La Vista de la Frontera

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SUL ROSS THE FRONTIER UNIVERSITY of Texas
MEMBER THE TEXAS STATE UNIVERSITY SYSTEM

From the Director

I want to thank everyone for an incredibly supportive year. We have been busy! We gave numerous public lectures, hosted booths at several local events, attended multiple regional and national conferences, and got peer-reviewed publications out. Retired staff member Ann Ohl finished her manuscript on the Middle Archaic period in the Trans-Pecos region and archaeologist Erika Blecha finished a book on the Sierra Vieja Boulderglyphs. Both will be available for purchase in 2024.

We had a great turnout for the conference. Our banquet speaker, Dr. Matthew Bennett, came from Bournemouth University in England to talk about his collaborative and innovative research at White Sands, New Mexico, pushing human presence in the Americas back by thousands of years. Next year is our 30th anniversary conference so we plan to build upon this year's event and make it a memorable celebration.

We also continued our long partnership with the University of Kansas and made some important discoveries that will further advance our understanding of the First Peoples in the Big Bend region. Thank you to all our students and volunteers who have helped with the work at these sites but, most importantly, thank you to the landowners who allow us to conduct this important research on their land!

Our largest accomplishment of the year was using our Department of Education grant to hire the first-ever Anthropology faculty members at Sul Ross State University. These new faculty members hit the ground running and got federal grant applications out the door while they developed a Master of Arts program and revamped the undergraduate Anthropology course curriculums. We are going to carry this momentum into the new year and continue making the Center and Sul Ross State University a destination for a new generation of students and researchers.

—Bryon Schroeder

Master's in Anthropology at Sul Ross State University Coming in 2024!

The northeastern Chihuahuan Desert, including the Texas Big Bend, contains one of the best-preserved and dynamic records of human history in North America. Sul Ross State University (SRSU)—situated in the heart of this incredible natural laboratory—will soon be accepting applications for a two-year Master of Arts program in Anthropology that will provide students with unparalleled training and research opportunities in the Texas Big Bend. The development of an MA program is a major component of the $1 million federal grant from the Department of Education that SRSU and the Center for Big Bend Studies (CBBS) received in 2022.

The launch of the MA program represents an exciting new direction for increasing student engagement and research within the greater Big Bend. As our supporters and members know, the Big Bend is an incredible laboratory for anthropological and archaeological research and learning. However, until

Staff member, Erika Blecha, showing Sul Ross student Bailey Larremore how to measure a stadia rod.

the launch of the MA program at SRSU, any prospective students interested in pursuing graduate research topics in the Big Bend had to seek enrollment at other universities—despite CBBS having research funds and access to millions of acres of private land with cultural heritage sites. The new MA program will provide students with a background in anthropological theory, field methods, and research that can be applied anywhere in the US by leveraging the rich cultural resources preserved in the greater Big Bend and using a hands-on learning approach. The creation of an anthropology MA program complements the current focus at SRSU on conservation and land management, producing students who are better informed to meet the diverse challenges of implementing effective natural and cultural resource programs. Our objectives for the MA program align perfectly with SRSU's mission: "Rooted in the distinctive surroundings and history of the Big Bend and the US-Mexico border regions of Texas, Sul Ross State University provides accessible, comprehensive, and life changing education through high quality teaching, research, cultural awareness, creativity, and service."

Students, volunteers, and CBBS staff at the end of a successful field session at the Genevieve Lykes Duncan Site.

Preparing Students for the Archaeology Job Market

The creation of the MA Anthropology program coincides with the re-establishment of the Anthropology minor, and both are occurring at an optimal time to meet the growing demand for archaeologists in the US. With the passage of the recent Infrastructure Investment and Jobs Act, the amount of funding associated with archaeology and new development projects is forecast to increase to nearly $2 billion annually by 2031. According to researchers, this will result in the creation of an estimated 11,000 new archaeology jobs—5,700 of which will require an MA or PhD. However, many academic institutions across the country are downsizing their archaeology programs, resulting in a deficit in trained archaeologists who have the skills and expertise to lead cultural heritage management projects. SRSU Anthropology master's students will leave the program with the skills and expertise they need to be competitive and flexible in a diverse job market.


Former UTSA undergraduate anthropology student and current Sul Ross rangeland ecology graduate student, Hannah Crittendon.

Despite this demand for expertise in cultural heritage management, we also recognize that not every archaeologist pursues a career in the private sector. Student anthropological projects will be conducted in collaboration with CBBS to produce world-class archaeological research, providing each SRSU Anthropology MA student with training in the core components of research (research design, data analysis, critical thinking, writing, and dissemination) and cultural resource management (CRM). It is crucial that our students enter the field with an understanding of the nuances of both industry and academic pursuits, and how they complement each other.

Additionally, CBBS is actively fundraising to secure additional support for student research, including developing collaborative projects with faculty, staff, and students at other SRSU departments. These cross-disciplinary projects will provide SRSU anthropology students with financial support and myriad research opportunities while creating a collaborative, supportive, and engaged research community at SRSU to foster world-class education and student research opportunities. Further, we will give students the chance to research the region's deep human history and contribute to a shared understanding of human interaction in what is now an international border region.

A Hands-on, Immersive MA Curriculum

The anthropology courses at SRSU will emphasize hands-on training to familiarize students with the application of different methods/technologies for the appropriate setting. To this end, we will utilize a major asset of SRSU: proximity to millions of acres of undeveloped land that stretches across dynamic environments and contains world-class cultural resources.

The curriculum begins with immersive courses dedicated to understanding the intricacies of CRM archaeology, developing research designs, conducting data analysis, employing field and lab methods, and using common mapping software such as ArcGIS Pro. Students will also take courses in Anthropological and Archaeological Theory to provide them with a broad understanding of the field's history, contemporary thinking, and future directions. Topical courses such as Lithic Analysis, Rock Art Research, and Experimental Archaeology provide additional hands-on experience that are crucial for careers in CRM and Academia, but which are not offered at the MA level at many institutions. Additional electives such as Human Ecology, Hunter-Gatherers, Anthropology of War, First Peoples of the Western Hemisphere, and the Archaeology of the Greater Big Bend Region provide important background and theoretical frameworks for conducting archaeological research.

Throughout, anthropology faculty will introduce students to a variety of innovative technologies and techniques such as high-speed photography, 3D modeling, and portable X-ray fluorescence, so that students are familiar with the applications of different analytical processes when they enter the job market. Importantly, the anthropology program will facilitate our graduates to develop and use the intellectual and practical competencies that are the foundation of personal and professional development and lifelong learning, including oral and written communication, scientific and quantitative reasoning, critical analysis and reasoning, problem solving, technological competency and data literacy.

The new MA curriculum is 36 credit hours, with 18 credits of Anthropology core curriculum, three thesis credits, and 15 elective credits (nine of which must be Anthropology). We anticipate admitting up to six students during the fall semester each year to maintain small cohort sizes and low student-to-professor ratios. SRSU is proud to offer one of the most affordable graduate degrees in Texas ($3,330 T&F per semester for 9 graduate credit hours [2023–24 rates]), and CBBS is actively seeking foundations and grants to provide additional student support.

If you are a potential student or know someone who is looking for a graduate program, please contact us at **anthropology@sulross.edu** to learn more about the program. We anticipate accepting applications beginning in spring 2024 for the next academic year, and we are excited to increase student research in the Big Bend!

Odyssey and CBBS Collaborative Fieldwork Summer 2023

This summer we celebrated a five-year anniversary of collaboration with the University of Kansas' Odyssey program, looking for evidence of First Peoples in not only the Big Bend region but all of North America. We continued work at both the Genevieve Lykes Duncan (GLD) site and San Esteban Rockshelter. Just when we thought we had found it all, these sites continued to surprise and excite us. Our work with Odyssey, led by Dr. Rolfe Mandel, will be featured in an upcoming episode of CBS Sunday Morning. We will keep you all posted on our social media and electronic newsletter when we know it is airing.

Odyssey crew members working at the Genevieve Lykes Duncan site.

Next summer, we will pick up where our work left off. We are inviting some of the leading researchers in the field to conduct analyses on ancient thermal features we have located in the back of San Esteban Rockshelter to help us understand more about these important combustion features. At GLD, we are confident we have located a Clovis-aged occupational surface; we have plans on opening more of the site to understand this ancient landscape and potentially find more of the camp.

We are so grateful to our amazing volunteers who have come not only from across the big state of Texas but across the country—Ohio, North Carolina, Oregon—and to all the landowners who permit us access and support our work on their land.

New Staff Introductions

Dr. Charles Koenig trimming an Agave lechuguilla.

Charles Koenig joined CBBS and the Sul Ross faculty in the fall of 2023 as an Assistant Professor. He received his BA from the University of Colorado at Boulder (2009), MA from Texas State University (2012), and PhD from the University of Wyoming (2023). His research focuses on Indigenous earth-oven technology, rock art, rockshelters, caves, experimental archaeology, and structure from motion photogrammetry. He has spent most of his career researching Indigenous hunter-gatherer sites in the Lower Pecos regions of Texas where he excavated earth ovens in open-air and sheltered sites, including Eagle Cave, a deeply stratified rockshelter containing a 13,000-year record of Indigenous lifeways. He has also worked on numerous rock art projects with Shumla Archaeological Research and Education Center as well as Sacred Sites Research in Texas, Wyoming, Montana, and Utah.

At Sul Ross, Charles is excited to collaborate with CBBS faculty and staff in developing research programs related to the deep Indigenous history in the Big Bend region. One aspect of the emerging CBBS research will be specifically designed to incorporate Indigenous knowledge, plant ecology/biology, archaeological data, and actualistic experiments to evaluate the changing role(s) of earth ovens within Indigenous cultures over the past 11,000 years. This project builds upon ongoing CBBS excavations at sites such as Genevive-Lykes Duncan (GLD) and Canta Recio that are associated with the terminal Pleistocene adaptation of earth ovens (GLD) and ovens used within horticultural/agricultural groups (Canta Recio).

Devin Pettigrew is a Visiting Assistant Professor at CBBS, having arrived at Sul Ross in August 2023. Devin researches the tools and tactics of ancient hunting cultures worldwide. He received an MA at the University of Arkansas in Fayetteville in 2015 and a PhD at the University of Colorado Boulder in 2021. Devin is excited to apply his research foci to the greater Big Bend. His primary research involves experimental replication and testing of ancient combat and hunting weapons, such as the atlatl and dart, bow and arrow, and straight-flying boomerang (rabbit stick). Archaeological projectile experiments not only provide information about the ballistic potential of ancient weapons, but also the signatures they leave behind in the archaeological record.

Dr. Devin Pettigrew in Big Bend National Park.

The Big Bend region is unique for its preservation of organic hunting technologies not found in most other parts of the world, offering significant potential for ancient hunting research, such as direct artifact replication and testing, C14 dating, residue analysis, and more. Devin's research interests also include the ecology of ancient and contemporary hunting, the factors that lead to hunter success, and how ancient hunting practices better inform about conservation and wildlife management policies in the modern world. Sul Ross provides an excellent location to pursue these topics due to the focus on wildlife and rangeland management at the university. Devin has taken part in archaeological surveys and excavations of early paleo through historic period sites in Arkansas, Wyoming, Colorado, and New Mexico.

Amanda Castañeda began as the Assistant Director for CBBS in October 2023. She was born and raised in San Antonio and received her B.A. and M.S. in Anthropology from Texas State University. Amanda has been a professional archaeologist since 2010, working in various capacities in cultural resource management, nonprofit organizations, academic research programs, and state agency settings. Throughout Amanda's career in these diverse positions, she has acquired

Amanda Castañeda making cordage at Monahans Sandhills State Park.

various experience and skills including coordinating large scale archaeological projects, fundraising, producing technical reports and academic publications, and planning outreach efforts and events. She is excited to bring her past experiences to help continue the success of the Center.

Additionally, Amanda looks forward to pursuing projects pertaining to her research interests which include rock art, ground stone technology, and plant use/subsistence. Amanda's ground stone research has been centered on West Texas and the Permian Basin of New Mexico, and she has completed extensive research on the rock art of the Lower Pecos Canyonlands and the Rocky Mountains/Great Plains. With the greater Big Bend being such a dynamic place for cultural interaction, land use, and cultural expression, Amanda is interested in seeing how aspects of the archaeological record compare and fit into the larger Indigenous world of what is now Texas, Mexico, the American Southwest, and the southern Plains.

OUTREACH IN 2023

► CBBS staff, Bryon Schroeder and Erika Blecha, presented original research at the 88th Annual Society for American Archaeology conference in Portland, Oregon (March) and at the 97th Annual Meeting of the West Texas Historical Association in Abilene (April).

► We spent the day at San Esteban Rockshelter with a Public/Environmental History class from the University of Texas at San Antonio to better their understanding of the deep history in the region (March).

► We engaged with the local and state community by giving presentations for Friends of the Texas Historical Commission (April), the Marathon Public Library (June), the Texas Master Naturalists Tierra Grande Chapter (September), and the Trans-Pecos Music Festival (September).

► CBBS staffed a booth and provided demonstrations at the "Mile-High Mountains Fest" at Davis Mountains State Park, as part of the 100-year anniversary celebration of Texas State Parks (May).

► The Marfa Lights Festival provided us a great opportunity to host an interactive learning booth to visit with old friends and make new ones in the community (September).

► CBBS students and staff had a booth at Fall on the Mall, the annual student organization membership drive, on the Sul Ross campus (September).

► CBBS staff participated in the National Day of Service event on the Sul Ross campus and helped package over 46,000 meals for local food pantries (September).

► We had a fantastic showing at the Texas Archeological Society's 94th annual meeting in San Marcos. Five CBBS staff members gave presentations, one Sul Ross undergraduate student presented a poster, and we hosted an informational booth (October).

► We traveled to Monahans State Park to participate in their Centennial Anniversary event and led a hands-on activity making cordage from yucca fibers (November).

► To round out the year, CBBS staff hosted a class from the Dartmouth Center for Social Impact on a tour of Pinto Canyon Ranch as part of their 10-day immersion trip across the Texas-Mexico border (December).

Assistant Director, Amanda Castañeda, leading a cordage making workshop at Monahans State Park.

Researching ancient weapons at CBBS

By Devin Pettigrew

Figure 1. Example configurations of two different types of ballistic experiment; controlled (top) and naturalistic (bottom).

Ballistics research has a significant range of applications, perhaps most prominently in forensics, medicine, police, and wartime applications. However, overlooked applications of ballistic research are currently being pursued at CBBS: the ballistics of ancient and modern projectile weapons, such as the atlatl and dart and bow and arrow. Significantly, these weapons—especially bows and crossbows— continue to be used by hunters today. Although the forms of many weapons have changed, the same ballistic principles apply, which means that the same or similar approaches can be used to study both ancient and modern arrows, for instance.

Archaeological research on weapon ballistics is an actualistic endeavor that involves experiments on two ends of a spectrum: 1) naturalistic experiments employing human users of replica weapons, and 2) controlled experiments that can be thought of as traditional laboratory science with a lot of variable control (Figure 1). The author uses both approaches to understand archaeological weapons (Pettigrew 2021; Pettigrew et al. 2023; Pettigrew and Bamforth 2023). Recently, I collaborated with an engineer and broadhead expert, Darrel Barnett, to apply these methods to modern hunting arrows (Figure 2). Understanding the efficacy of ancient hunting weapons is important for archaeological understanding of hunting cultures in the past. However, ballistic research of modern broadheads is a field with little current scientific research even though there are significant implications for modern hunters and regulators who are concerned with the welfare of hunted game animals.

Within archaeological weapons research, there are numerous applications. Archaeologists generally attempt to reproduce weapons to understand how they perform, and to create analogs of impact-damaged projectile points and skeletal bones (Figure 3). Creating analogs of broken and used archaeological weapons is important, because we don't actually know the specific history of any projectile point found on any archaeological site. Was it thrown with a heavy or light atlatl dart, shot with an arrow from a heavy or light draw bow, at what distance and angle did it impact, what was its intended target, and exactly what did it impact (flesh, bone, soil, wood, rock)? Generally, we don't even know much, if anything, about the rest of the weapon system beyond the more durable stone points that withstand the elements—the rest of the technology was generally perishable. In a few localities on Earth, including the greater Big Bend, conditions are amenable to the preservation of organic elements, with tremendous benefit for replication and testing (http://basketmakeratlatl.com/), but even here most of the weapon technology has essentially disappeared from the record, leaving us to reconstruct the past from limited components. Last, when archaeologists excavate animal remains, having examples of experimentally reproduced skeletal lesions or butchering marks can help us distinguish between natural and cultural processes that resulted in the deposition of those remains.

Well thought-out experiments that incorporate sophisticated modern observational equipment (high-speed cameras, radar, accelerometers, etc.) can generate all of these analogs, along with detailed ballistic histories for comparison with archaeological remains that lack such histories, while simultaneously creating data that is useful for thinking about weapon applications and performance, all in a single experiment. Although no experiment will precisely replicate the past, we can learn a lot by attempting to do so. Not only does ancient weapon research produce archaeological analogs; it gives us a sense of the sophistication and skill of ancient hunters and warriors, who had clever methods to produce effective equipment. We cannot understand ancient tools without trying to reverse engineer them and gain personal experience in using them.

Our work on this topic is hoped to intersect other interests at Sul Ross. Hunting is an important focus at SRSU due to the tremendous efforts of the Borderlands Research Institute, Animal Science, and Range and Wildlife Management departments, but wildlife biologists and managers would like to know what pre-modern baseline ecological systems looked like so that restoration efforts can have something to target. This benefits significantly from archaeological research, because for a very long time, most places on Earth were inhabited by humans who helped, often substantially, to shape the landscape. To this end, ancient human ecologies, including the ecology of hunting, is an important topic that we plan to pursue and teach at SRSU. Additionally, extending our ballistics research to include more contemporary hunting weapons will benefit students and researchers at SRSU who are interested in these topics.

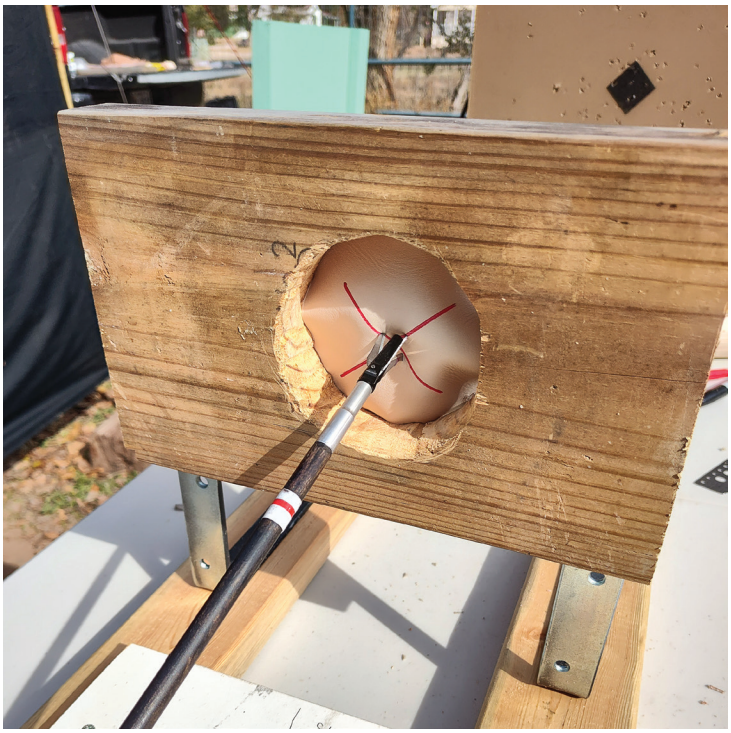

Figure 2. The result of shooting a poorly designed mechanical hunting broadhead into 2 mm thick tooling leather as a simulant for prey animal skin.

Figure 3. Example results of naturalistic experiments with archaeological weapons on carcasses of humanely culled bison.

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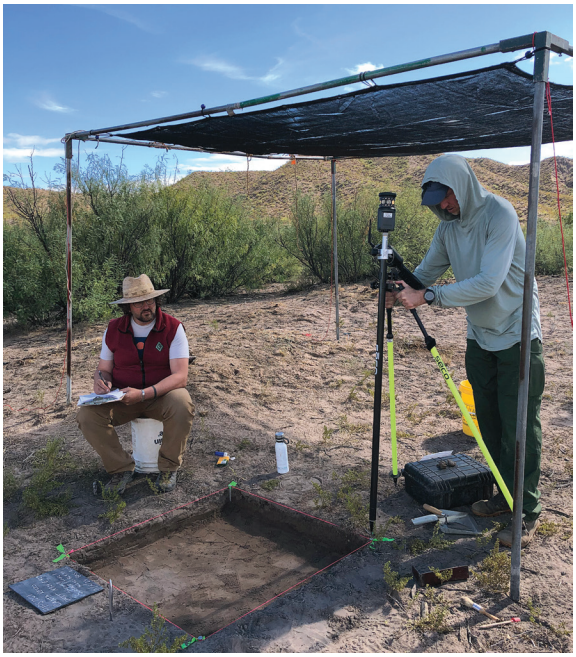
Canta Recio del Rio Bravo: Investigating Indigenous Food Systems at a Probable La Junta de los Rios Village Site

Plant domestication is at the center of a long discussion over the importance of the role of food production in the development of "civilization." A late phenomenon in terms of overall human evolution, plant cultivation is perhaps the most important change that led to increased sedentism, thereby enabling the development of cities, states, and the modern global economy. The process developed independently in different locations around the world and is a defining characteristic that distinguishes humanity's long hunting-gathering chapter from our more recent agricultural one. Ongoing archaeological research across the globe has found that the route between initial manipulation and subsequent reliance is not direct—there is a vast "middle ground" between full-time foraging and full-scale agricultural economies (Smith 2001). Encompassed within this middle ground are a variety of techniques collectively known as "low-level food production," which include practices such as pruning, sowing, weeding, selective harvesting, transplanting, and irrigation (Anderson 2005; Smith 2007). These practices increase the amount/yield of wild plants and thus mark the shift from food acquisition to food production. Human manipulation via these low-level production strategies turned some wild plants into bioengineered cultivars, which in turn were adapted into other low-level strategies and ultimately intensive agricultural systems. This is not to say that once societies integrated low-level production they were placed on a unidirectional path towards full-scale sedentary agriculturalists (Smith 2001), but instead to emphasize the pan-human importance of this adaptive change.

Identifying when, where, and how humans moved from food acquisition to low-level food production, and finally to a fully agricultural economy, is crucial for understanding this major transition in human history. Importantly, this change does not only impact subsistence strategies. Indigenous histories, cultural traditions, and cosmologies are integrally tied with foodways (Lumholtz 2011 [1903]), and behaviors such as social aggregations and feasting become more common as people start producing surplus food (Hayden 2014). Said differently, changes in food production are reflected in a multitude of cultural expressions.

The Trans-Pecos region of Texas provides a unique study area for evaluating Indigenous low-level food production strategies over the long-term. Located in the northeastern Chihuahuan Desert the region contains a wide variety of Indigenous archaeological sites used over the past 13,000 years. Like many areas of North America, the Ice Age record from the Chihuahuan Desert suggests Indigenous peoples were reliant on hunting large animals like mammoth and bison (Koenig et al. 2022). However, beginning around 11,000 years ago, Indigenous peoples began to shift to a diet with greater reliance on plants—especially plants like agave (*Agave* sp.), which requires extensive cooking in earth ovens (Dering 1999; Walter and Schroeder 2023). This emphasis on earth oven plant processing continued after arrival of Europeans, but around or before 2000 years ago Indigenous peoples of the Big Bend began to incorporate maize (corn) into their diets (Schroeder 2022). At the time of the first Spanish entradas (ca. A.D. 1540), Indigenous peoples were growing corn and other domesticated species along the Rio Grande and Rio Concho as part of an agricultural system in La Junta de los Rios villages.



Bryon Schroeder looks on as Devin Pettigrew records an excavation unit at Canta Recio.

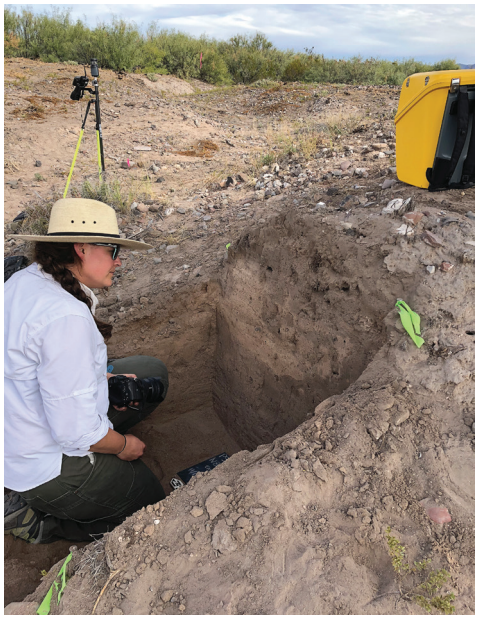
La Junta de los Ríos is a district of Pueblo IV-like communities around the confluence of the Río Conchos and Rio Grande. These semi-sedentary villages are thought to have practiced floodplain farming beginning around AD 1200, continuing at various levels through historic contact (Kenmotsu 2019). The appearance of ceramics and more substantial sites with architecture marks a fundamental transition in the West Texas region to a more sedentary "Southwestern" style lifeway beginning as early as AD 200 but prevalent along the Rio Grande corridor by AD 1000. Even though Indigenous communities around La Junta were farming Mesoamerican domesticates like corn, beans, and squash, they also continued to be reliant on plant foods like agave and mesquite.

Canta Recio

In 2020, CBBS archaeologists recorded Canta Recio, a large burned rock midden along the Rio Grande approximately 35 miles upstream from Presido. The surface artifact assemblage contains hundreds of

ceramic sherds, indicating the site is contemporaneous with La Junta de los Rios village sites further downriver. J. Charles Kelley (2000) hypothesized that burned rock middens like Canta Recio were related to La Junta and were locations where Indigenous peoples baked agave and sotol prior to the processed plants being transported to more prominent villages as either dried cakes or fermented beverages. However, these La Junta-aged midden sites on the Rio Grande were never researched, so we do not know the social and economic implications of such a distribution system. A gift from Roper Technologies is supporting ongoing research at Canta Recio to explore the development, expression, and duration of low-level food production in the greater Big Bend. We hypothesize that Canta Recio—and likely other La Junta age sites—may be a La Junta village location where Indigenous peoples were gardening and managing both wild and cultivated foods.

It is likely Indigenous peoples in the Big Bend developed a system for managing stands of wild agave long before maize was introduced (cf. Anderson 2005; Carney et al. 2021), and that maize was subsequently incorporated into an existing land management system centered around agave and earth ovens. During the La Junta period, and expressed at sites like Canta Recio, the reliance on maize and agave may have morphed in response to growing Indigenous populations along the Rio Grande and Rio Concho. The subsequent result could have been the establishment of the La Junta de los Rios villages and other semi-permanent puebloan communities, the creation of agave gardens in riverine-proximate locales, and the transition from higher elevation maize gardens towards intensive farming along major waterways. We intentionally emphasize the roles of maize and agave at Canta Recio, although we acknowledge that hunting and various other plant resources (i.e., beans and squash) played important roles in Indigenous subsistence and land use strategies.



Amanda Castañeda inspects a profile at Canta Recio.

In West Texas, active research into Jornada Mogollon at La Junta de los Ríos to date has not systematically explored the founding and interconnectedness of these villages, nor is there a consensus on the duration of village occupations. Some argue that a few Jornada colonists developed the village cluster, and others suggest a local hunter-gatherer population adopted Jornada technology and architecture (Kenmotsu 2019). These arguments are based on historical records and limited early excavations with almost no radiocarbon dates. Furthermore, there has been little concerted effort to understand the site record of the Rio Grande corridor from Presidio to El Paso, and the interaction between La Junta and contemporary urban sites like Paquimé in north-central Chihuahua.

Our work at Canta Recio is still in its infancy. Thus far our excavations have targeted erosional exposures and the burned rock midden, and we anticipate continuing work for several years and adapt our strategies as new findings emerge. We have not received any radiocarbon dates, but projectile points and ceramics suggest the site may have been intermittently occupied between ca. A.D. 800 to 1450. We are excited to continue delving into the site and gaining a better understanding of La Junta period subsistence and social interaction.

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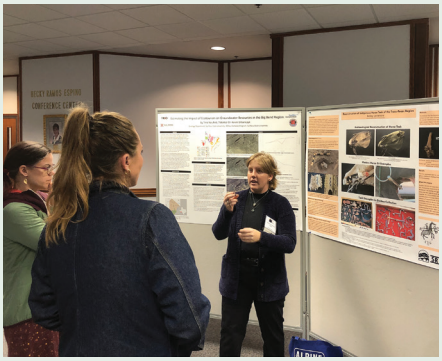
CBBS 29th Annual Conference Wrap-up

Our 29th Annual Conference was a wonderful celebration of scholarship with a great turnout. We cannot express our gratitude enough to all in attendance. We are extremely grateful for all the positive feedback we received, as we hoped our attendees would enjoy the diversity of our planned sessions as well as interactions with peers and new acquaintances. We had over 150 registrants, and our third annual silent auction raised over $2,000 for student travel. We are deeply appreciative of the contributions from our community. We want to recognize and thank the following businesses and individuals who donated their talent and services: Katelyn Betsill Del Vecchio, Big Bend Coffee Roasters, Big Bend Saddlery, Château Wright, Chinati Hot Springs, Tom Curry and Curry Studio and Gallery, Desert Rose, The Gage Hotel, Hotel Saint George, Lajitas Golf Resort, Liz Potter Photography, Marfa Public Radio, Museum of the Big Bend, Tim Roberts, Terlingua Trading Company, Kristina Van Dyke-Fort, Kelsey Wogan and the Sul Ross Environmental Lab, and Bill Wright. Our sincere thanks go out to all who placed bids—your participation made this event a success!

Conference sponsors enable us to provide a quality experience for all in attendance and deserve special recognition: Amy Oxenham and Brick Vault Barbecue & Brewery, Château Wright, Linda Duncan, and Tall City Brewing Co. We thank you for your generosity and continued support. For the second year, we had sponsors for our student presenters—Richardson Gill and West Texas National Bank via David Rogers provided incentive awards to encourage student participation and defray the cost of travel and printing posters. Our fundraising efforts to expand student involvement are still in the initial stages, but from last year's proceeds and 2023 sponsors we were able to support budding scholars from Sul Ross, Texas State University, University of Oklahoma, University of Texas at El Paso, University of Texas at San Antonio, and Texas A&M University!



Sul Ross State University student Bailey Larremore presents her research poster.

Dr. Bennett's banquet talk at the Granada Theatre was packed with conference attendees.

Our banquet speaker this year was Dr. Matthew Bennett, world-renowned researcher and Professor of Environmental and Geographical Sciences at Bournemouth University in England. He presented published and unpublished results of his paradigm-shifting work on the entry of the first people into North America at White Sands, New Mexico. It was a privilege to host a scholar of his caliber working on cutting-edge research—the banquet was a packed house!

THANK YOU!

The following foundations and individuals have provided support since the publication of the 2022 CBBS Newsletter. These contributions have played significant roles in our many achievements.

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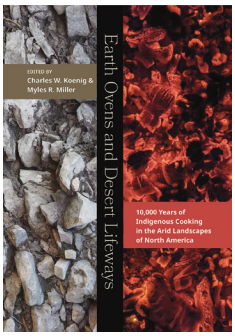


Earth Ovens and Desert Lifeways: 10,000 Years of Indigenous Cooking in the Arid Landscapes of North America

Edited by Charles W. Koenig and Myles R. Miller
Published by University of Utah Press: https://uofupress.lib.utah.edu/earth-ovens-and-desert-lifeways/

For over 10,000 years, earth ovens (semi-subterranean, layered arrangements of heated rocks, packing material, and food stuffs capped by earth) have played important economic and social roles for Indigenous peoples living across the arid landscapes of western North America. From hunter-gatherers to formative horticulturalists, sedentary farmers, and contemporary Indigenous groups, earth ovens have been used to convert inedible plants into digestible food, fiber, and beverages.

This edited volume explores the longevity and diversity of earth oven baking and examines the subsistence strategies, technological paradigms, and social contexts within

which earth ovens functioned. It is the first study to cover such a broad geographic area, reflecting an array of promising research that highlights ongoing efforts to understand the archaeological record of earth ovens.

The Marks they Left: Indigenous Biographic Rock Art and Early Ranching Boulder Glyphs Along the Rio Grande of Southwest Texas
Erika S. Blecha
Center for Big Bend Studies, Sul Ross State University, Occasional Papers No. 14

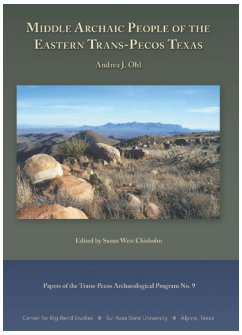
In 2018 the Center for Big Bend Studies of Sul Ross State University began a thorough investigation and documentation of 390 petroglyphs pecked on 227 small, vesicular basalt boulders located in the Sierra Vieja breaks, a subset of the Chihuahuan Desert near the Rio Grande in the Big Bend of Texas. The recorded figures on the boulders span from anthropomorphic and zoomorphic figures to enigmatic designs and historic brands, initials, and dates. The variation in iconography suggests both Indigenous peoples and Anglo/Hispanic settlers made the boulder petroglyphs, offering us the opportunity to study a time-transgressive phenomenon not previously reported from the region and with few corollaries outside of the area. Many of the anthropomorphic and zoomorphic figures are depicted in combat and bear similarities to the Biographic rock art tradition more commonly seen throughout the Great Plains. The proximity of these glyphs to a series of sites we interpret as defensive gives insight into the interactions and social/political influences of pericolonial Indigenous people in the Big Bend ca. AD 1640–1880. This book will discuss the evidence of Biographic rock art, pericolonial Indigenous violence, and historic lifeways along the Big Bend Rio Grande corridor.

This publication will be available for purchase through the CBBS website store or in person at our office in early 2024.

Middle Archaic People of the Eastern Trans-Pecos Texas
Andrea J. Ohl
Center for Big Bend Studies, Sul Ross State University, Papers of the Trans-Pecos Archaeological Program No. 9

By 4,500 years ago, the vast lands of the Stockton Plateau and Basin and Range country south and west of the Pecos River in Texas had been transformed into a desert. People of the Middle Archaic period were the beneficiaries of more than 4,000 years of adaptation and technological innovation by their forebears. They were very successful hunters and gatherers with a rich material culture and strong social network. They left their mark at over 500 known sites in the eastern Trans-Pecos. This work attempts the first synthesis for these people since Robert J. Mallouf completed one 35 years ago with only 106 sites at his disposal.

This publication will be available for purchase through the CBBS website store or in person at our office in early 2024.



La Vista de la Frontera is the annual newsletter of the Center for Big Bend Studies of Sul Ross State University. Address correspondence to the Editor, Center for Big Bend Studies, Box C-71, Alpine, TX 79832, or cbbs@sulross.edu.

Editing by Bryon Schroeder & Susan Chisholm
Graphic design by Vast Graphics

Mission

The Center for Big Bend Studies fosters interdisciplinary scholarship of the diverse prehistoric, historic, and modern cultures of the borderlands region of the United States and Mexico, with emphasis on the area encompassed by Trans-Pecos Texas and north-central Mexico. The Center is committed to the recovery, protection, and sharing of this region's rich cultural legacy through dynamic programs involving research, education, public outreach and publication.

Volume 33, 2023
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Journal of Big Bend Studies

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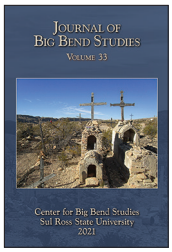

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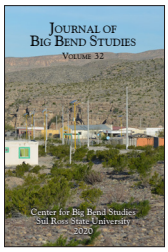

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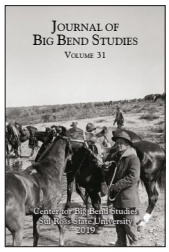

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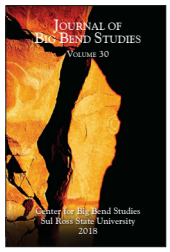

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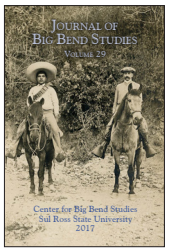

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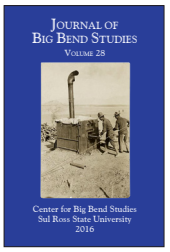

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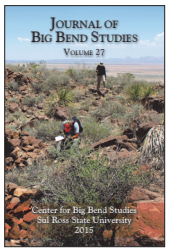

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Stickers

Matte gloss. Options are the CBBS logo 3" circle design or the 3" die-cut Spirit Eye Cave design. (shown on opposite page)

CBBS Caps

Brushed washed dark khaki, 100% cotton twill cap embriodered with CBBS logo. Casual, unstructured design, 6 panels, pre-curved visor, adjustable velcro enclsure. One size fits most.

CBBS Challenger Grande Mug

These 14 oz. ceramic mugs have a classic, simple style with a bright white glossy finish and large comfortable handle. Dishwasher safe.

CBBS T-Shirts

Big Bend's **Tablecloth Rockshelter** t-shirts were designed by our former graphic designer, Avram Dumitrescu. Available in light tan, adult sizes S, M, L, XL, XXL and youth sizes S, M and L.

The **Spirit Eye Cave** t-shirt (shown on opposite page) is available in blue, adult sizes XL and XXL. Both shirts are made of preshrunk 100% cotton.

CBBS Vintage Logo T-Shirts

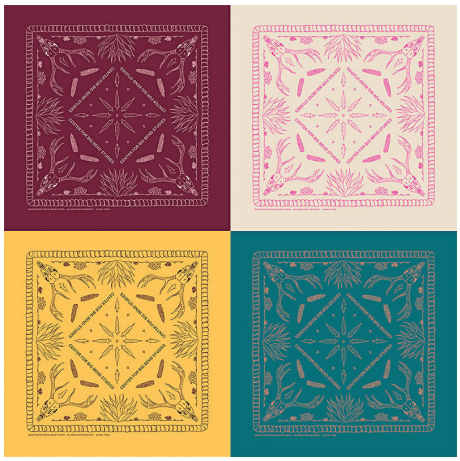
Comfortable Bella + Canvas jersey tee, 100% Airlume combed & ringspun cotton. Available in Natural with vintage, hand-drawn CBBS artwork printed on the front in Burnt Orange and CBBS logo printed on the sleeve in Antique Gold.

CBBS Bandanas

These 22 x 22 inch bandanas are 100% cotton. Silkscreened with an original hand-drawn design created by local West Texas artists.

Bone Awl & Botanicals Bandana: This bandana features bone awls, basket weave, Livermore arrowpoints, and Chihuahuan desert plants (agave, sotol, & prickly pear).
Available in – Pink & Turquoise, Navy & Cream, Olive & Wheat, Natural & Burnt Umber.

Deer Skull & Maize Bandana: This bandana features deer skulls, maize, Livermore arrowpoints, and Chihuahuan desert plants (agave & prickly pear).
Available in – Maroon & Light Pink, Natural & Fluorescent Pink, Turquoise & Coral, Gold & Dark Maroon.



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The CBBS is accepting titles and abstracts for presentation slots at the 30th Annual Conference, scheduled for November 8-9, 2024. Please send abstracts with a short bio to cbbseditor@sulross.edu. Deadline: October 1, 2024.