*)**

Google Earth is widely used as a map reference tool in archaeology and other sciences as well as for recreational applications. However, its capabilities to be more than a mapping tool have not been widely applied. This presentation explores use of Google Earth as an inexpensive alternative to ARCGIS. A model dataset using Caddo sites in southeastern Oklahoma has been developed to demonstrate Google Earth's GIS capabilities. Methods for incorporating archaeological data in to Google Earth are presented as well as their management and research potential.

**Oral History is the traditional form of Caddo history: The poems I have created from Caddo oral history preserve traditions for future generations, by Guyneth Bedoka Cardwell (*Kadohadacho Historical Society*)**

A history is essential to identity, which is essential for a future. The only people in the world who can adequately and appropriately represent the Caddo past are the Caddo people. As opposed to written history which is recorded, oral history is a history that is lived. An oral history will tell stories that the written record usually does not. It is dangerous and a sign of powerlessness to let an outsider tell you your history or culture. Oral history is as viable as any other history and it is more personal and meaningful to the Caddo. The poems I have created are from the voices of Caddo people. I am of the Fort Cobb Caddos who lived by the fort in the early days. We were called the "kee whut nah sundah people," those who lived by the fort or soldiers. My poems tell about the "kee whut nah sundah people" and their life journey. I have read my poems for the conference before and now I am going to introduce more characters that lived the Caddo life style in the 1800s and early 1900s, people that were of the "kee whut nah sundah people."

**New Evidence for Ceramic Trade Between the Late Prehistoric Occupants of the East Fork and the Caddo Peoples, by Wilson W. Crook, III (*Houston Archeological Society, Kingwood, Texas*)**

Recently three near complete Caddo ceramic vessels have been identified from Late Prehistoric sites along the East Fork of the Trinity and its tributaries. These include a small Killough Pinched jar from the Upper Farmersville site (41COL34), a Foster Trailed-Incised jar from the Sister Grove Creek site (41COL36), and a Maydelle Incised vessel from the Lower Rockwall site (41RW1). The former two are the result of recent discoveries by the speaker; the latter was found as a collection of 34 sherds by a local avocational archeologist in the 1960s and only recently has been partially reconstructed. All three of these ceramics have well-established origins in either East Texas along the Red River or from the drainage systems of the Upper Neches, Sabine, and Sulphur rivers. The discovery of specialized woodworking tools in East Fork sites (the "East Fork Biface") supports the idea that bois d'arc is the probable trade material for the Caddo ceramics. This presentation summarizes the finds and characteristics of each vessel and

puts on record further evidence of contact between the Caddo and Late Prehistoric populations living in the Upper Trinity River basin.

**"The Spiro Story," introduced by Elsbeth L. Dowd (Sam Noble Museum, University of Oklahoma, Norman, Oklahoma)**

This film was produced in the 1950s by the University of Oklahoma and KOCO-TV. It includes original scenes from the WPA-era excavations at Spiro Mounds and other sites, footage of artifact processing back in the lab, and historic reenactments. A period piece, it is a wonderful example of public outreach by the archaeological community in the mid-twentieth century.

**What is a Picture Worth? Soule's Caddo Homestead and Visions of Ancient Caddo Life, by Ann M. Early (Arkansas Archeological Survey, Fayetteville, Arkansas)**

Will Soule's photographs of a Caddo family taken in western Oklahoma have been iconic images used in many research situations by historians and archeologists. This paper is part of a critical evaluation of the photograph, the photographer, and the uses and misuses that scholars have imposed on the images. Uncritical assumptions about the images may have obscured their content and message.

**A Reconstruction of the Caddo Salt Making Process at Drake's Salt Works, by Paul N. Eubanks (Dept. of Anthropology, University of Alabama, Tuscaloosa, Alabama)**

The Caddo salt makers at the Drake's Salt Works Site complex played a critical role in the production of salt during the early contact period in northwestern Louisiana. Not only was this mineral used to season food, it would have also been important in the preparation of hides and the preservation of meat. Using archaeological data from recent excavations, as well as the historic record, this paper attempts to provide a reconstruction of the salt making process at Drake's Salt Works. This process began by filtering salt-impregnated soil using water from nearby streams and boiling the resulting liquid brine in a thin-walled, standardized bowl. The salt bowls appear to have been made on site using clay deposits found beneath the salt flats. Once the liquid brine had evaporated leaving behind the solid salt, the salt cakes were removed and prepared for short-term storage or traded to the French, Spanish, or other American Indian groups without direct access to this commodity.



**Titus Phase Caddo Community Organization in the Upper Big Cypress Creek Basin of Texas: The Evidence from the Tankersley Creek Sites, by Ross C. Fields (*Prewitt and Associates, Inc., Austin, Texas*)**

This paper uses data generated by testing and data recovery excavations at sites along the U.S. Highway 271 Mount Pleasant Relief Route in Titus County, Texas, to look at the issue of Titus phase Caddo community organization on Tankersley Creek in the upper part of the Big Cypress Creek basin. Reconstructing some aspects of this community is straightforward, but others are not. There likely are multiple reasons for this, including comparative data that are spotty in terms of both quality and geographic coverage and the difficulty of identifying community-specific identifiers in the material culture that remains. Perhaps just as limiting, though, is the possibility that the models of Caddo settlement patterning and sociopolitical organization used to help interpret the evidence do not do justice to the complexity that characterizes the groups who occupied the region.

**Caddo Connections to the Iconography of the Eastern Woodlands, by Eloise Frances Gadus (*Prewitt and Associates, Inc., Austin, Texas*)**

Recent investigations have shown that Caddo iconography can be linked to the Mississippian ideologies. But, there are also vestiges in Caddo ceramic motifs of an older ideology that became widespread during the Woodland period. This older ideology is represented by a little-recognized motif identified for the Ohio Hopewell. It is an iconic symbol for the Hopewell that can stand-alone or is associated with a composite creature with characteristics of bears, birds, pumas, and serpents. The motif occurs in the iconographic repertoire of Native groups from the middle Mississippi valley to the Gulf coast, and to the Caddo homeland in East Texas.

**A Possible Mississippian Ceramic Whistle, by Mark Howell (*Winterville Mounds State Park and Museum, Greenville, Mississippi*) and James A. Rees, Jr. (*Vice President, Arkansas Archeological Society and Research Associate at The University of Arkansas Museum*)**

In 1963 private collector and amateur archeologist T. H. Robertson wrote that he salvaged two small well-made and largely intact pottery vessels from a disturbed burial at Noble Lake, a protohistoric site south of Pine Bluff, Arkansas. One of these vessels was a small shell-tempered globe, 6.5 cm in diameter, with a Hudson Engraved design on its exterior and two small openings in its top. Robinson did not speculate about the function of this unusual vessel, but in a 1995 article by John House, it was tentatively identified as a “seed jar.” The vessel eventually made its way into the collections of The Museum of the Red River in Idabel, Oklahoma, where it was identified as a ceramic whistle by ethnomusicologist Richard Payne. Our paper revisits Payne’s identification by testing the vessel’s capabilities as a sound-maker using various acoustical analysis procedures. We will also discuss what the presence of this rare artifact might reveal about the interactions of various peoples in the Trans-Mississippi South during the protohistoric period.

**2013 Excavations at Spiro, by Patrick C. Livingood (University of Oklahoma, Norman, Oklahoma), Scott W. Hammerstedt (Oklahoma Archeological Survey, Norman, Oklahoma), Jami J. Lockhart (Arkansas Archeological Survey, Fayetteville, Arkansas), Tim Mulvihill (Arkansas Archeological Survey, Fayetteville, Arkansas), Amanda L. Regnier (Oklahoma Archeological Survey, Norman, Oklahoma), George Sabo III (Arkansas Archeological Survey, Fayetteville), and John Samuelsen (Arkansas Archeological Survey, Fayetteville, Arkansas)**

In 2013 researchers from the Arkansas Archeological Survey, Oklahoma Archeological Survey, and University of Oklahoma conducted the first professional excavations at the Spiro site in over three decades. This fieldwork was promoted by remote sensing evidence that showed that likely prehistoric structures were in danger of being lost due to erosion. This paper will present data from the first of several planned excavations at the site and discuss how these are changing our interpretation of the site.

**French Colonial Pottery recovered from Recent Excavations in Northwest Louisiana and Deep East Texas, by Tom Middlebrook, George Avery, and Morris K. Jackson**

The piney woods area of El Camino Real de los Tejas, spanning from Natchitoches, Louisiana to Crockett, Texas is an area characterized by multi-cultural interaction under generally peaceful conditions during the middle to late 18th century; this would change after the Louisiana Purchase of 1803. The French in Louisiana had established economic and social relations with the Spanish and various American Indian groups in Texas during the 18th century and identifying French pottery in the piney woods area of El Camino Real de los Tejas allows an examination of the nature of the interaction between the various European and American Indian groups. French colonial pottery recovered from 18th century sites in Northwest Louisiana (Natchitoches Parish) and Deep East Texas (Nacogdoches County) excavated within the last 10 years will be discussed and interpreted.

**Resurrecting Old Pattonia: Uncovering the Lifeways of a 19th Century Shipping Port Community, by Zachary M. Overfield (Perennial Environmental, Austin, Texas)**

An East Texas steamboat landing community, known as Pattonia, operated from 1843 to the late 19th century. Here I attempt to identify what socioeconomic stratification and consumerism on the landscape meant for the daily lives of Pattonia's past occupants. In order to address this question, I interpret the architectural features that once stood at Pattonia and their spatial organization. Additionally, I conduct a ceramic analysis of two household assemblages with unknown occupants in order to determine their relative socioeconomic status and reconstruct the social landscape of Pattonia. These methods enable a greater understanding of the unique historical and social significance of Pattonia. The Pattonia landscape was a place of struggle and perseverance, and was ultimately abandoned as it failed to endure beyond its entrepreneurial foundations.

**Da?kaninnih hayuh: The OKC 2013-14 Caddo Language Class, by Alaina Poole (Caddo Tribal Member), Tracy Newkumet Burrows (Caddo Tribal Member), Genny Deer (Caddo Tribal Member), Donna Williams (Caddo Tribal Member), Yonavea Hawkins (Caddo Tribal Member), Robin Williams (Caddo Tribal Member), Marion Ramirez (Caddo Tribal Member), Joshua Calhoun (Caddo Tribal Member), Jennifer Wilson (Caddo Tribal Member), Jeri Redcorn (Caddo Tribal Member), Tim Dowd (Southmoore High School), and Elsbeth Dowd (Sam Noble Museum, University of Oklahoma, Norman, Oklahoma) FOR SATURDAY, 30 minutes**

Caddo language is alive in OKC! (Along with basketball - Da?kaninnih hayuh translates as Thunder Up.) The language class that began last year in Norman has been meeting once a week this year in Oklahoma City, where we hoped to attract new participants. We have delved into grammar, continued to sing, and have acquired access to diverse archival resources that are very useful to our efforts. We would like to take this time to share some of what we have learned.

**The George C. Davis Mound Site: A Celestially-Oriented Site Lacking Multi-Mound Solar Alignments, by Mark J. Richard (Louisiana Archaeological Society, Lafayette, Louisiana)**

The George C. Davis site (41CE19) provides an example of a prehistoric mound site with no mound shape nor multi-mound solar alignments, yet exhibiting a solar focal point to the east of the site. This focus is located at the intersection of solstice alignments running through mounds A and C and forms the basis of the site layout. A mathematical grid is demonstrated as a means of surveying the entire site from a higher elevation while creating a focal point in a low-lying area. Reasons for the focal location seem religiously motivated.

**Archaeology, Culture, and K-12 Education, by Sheila Richmond (Creole Heritage Center, Natchitoches, Louisiana)**

This presentation will feature the development of an experience for eighth grade students that involved archaeology and Caddo culture. The partnership of cultural and educational entities proved to be a key issue in the ability to present the adventure. The developers tied the activities to the curriculum and provided a hands-on, discovery learning experience for the students. This model can be adapted for other historic and/or cultural sites.

**A Reanalysis of Strontium Isotopes from the Crenshaw Site: Implications on Caddo Interregional Warfare, by John R. Samuelsen (Arkansas Archeological Survey, Fayetteville, Arkansas)**

The salvage excavations of over 300 skulls and mandibles at the Crenshaw site (3MI6) have created many questions regarding the practices which led to their deposition. Strontium isotopes taken from 80 individuals at the site were processed as part of a NAGPRA grant in 2009 and led to a presentation at the 2010 Caddo Conference that claimed they supported evidence of interregional warfare between the Caddo and peoples in the Southern Plains. A more recent study by Schambach et al. in 2011 suggested that the strontium isotopes were too damaged to be useful in making interpretations. However, a reanalysis and comparison with recent literature show that the strontium isotopes are valid and consistent with the criteria for biologically available strontium for the area around Crenshaw, challenging the interpretations that the people deposited are victims of interregional warfare.

**An Introduction to CRHR:ARCHAEOLOGY, by Robert Z. Selden, Jr. (Center for Regional Heritage Research, Stephen F. Austin State University, Nacogdoches, Texas) and Dillon M. Wackerman (Center for Digital Scholarship, Stephen F. Austin State University, Nacogdoches, Texas)**

In an effort to synthesize the large amount of digital information being produced within Caddo archaeology, we (the Center for Regional Heritage Research [CRHR] and the Center for Digital Scholarship) have created a new digital research resource: CRHR:ARCHAEOLOGY. The infrastructure of CRHR:ARCHAEOLOGY was constructed using the ContentDM platform—designed for digital collections management—and incorporates a blog, Facebook, Twitter, and the CRHR website to enlist the largest audience possible. While this resource was constructed to support the current and future endeavors of Research Associates, Research Affiliates, and Research Fellows at the CRHR, the datasets and reports are viewable and downloadable by a global audience. Additionally, we are in the process of attaining stable URL's for each entry in CRHR:ARCHAEOLOGY—likely a direct object identifier (DOI)—that will make each digital entry (3D .pdfs, images, reports, etc.) citable in reports, articles, and books. Due to the nature of archaeological research at the CRHR, which remains largely focused upon macro-level trends across the larger ancestral Caddo territory, CRHR:ARCHAEOLOGY should quickly come to represent one of the more formidable sources of digital information and data available to Caddo researchers.

**Information derived from Burials from the Rowland Clark Site (41RR77), Red River County, Texas, by Jesse Todd (AJC Environmental LLC, Carrollton, Texas)**

The Rowland Clark site (41RR77) is located on the Red River in Red River County, Texas. During the excavation, 39 Caddo burials were unearthed that date to the McCurtain phase (ca. A.D. 1300-1650+). In this presentation, similarities and differences between burials from different periods in the phase will be presented, including the amount and types of ceramic vessels placed in the burials; arrow point type associations with ceramic vessels; and burial directions. I will also consider whether any of the burials at the site represent high status individuals.

**A Caddo Community in the Ouachita Mountains, by Mary Beth Trubitt (Arkansas Archeological Survey, Arkadelphia, Arkansas), Meeks Etchieson (U.S.D.A. Forest Service, Hot Springs, Arkansas), Leslie L. Bush (Macrobotanical Analysis, Manchaca, Texas), and Vanessa N. Hanvey (Arkansas Archeological Survey, Arkadelphia, Arkansas)**

New archeological excavations at a site along the upper Ouachita River in Montgomery County, Arkansas, have produced a wealth of new information about Caddo Indian history in the Ouachita Mountains. Trubitt and Etchieson led excavations at 3MN298 in 2013 as a cooperative research project by the Arkansas Archeological Survey, the U.S.D.A. Forest Service, and the Arkansas Archeological Society. Artifacts and features indicate Native Americans lived at this location between at least 6000 B.C. to A.D. 1650 (the Middle Archaic through Mississippian periods). Here, we highlight our results and interpretations about the Caddo community between the mid-15<sup>th</sup> and mid-17<sup>th</sup> centuries, based on structure excavation, new AMS dates, and analysis of charred plant remains. We plan to return to the Ouachita National Forest to complete our research at the site in June of 2014.

**Hearing and Hunting: Congenital Defects in an early Late Archaic male, by Catrina Whitley (Bioarchaeology Support, Midlothian, Texas)**

Auditory atresia is a rare condition in which the external auditory meatus fails to develop. This presentation discusses a case of congenital auditory atresia in a male from Lake Ray Hubbard, Dallas, Texas, that was exposed by the 2011 drought. Dating to the Early Late Archaic 1300-1000 B.C., it is the earliest archaeologically documented and radiocarbon-dated case of the condition. No other cases have been reported in hunter-gatherer societies. The condition affects directional hearing and sound localization due to the lack of an ear canal and the use of these abilities warn us of danger, help us sort out sounds, and provide information on where a sound originated. Difficulty in locating sounds could result in an inability to hunt or perform other tasks requiring such capabilities. His lack of nutritional deficiencies and survival into his late 30s to early 40s suggests those residing in North Texas during the Early Late Archaic had flexible roles for men and cared for individuals with disabilities.

## POSTER PRESENTATIONS

### **Factors Affecting the Magnetic Susceptibility of Sandy Mantle Soils in the East Texas Archaeological Region, by Steve Ahr (URS Corporation, San Antonio, Texas)**

Magnetic susceptibility is commonly measured in soils to identify buried archaeological zones and to assess the stratigraphic and cultural integrity of site deposits. Magnetic anomalies within a soil profile are often attributed to increased cultural activity or occupation surfaces. However, specific soil-forming processes that influence magnetic enhancement, such as fine clay neo-formation and translocation (lessivage), are rarely considered with regard to archaeological interpretation. This study integrates soil magnetic susceptibility, field morphology, soil characterization data, and micro-morphology to investigate the effects of pedogenic processes on magnetic enhancement in sandy mantle soils, and provides a baseline for interpreting magnetic signatures at archaeological sites in east Texas.

### **Direct Evidence (finally!) for Ancient Aquatic Tuber Use in Northeast Texas (*Nuphar lutea*, Nymphaeaceae), by Leslie L. Bush (Principal, Macrobotanical Analysis, Manchaca, Texas, and Research Affiliate, Center for Regional Heritage Research, Stephen F. Austin State University, Nacogdoches, Texas)**

Excavations at the Murvaul Creek site (41PN175) near Carthage, Texas, in 2013 yielded carbonized remains of an aquatic tuber in the family Nymphaeaceae. The tubers are most likely pondlily (*Nuphar lutea*, also called bull lily, cow lily, or spatterdock), but they may be white waterlily (*Nymphaea odorata*). Historic consumption of waterlily and especially pondlily tubers is documented for Native people of the Northeast, California and Oregon, Montana, Wisconsin, the Great Plains, and the southern Great Lakes region. For the Caddo area, historical accounts mention consumption of “roots” and “ground nuts,” but these seem to refer to terrestrial tubers. Terrestrial tubers have been identified from several East Texas sites (e.g., 41UR30), and the seeds and stems of plants with aquatic tubers have been recovered from several sites (e.g., Cedar Grove and Sentell in Arkansas and Pine Tree Mound, Stallings Ranch, and 41CP408 in Texas). The carbonized tubers from the Murvaul Creek site represent the first direct evidence of tuber consumption in addition to previously documented seed consumption and the use of Nymphaeaceae stems for medicinal purposes.

Pondlily and waterlily tubers require long cooking (36-72 hours) at low heat to become edible for humans. The burned tubers at the Murvaul Creek site thus point toward an East Texas tradition of earth oven cooking, parallel to the camas bulb cooking of the Plains and the agave/sotol traditions of the Southwest.

**The Intensification of Corn (*kisi'*)-based Agriculture in the Ancestral Caddo Region: The Radiocarbon Evidence, by Robert Z. Selden, Jr. (Center for Regional Heritage Research, Stephen F. Austin State University, Nacogdoches, Texas) and Timothy K. Perttula (Center for Regional Heritage Research, Stephen F. Austin State University, Nacogdoches, Texas and Archeological & Environmental Consultants, LLC, Austin, Texas)**

Within the entirety of the ancestral Caddo region—including parts of Arkansas, Louisiana, Oklahoma, and Texas—there are 135 radiocarbon dates from corn samples. For older assays found to lack  $\delta^{13}\text{C}$  data, we use value estimates for fractionation correction suggested by Stuiver and Reimer (-10‰ for charred maize, a C4 plant). Each date was recalibrated in IntCal13 before date combination (R\_Combine) in version 4.2.3 of OxCal. Using the summed probability distribution (SPD) of all assays, and the contributing SPDs from each site as evidence, we find that the Formative (ca. A.D. 800-1000) and Early (ca. A.D. 1000-1200) Caddo periods were marked by the low level use of corn, while the Middle Caddo period (ca. A.D. 1200-1450) likely indicates the probable florescence (temporally) of corn-based agriculture as a technological advancement by the Caddo people. This is a trend that is further corroborated by recent research regarding Caddo stable isotope datasets.

**Synthesis: What We Have Learned from the East Texas Radiocarbon Database, by Robert Z. Selden, Jr. (Center for Regional Heritage Research, Stephen F. Austin State University, Nacogdoches, Texas) and Timothy K. Perttula (Center for Regional Heritage Research, Stephen F. Austin State University, Nacogdoches, Texas, and Archeological & Environmental Consultants, LLC, Austin, Texas)**

This poster provides a short overview of what we have learned from the East Texas Radiocarbon Database since it became available on the Council of Texas Archeologists' website in 2011. These successes are numerous and include the advancement of novel methodological approaches; an improvement in our comprehension of the temporal nuances within the East Texas Archaic; the division of the East Texas Woodland period into Early, Middle and Late; the refinement of the Caddo temporal chronology – particularly from a geographic perspective -- and it has provided one line of evidence to use to argue for the florescence of corn-based agriculture during the Middle Caddo period. In short, the synthesis of radiocarbon dates from the East Texas region should be viewed as a considerable success. While but a single line of evidence, it will continue provide an important analytical foundation as more synthetic datasets are assembled and become available for use in the future.

**Linking Instrumental Neutron Activation Analysis (INAA) and Geology in the Ancestral Caddo Region**, by *Robert Z. Selden, Jr. (Center for Regional Heritage Research, Stephen F. Austin State University, Nacogdoches, Texas), Timothy K. Perttula (Center for Regional Heritage Research, Stephen F. Austin State University, Nacogdoches, Texas and Archeological & Environmental Consultants, LLC, Austin, Texas), Suzanne L. Eckert (Department of Anthropology, Texas A&M University, College Station, Texas) and David L. Carlson (Department of Anthropology, Texas A&M University, College Station, Texas)*

This poster illustrates the success of a novel method of INAA that has been employed to reveal geochemical signatures in Caddo ceramic vessel sherds that correlate with local surficial geology. The geochemical data from the sherd assemblages were used within an exploration of potential ceramic provenance, which was successful at demarcating sherds from ceramic vessels made from clays in either the Claiborne or Wilcox Groups. Further geochemical segregation was also apparent between the Reklaw Formation in the Claiborne Group, and the Weches Formation in the Wilcox Group. These results point to a high degree of geochemical variability within the East Texas region, which stands in stark contrast with the numerous previous INAA studies that seemed to indicate that the clays in the East Texas region were quite homogenous. The analytical gains achieved through using this method seem to highlight an area of Caddo research where significant progress can be made with regard to the interpretation of INAA results in the future.

**Instrumental Neutron Activation Analysis (INAA) of Shell-Tempered Ceramics in the Ancestral Caddo Region: Rethinking Methods**, by *Robert Z. Selden, Jr. (Center for Regional Heritage Research, Stephen F. Austin State University, Nacogdoches, Texas), Timothy K. Perttula (Center for Regional Heritage Research, Stephen F. Austin State University, Nacogdoches, Texas, and Archeological & Environmental Consultants, LLC, Austin, Texas), and David L. Carlson (Department of Anthropology, Texas A&M University, College Station, Texas)*

The geochemical analysis of shell-tempered ceramics in the ancestral Caddo region has been a matter of confusion since the mid-1990s. While Caddo archaeologists have long perceived most or all of the shell-tempered ceramics in East Texas to have originated from two different areas within the Red River basin, the geochemical data and interpretations remain inconsistent with that idea. This poster takes another look at this dataset, and considers an approach that was initially put forth by MURR, and then seemingly abandoned. Using only the geochemical data from shell-tempered sherds, we take a closer look at the contributions of calcium (Ca), strontium (Sr), sodium (Na), and manganese (Mn), and illustrate the spatial and temporal consistencies that can be used to establish and expand arguments for the trade and/or exchange of shell-tempered ceramics from multiple locations in the Red River basin.



**At the Confluence of GIS and Geochemistry: Identifying Geochemical Correlates of Ripley Engraved Caddo Ceramics, by Robert Z. Selden, Jr. (Center for Regional Heritage Research, Stephen F. Austin State University, Nacogdoches, Texas), and Timothy K. Perttula (Center for Regional Heritage Research, Stephen F. Austin State University, Nacogdoches, Texas, and Archeological & Environmental Consultants, LLC, Austin, Texas)**

In this poster, we discuss a new approach to the identification and definition of spatial trends in archeologically-recovered ceramics associated with geochemical results produced using instrumental neutron activation analysis (INAA). Using all of the Ripley Engraved INAA samples, we posited that clays in the Claiborne and Wilcox Groups can be successfully demarcated by differences in concentrations of sodium (Na), cerium (Ce), and zinc (Zn) in the sherd pastes. Using a subset of those data from the Big Cypress Creek basin, we find that ceramics manufactured in three different Caddo political communities can be successfully demarcated based upon differential concentrations of arsenic (As), iron (Fe), and vanadium (V) found in the ceramic paste of Ripley Engraved sherds. With the larger dataset, we then identify six spatial trends associated with the geochemistry of Ripley Engraved Caddo ceramics.

**Toward a Morphometric Phylogeny of Caddo Ceramics: A Test of 3D Geometric Morphometrics, by Robert Z. Selden, Jr. (Center for Regional Heritage Research, Stephen F. Austin State University), Timothy K. Perttula (Center for Regional Heritage Research, Stephen F. Austin State University, Nacogdoches, Texas, and Archeological & Environmental Consultants, LLC, Austin, Texas), and Michael J. O'Brien (Department of Anthropology, University of Missouri, Columbia, Missouri)**

In this poster, we use 3D geometric morphometrics as an exploratory tool for examining diversity in vessel form (shape) among 27 whole or reconstructed Caddo vessels from the Vanderpool site in Smith County, Texas. Forty-one landmarks from each vessel were exported to version 2.5 of Morphologika for generalized Procrustes analysis and principal components analysis and were then exported to R for cluster analysis (depending on sample size). Despite the small sample size, results indicate that 3D geometric morphometric analysis is an avenue of ceramic research where substantive analytical gains can be realized.

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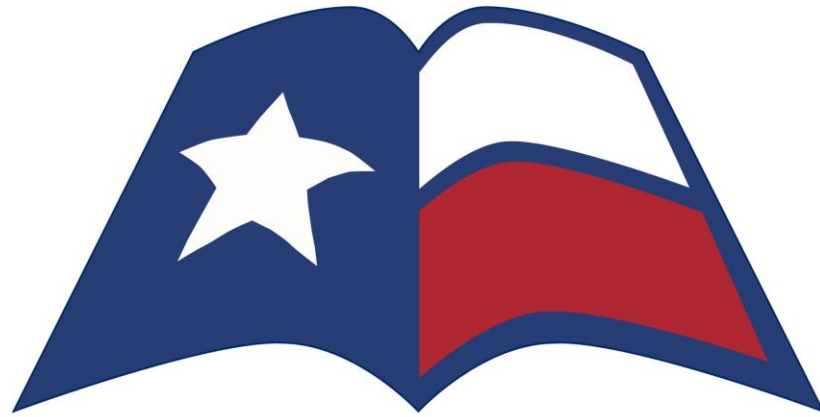
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