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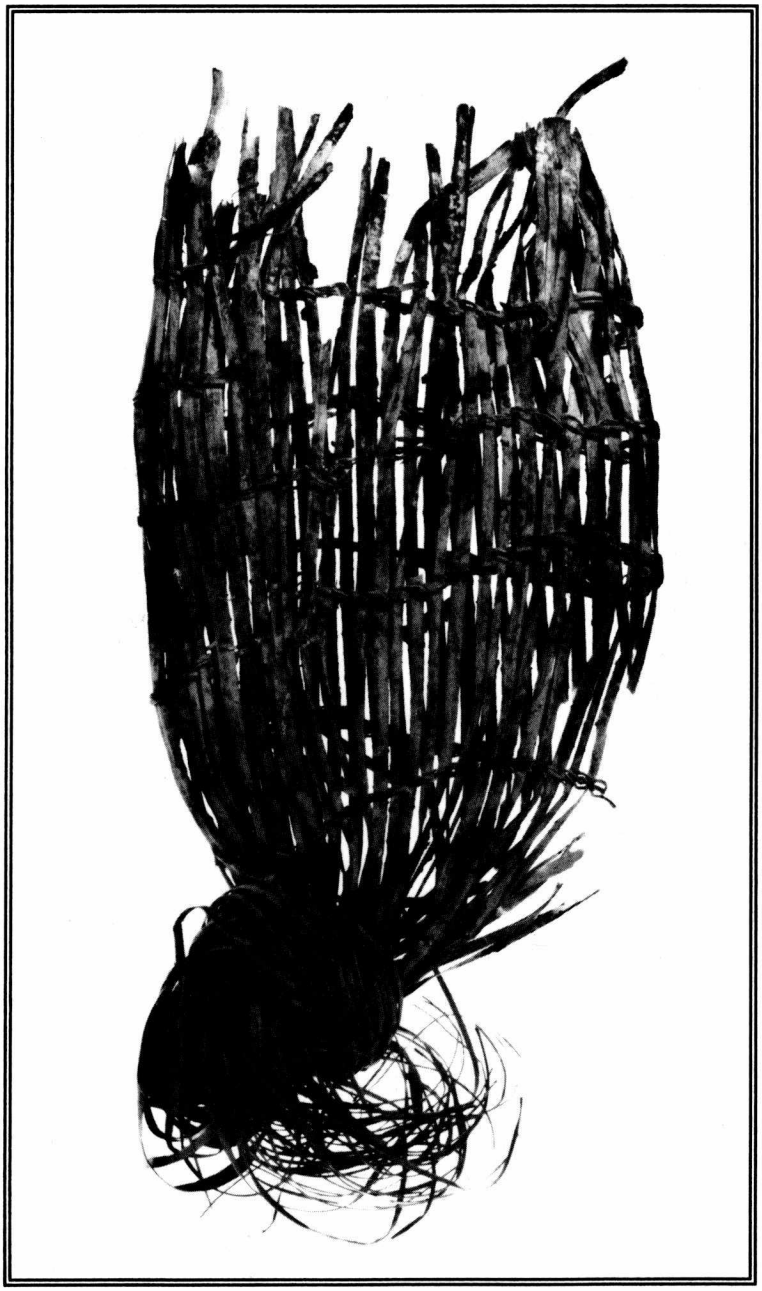

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LA TIERRA

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Evelyn Lewis
Editor

About the Cover: See article starting on page 6 for an interesting paper on prehistoric artifacts found in northern Mexico. Item is a crude but serviceable basket. Our staff artist, Richard McReynolds drew the incised pebbles seen on pages 19 and 20.

Manuscripts for the Journal should be sent to: Editor, *La Tierra*, Evelyn Lewis, 9219 Lasater, San Antonio, Texas 78250. Past issues of the Journal and Special Publications available by requesting an order form from STAA (Jim Mitchell), P. O. Box 791032, San Antonio, Texas 78279. Dr. T. R. Hester may be contacted at the Texas Archeological Research Laboratory, University of Texas, Austin, Texas, 78712.

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EDITORIAL

EXPERIMENTAL ARCHAEOLOGY

Many of us try to duplicate prehistoric artifacts to help understand the technology or the conditions which produced them. This is an area of experimental archaeology. Probably the most active fields of experimental archaeology deal with stone tool fabrication and use. During the past decade there has been an enormous interest in characterizing the wear patterns on lithic tools to ascertain their probable use. Prehistoric lithic implements are carefully examined to determine the existence of patterns or polish, or any modification of appearance which might be the result of use. The location of the tool in its archaeological context often suggests its probable uses. Cutting of fibrous plants, soft wood, meat, bone and hide can all generate recognizable wear patterns in some lithic tools.

The experimental archaeologist has a broad range of approaches. Primitive societies still using stone tools can demonstrate the consequences of particular tool uses. The aborigines in Australia and New Guinea are providing much useful information.

Most archaeologists try to duplicate the conditions of use which they feel may have produced the observed patterns of wear. This is quite easy for most uses of stone tools in food preparation, butchering, hunting, cutting wood and many other identifiable uses. The most intriguing questions concern those uses most difficult to duplicate. The questions of identifying wear patterns on very early stone tools and blades associated with mammoth kills are very difficult to approximate. One result of this was an effort by some experimental archaeologists to use stone implements for butchering elephants that died in zoos.

This is an extremely interesting aspect of archaeology which is very active and offers opportunities for everyone to participate with their own experiments and speculation.

A few sources, among the many available for further information on experimental archaeology include the following:

Experimental Archaeology. Edited by D. Ingersoll, J. Yellan, and William MacDonald, Columbia University Press, New York. 1977.

Experimental Determination of Stone Tool Uses. L. H. Keeley, University of Chicago Press. 1980.

Stone Tools As Cultural Markers. Edited by R. V. S. Wright, Australian Institute of Aboriginal Studies, Prehistory and Material Culture Series No. 12, Humanities Press, Canberra. 1977.

An Experimental Investigation of the Effects of Trampling on the Results of Lithic Microwear Analysis. John J. Shea and Joel D. Klenck, Journal of Archaeological Science 20, pp. 175-194. 1993.

Don Lewis
Co-editor

NOTES ON SOUTH TEXAS ARCHAEOLOGY: 1993-2

Studying the Archaic of Southern Texas and Northern Belize: Notes from the Field

Thomas R. Hester

Aside from heat and humidity, southern Texas and northern Belize also share in the dearth of knowledge about the long-lived Archaic chronology in both regions. For once, south Texas comes out looking better! We may not have fine-tuned the Archaic time periods and tool assemblages in south Texas, but much progress has been made with projects like Choke Canyon, the Loma Sandia cemetery, Applewhite Reservoir and other smaller, but important, efforts around the region. There are, of course, thousands of Archaic sites in south Texas and numerous lithic types and forms have been established. By contrast, the Archaic of northern Belize remains poorly known. The first Archaic (and Paleoindian) sites in the area were found by the Colha Project's regional survey, directed by Tom Kelly, in 1979-1980. During the early 1980s, Richard S. MacNeish began the Belize Archaic Archaeological Reconnaissance (BAAR) and the Colha Project, focussed on Maya stone tool mass production, gladly turned over these sites to Dr. MacNeish. Although much hard work was done, and despite locating a number of additional Archaic sites, MacNeish was unable to construct anything more than a very tentative chronological framework for Belize. Frankly, most of us working in the region felt that this chronology was badly flawed—or at the very least, needed to be subjected to rigorous scrutiny. However, like many things that "get into print," the MacNeish chronology was widely accepted by many Mesoamericanists.

Following the completion of MacNeish's fieldwork, Tom Kelly continued to return to Belize each year to search for more Archaic sites and to try to learn more about the lithics of this era. A number of important new finds were made. Indeed, he has a definitive paper on Belize Archaic projectile point types coming out in a major journal later this year or in early 1994. Meanwhile, fieldwork continued at Colha in 1986, 1987 and 1988.

As part of a settlement study of the site, being done as a doctoral dissertation by Eleanor King of the University of Pennsylvania, a UTSA student, Greg Wood, was assigned the task of testing some off-mound low areas (*bajos* or *aguadas*) to see if the Maya had had a part in creating these depressions through chert-quarrying. Greg's test pits revealed, instead, the presence of a likely preceramic or Archaic component at Colha. The characteristic artifacts were very distinctive and were called "constricted unifaces." MacNeish had earlier found these, in surface contexts, and called them "snowshoe-shaped end scrapers" attributed to the "Sand Hill Phase," between 7500-5500 B.C. Greg was unable to obtain charcoal or other materials suitable for dating. His work in the discovery of this component was reported in his 1990 MA thesis at UTSA.

The presence of the "constricted unifaces" raised many questions. Were these indeed Archaic time-markers? If so, how old were they? And what were they used for? Tom Kelly and Eric Gibson did some research on the typology and function of these tools in the early 1980s (based on surface finds and specimens that had shown up in construction fill in Colha mounds) and Gibson published some results as a chapter in the *Maya Stone Tools* volume that Harry Shafer and I edited and published in 1991 (Hester and Shafer 1991). Gibson felt that they were "Late Archaic" in age and possibly used as woodworking adzes (see Figures 1 and 2, this report).

In the late 1980s and early 1990s there were several events that allowed further examination of the preceramic component. John Jacob of Texas A&M University obtained a National Geographic Society grant to study the raised fields found by Eleanor King and her coworkers at Colha in 1987.

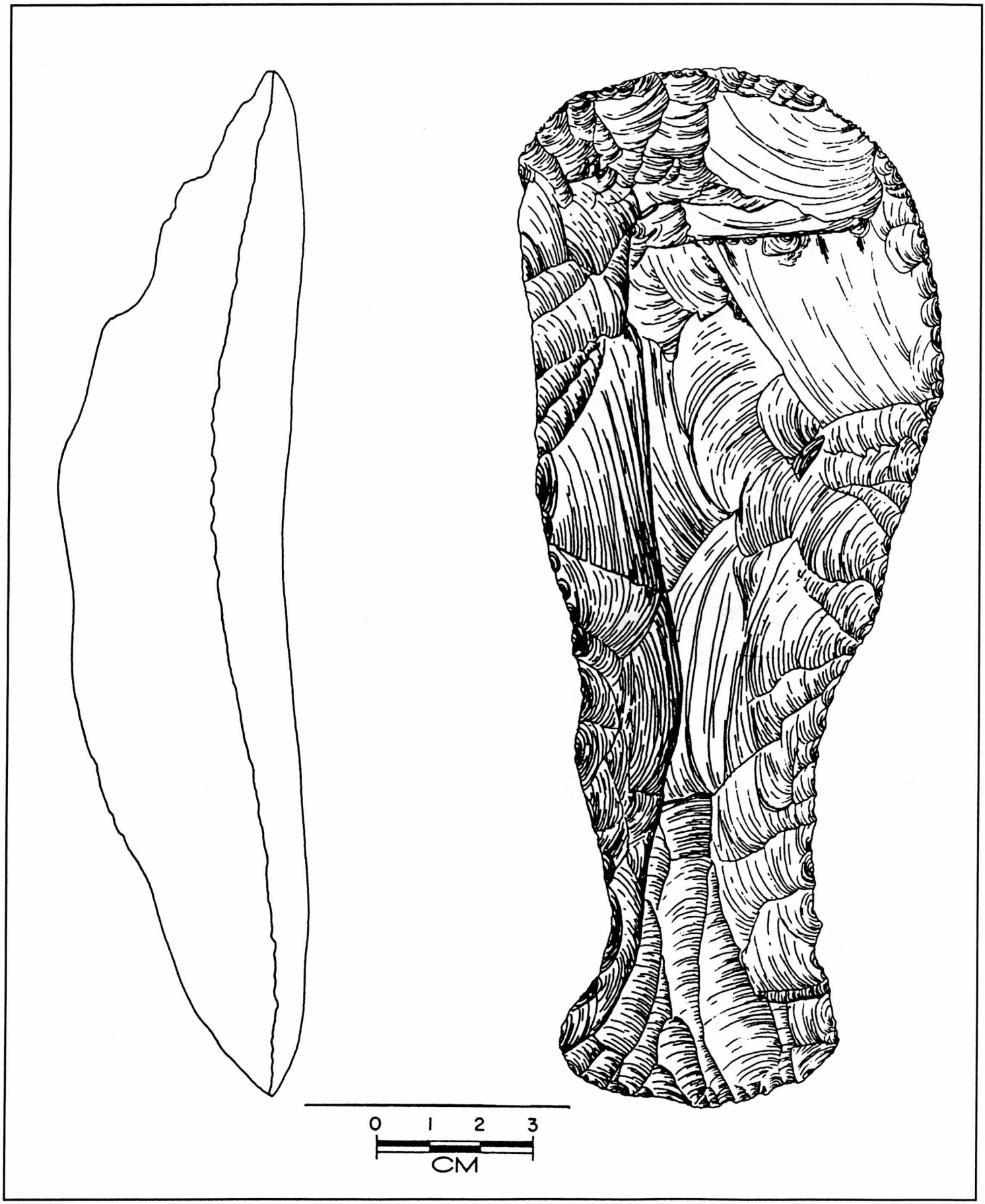

Figure 1. Constricted adze from Sand Hill, Belize (from Hester and Shafer 1991).

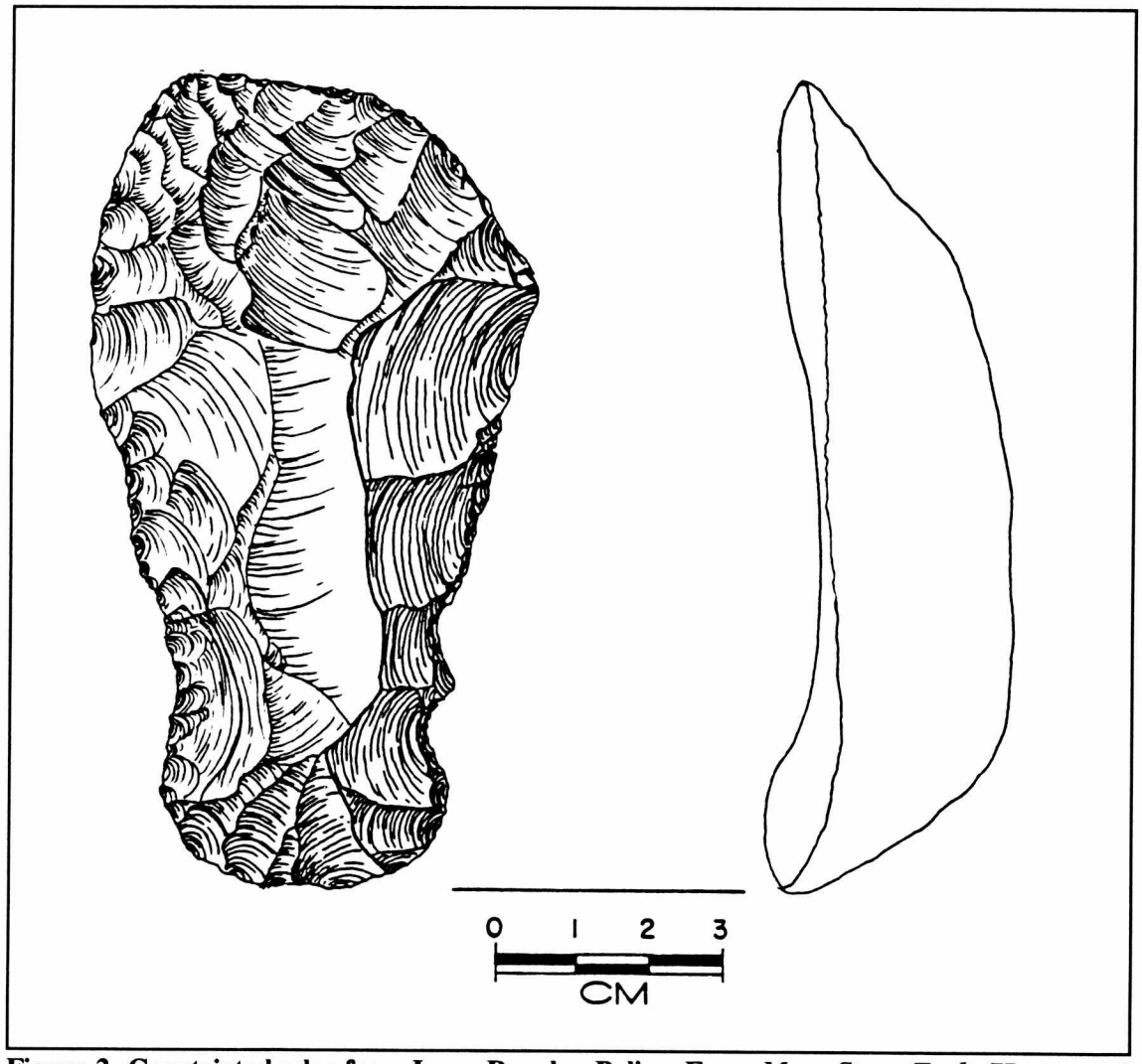

Figure 2. Constricted adze from Lowe Ranche, Belize. From *Maya Stone Tools* (Hester and Shafer 1991).

These were in the edge of Cobweb Swamp, adjacent to the site. Raised fields represent a type of intensive Maya agriculture found in other swampy areas of northern Belize. Jacob's soil studies, and pollen analysis by John Jones of Texas A&M's Department of Anthropology, shed light both on Maya cultivation practices and on early human use of the swamp margins. Jones' pollen columns revealed that the vegetation around the swamp edge had been cleared by 2500 B.C., and later data, communicated to me by Jones, indicated that maize was being grown at this time. Similar data were later found by Jones at Pulltrouser Swamp, about 20 miles northwest of Colha. Jones' discoveries, reported in his doctoral dissertation at Texas A&M, are extremely important. The earliest Maya in northern Belize date to around 800-1000 B.C., found at such sites as Colha, Cuello, Kichpanha and Sta. Rita Corozal. At about the same time as Jacob and Jones were obtaining new data on the Cobweb Swamp area of Colha, Leslie Shaw was completing her dissertation at the University of Massachusetts on the "early Middle Preclassic" faunal remains from Colha, and noting that these remains, dating as early as 800-900 B.C. were coming from a "disturbed habitat."

The next fortunate event was Dr. Fred Valdez' 1991 UT-Austin field school in northern Belize. As part of this effort, Jon Lohse and Tom Kelly, along with some of Fred's students, carried out more testing of the Colha preceramic component (known as Operation 4046), obtained additional stratigraphic data and more "constricted unifaces." In addition, I visited the excavations, and took one charcoal sample from the apparent contact between the Maya and the preceramic deposit—dated at 1000-1370 B.C. (corrected by the UT-Austin radiocarbon laboratory). Also collected were several soil samples from the clayey soil of the preceramic component. Dr. Salvatore Valastro at the UT-Austin Radiocarbon Laboratory is a renowned expert in radiocarbon dating the humates from such samples and he obtained dates on the upper sample of about 1400 B.C. (calibrated) and on the lower sample, of 2483 B.C. (calibrated). These dates were of great interest in that they correlated with Jones' pollen evidence and radiocarbon dates for the early "pre-Maya" use of Colha. [Coincidentally, summer 1991 saw work by Dr. Mary Pohl of Florida State University at Pull-trouser Swamp—and the discovery of a constricted uniface and an Archaic dart point—with dates close to those from Op. 4046 at Colha].

With all of this new information coming in, I submitted a proposal, with Dr. Harry Shafer as co-principal investigator, to the National Science Foundation for much more extensive excavations at Op. 4046 in 1993. This was awarded in January, and our team arrived here in northern Belize on April 24. Our goals include excavation of a 24-square-meter area, hoping to better define the nature of the preceramic deposit, to pin down its age (even three radiocarbon dates could be wrong!), to study the site formation processes, and to attempt to relate this component to the Jones evidence for "pre-Maya" use of the area. We will have several consultants involved, and with luck (essential in all archaeological endeavors) we will reach many of our objectives by May 22 when we return to Austin. Is this component truly preceramic and what are its age parameters? Are these peoples the first agriculturalists in the northern Belize lowlands? Are they ancestral to the Middle Preclassic Maya or were they replaced by Maya culture moving into the lowlands around 1000 B.C.? Tough questions, but we will try to answer at least some of them! It certainly appears that the constricted unifaces are about 5,000 years later than MacNeish's guess-dates, and that they, like the Archaic points (which may or may not be associated with them) are widespread in northern Belize. Jon Lohse has recently completed his MA thesis (1993) at UT-Austin, and it takes a look at some of these issues, as does the Kelly paper that I noted earlier. But our present work will hopefully expand and enlarge our overall knowledge of the Belize Archaic. I hope the readers of *La Tierra* will excuse my carrying "South Texas Notes" this far south! I suspect you will feel some sympathy for the frustrations of studying the Archaic, whether in south Texas or northern Belize, and will hopefully be able to share some of our anticipation in resolving some of the Archaic issues in this region.

Orange Walk Town, Belize
May 2, 1993

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Hester, Ths. R. and Harry J. Shafer

1991 *Maya Stone Tools: Selected Papers from the Second Maya Lithic Conference.* Edited by Thomas R. Hester and Harry J. Shafer. Monographs in World Archaeology, Number 1. Prehistory Press.

A COLLECTION OF PREHISTORIC ARTIFACTS FROM THE OCAMPO REGION OF COAHUILA, NORTHERN MEXICO

Solveig A. Turpin, Joseph F. Powell and Steven M. Carpenter

ABSTRACT

Basketry, cordage, and stone, bone, and wood artifacts unsystematically collected from the Ocampo region are described and compared to similar specimens from other excavated sites in Coahuila and the Lower Pecos region of Texas. One basket, associated with the burial of a two-and-a-half-year-old child, produced a radiocarbon date of 1,340 years ago, and is very like other Mayran complex specimens. The bulk of the collection is attributable to the Jora complex, a congeries of traits similar to those that define the Late Prehistoric period in Texas.

INTRODUCTION

An assortment of fiber, bone, wood, and stone artifacts, unsystematically collected from dry rockshelters in the Ocampo region of northern Coahuila (Figure 1), was loaned to the senior author for analyses. The collection consists largely of fiber artifacts, with an admixture of other items, such as part of a wooden digging stick, a bone weaving implement, a peyote bud, and some lithic artifacts. The sandals that make up the bulk of the perishable material are the subject of a separate report (Turpin and Carpenter, in press). Of equal interest are three almost complete baskets or bags, and numerous fragments of prehistoric basketry and cordage. Two twined bags were collected from dry rockshelters; a coiled basket was found in a dead-end cave passage where it was covering the skull of a young child. These specimens and the miscellaneous fiber, wood, bone, and stone artifacts are described below.

THE NATURAL SETTING

The collection is attributed to a series of dry rockshelters in the Sierra el Fuste, a component of the Sierra Madre Oriental that parallels the larger Sierra del Carmen and Serranías del Burro, northwest of Ocampo and Cuatro Ciénagas. Immediately west of the Sierra el Fuste is a large dry lake, the Laguna la Leche, that is but one of the many playas characteristic of the basin and range topography. On rare occasions, the lake fills and saline-tolerant vegetation springs through the alkali crust of the bed. On the flats around the lake bed, the plant communities are dominated by creosote bush and cacti. The slopes support the other major component of the Chihuahua Desert (Brown and Lowe 1980), the succulents and fibrous plants exploited by the prehistoric inhabitants for most of their needs.

Water is always scarce in this part of northern Mexico and its availability dominated the prehistoric and historic exploitation patterns. The Spanish considered this area uninhabitable and only a few hardy souls now live on isolated ranches, tending cattle and goats. The rockshelters occupied in prehistory are relatively small and probably served as temporary camps for small groups of people who exploited casual water trapped in *tinajas* in the canyon bottom. Burned rock and ashy cave fill shown in various photographs of the sites testify to domestic activities, but lithic debitage and tools are relatively poorly represented in the collection. Every site bears some form of rock art, ranging from remnant blurs to complex geometric designs. By far the majority of the collection came from a cave called Red Arrow (Flecha Roja) after a pictograph near its entrance. A complex maze pictograph on the underside of a rock ledge in the cave had apparently interested treasure hunters who dug a large hole directly under the painting, exposing a number of sandals, mats, and other artifacts which they discarded.

THE CULTURAL SETTING

Coahuilan prehistory has largely been reconstructed from a series of excavations undertaken in the Cuatro Ciénagas area by Walter W. Taylor (1966, 1988) in 1940 and 1941. The largest site,

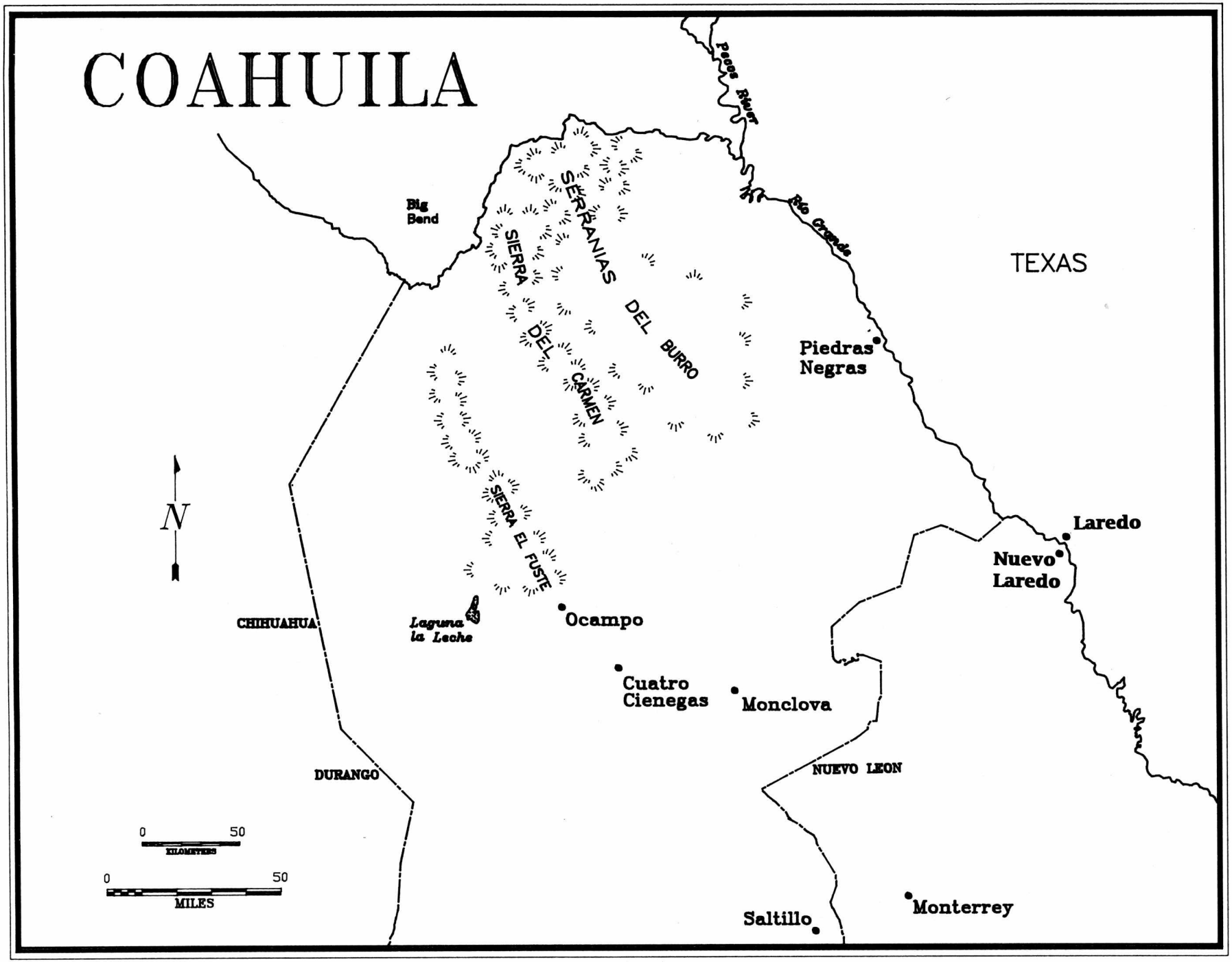

Figure 1. Map showing area of report in the state of Coahuila in northern Mexico. Surrounding states are Chihuahua, Durango and Nuevo León.

a dry rockshelter named Frightful Cave, has almost come to be sole referent in archaeological reports that seek to compare dry rockshelters from the Lower Pecos region and central northern Mexico, despite the vast differences in natural resources.

Perhaps the most famous site in Coahuila is Candelaria Cave, a vertical shaft cavern that was the repository for a number of bundled burials complete with elaborate funerary gear (Aveleyra, Maldonado and Martínez 1956). More recently, Weitlander-Johnson (1977) has published a compendium of the textiles from Candelaria but the more mundane perishable items were not described.

Epstein's Northeastern Mexico Archeological Project sponsored considerable research in the Laguna Mayran district, south of the current area of interest. Heartfield (1976) reported excavations from a number of open sites, including two with burial populations, but poor preservation of perishable materials inhibits comparisons with the bulk of the material culture.

The most recent work in Coahuila has been dedicated to recording and analyzing the petroglyphs (González 1990) and pictographs (Turpin 1990) found in abundance and variety throughout the region. On-going survey in the Bolsón de Mapími, on the border with Chihuahua and Texas, is producing considerable information on the intrusive Plains Indians and their Spanish and Mexican opponents (Turpin and Eling, in preparation).

Taylor (1966) named four cultural complexes that are defined by trait lists. The Coahuila Complex endured from the beginning of human occupation of the region until historic times and generally conforms to the Archaic stage of Texas prehistory. The Ciénagas Complex adds the dimension of time, occupying the earliest end of the temporal scale spanned by the Coahuila Complex. At the other end of the chronological scale, the Jora Complex is somewhat analogous to the Late Prehistoric manifestations seen in Texas while the Mayran Complex pertains to the mortuary system expressed at such elaborate burial sites as Candelaria. The El Fuste collection combines elements of the late Coahuila, Jora, and Mayran complexes but no formal archaeological research has been carried out in the vicinity of Ocampo or in the vast desert area between the Sierra el Fuste and the Rio Grande.

THE COLLECTED ARTIFACTS

The Fiber Industry

Basketry

The baskets and mats were divided into three groups based on manufacturing techniques: twined, coiled, or plaited (Adovasio 1977). One piece of netting and several fragments of cordage are described separately.

Twining

Although two of the nearly complete bags are classified as twining, they are very different in outward appearance (Figures 2, 3, Table 1). Both came from occupied shelters that face each other across the canyon.

Table 1. Attributes of Twined Basketry

Specimen Number	Height	Maximum Width	Length	Weft Width	Warp Width	Warp Gap
1	30.5	38.5	-	.3	.35	.5
2	7.0	-	19.2	.4	.5	.3
3	3.0	-	18.7	.5	-	-
4	42.4	19.0	15.2	.3	.5	.3

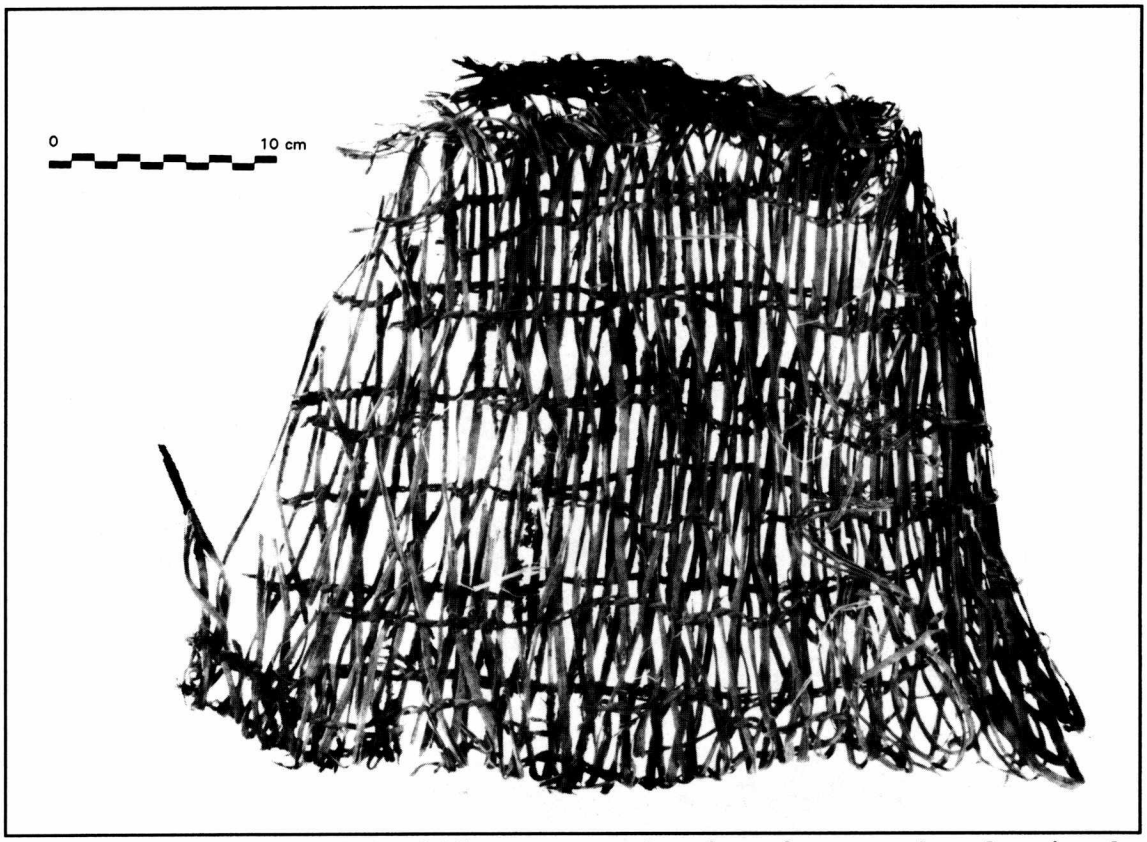

Figure 2. Twined bag made by folding a rectangular piece of open mesh and sewing the sides together.

One specimen is a twined rectangle that has been folded in half, and sewed together on the sides to form a bag 30 cm deep and 40 cm wide at the base, constricting to 20 cm at the mouth (Figure 2). The sides are passive vertical elements or warps that lazily cross over one another in no regular pattern. The warps are connected by open twining that employs two active elements or wefts, weaving them in and out around the thicker warps to form the sides of the pouch. The open weave suggests that it was intended to carry rather large objects that could not pass through the mesh. This bag came from Red Arrow Cave and was generally associated with the wooden and bone artifacts described below as well as a number of sandals.

The second bag is also made of stiff passive elements joined together by open twining (Figure 3). The bottom is closed by a simple overhand knotting of the passive elements. The upper end was lost prior to its collection and may be the reason that it was discarded. The remnant is 40 cm long and 19 cm in circumference. This pouch and a pair of sandals had been exposed by a treasure hunter's hole in the shelter that also produced the lithic artifacts described below.

Ethnohistorically, this type of bag is called a *cacaxtle* and is used as a fish trap. McGregor (1992:Figure 19b), who illustrates a very similar specimen, describes it as a throw-away bag, made expediently to carry gathered foods or materials and discarded. Taylor (1966:Figure 21) reports another possible example from Frightful Cave, only 60 km southeast of the El Fuste caves. The distance from El Fuste to permanent water suggests that this specimen was not used to trap fish but, more likely, that it was an easily made disposable carrying bag.

Coiled Basketry

The only shallow bowl-shaped basket (Figure 4) in the collection was formed by coiling a split wooden rod and sewing each new coil to the previous one by split stitching (Adovasio 1977: 62). In this process, the sewing element is drawn through a split in the element holding the previous

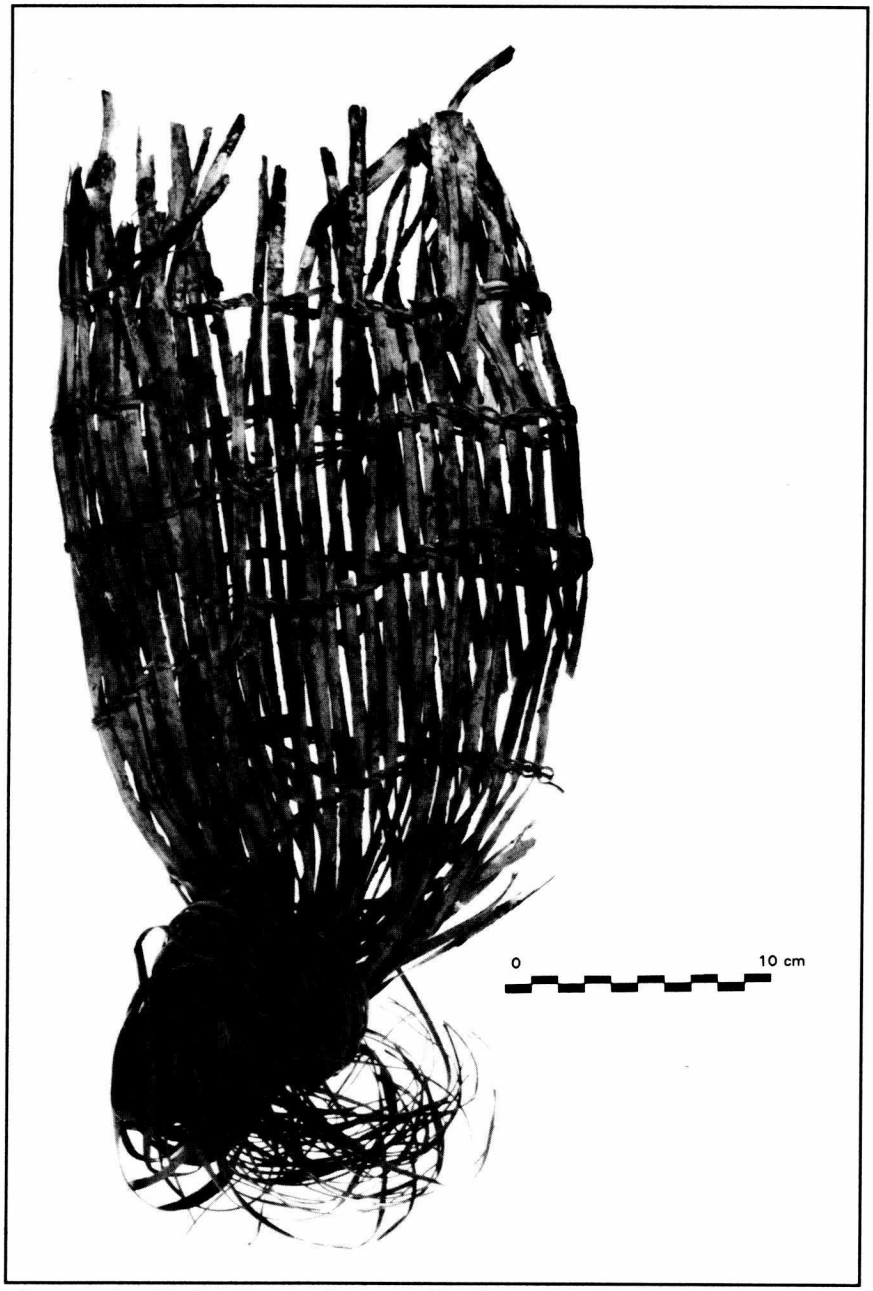

Figure 3. Twined pouch expediently manufactured and easily discarded. Knotted end down.

coil, thus securing the new rod to the basket. Faint traces of two decorative bands encircle the basket below the rim. The uppermost is a simple band two coils wide. The lower is a common stair step geometric design. The basket is meticulously constructed and obviously labor intensive.

The basket was partially covered with rocks and laying at the end of a narrow slanting shaft that extended into the bedrock from a larger cave. The skull of a small child was found under the basket, resting upon a folded piece of simple one-over-one plaited matting. Approximately half of the basket has been lost to rodent gnawing so it is possible that the post-cranial skeletal elements were similarly destroyed. However, a photograph of the basket in place demonstrates that the assemblage virtually rested on bedrock so there is little chance that other bones were overlooked.

Detached fragments of the basket produced a stable carbon isotope corrected radiocarbon age of 1340±80 B.P. (TX-7804; ^{13}C-11.2 ppm) which calibrates to the range from 1312 to 1177 years

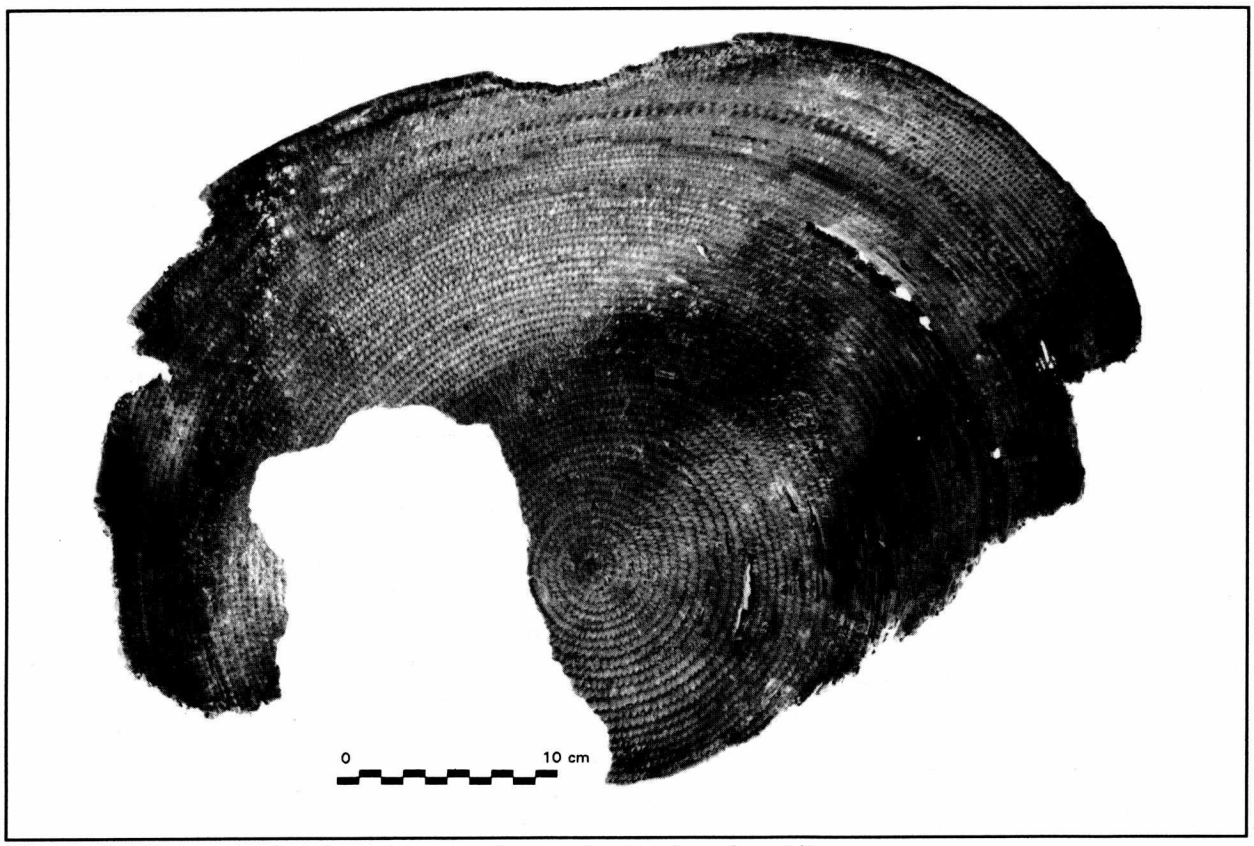

Figure 4. Woven basket found inverted over the burial of a child.

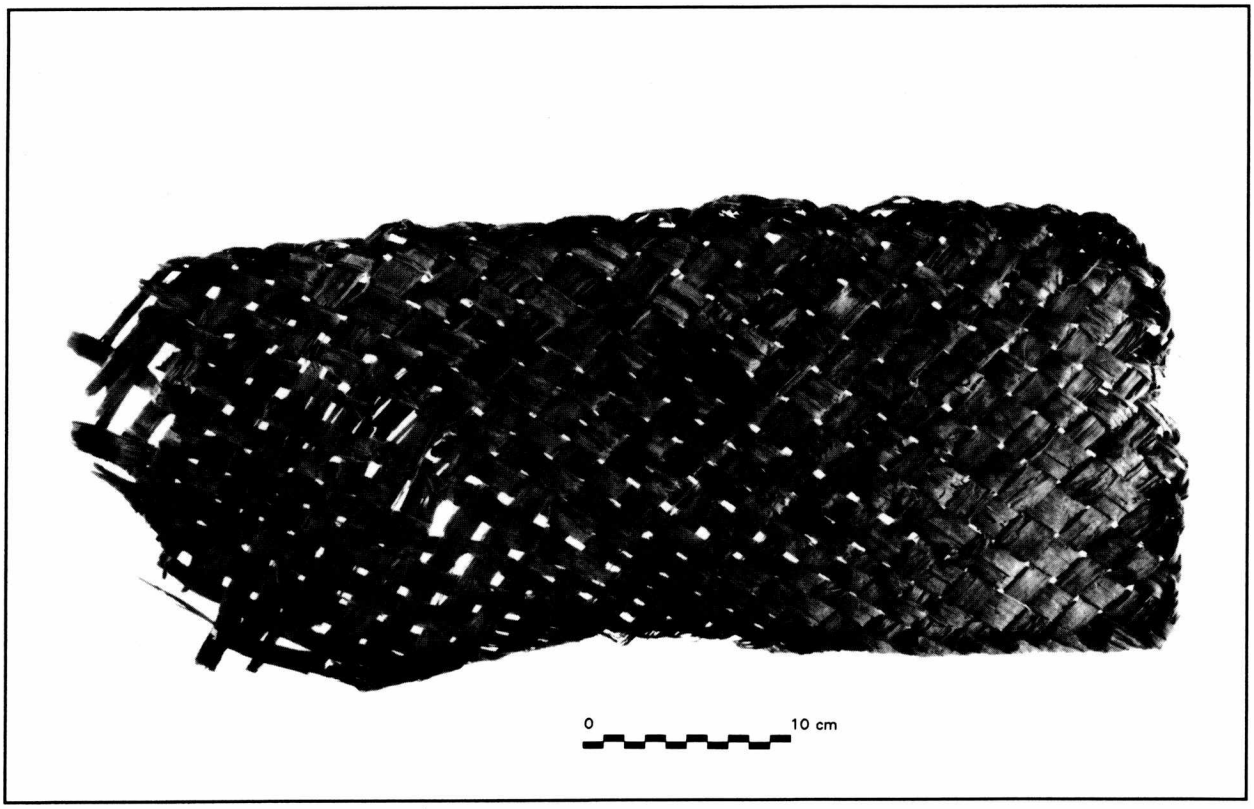

Figure 5. The most complete plaited mat.

Table 2. Attributes of Coiled Basketry

Foundation Type	Stitch	Work Direction	Length	Width	Mean Coil Diameter	Mean Coils Per Cm	Stitch Gap	Mean Stitches Per Cm	Width of Stitch
Half Rod Down	Split-both surfaces	Right to Left	19.0	7.5	.4	3	0	4	.2
Half Rod Down	Split-both surfaces	Right to Left	16.5	3.0	.5	3	0	4	.2
Half Rod Down	Split-both surfaces	Right to Left	12.0	3.5	.4	3	0	4	.2
Half Rod Down	Split-both surfaces	Right to Left	44.0	29.0	.4	3	0	4	.2
Bundle	Simple Non-Interlocking	Left to Right	5.0	2.0	.6	2.5	.2	3	.25
Bundle	Simple Non-Interlocking	Left to Right	7.5	2.5	.6	2	.25	2	.3
Bundle	Simple Non-Interlocking	Left to Right	9.5	3.0	.5	2.5	.3	2	.3
Bundle	Simple Non-Interlocking	Left to Right	7.0	2.0	.5	2	.2	2	.3
Bundle	Simple Non-Interlocking	Left to Right	4.0	1.5	.4	3	.1	4	.15
Bundle	Simple Non-Interlocking	Left to Right	6.5	1.5	.8	2	0	3	.25
Bundle	Simple Non-Interlocking	Left to Right	8.0	1.0	.6	2	.2	2	.3
Bundle	Simple Non-Interlocking	Left to Right	21.0	2.5	.5	2	.7	1	.4
Bundle	Simple Non-Interlocking	Left to Right	9.5	2.5	.5	2.5	.1	3	.3
Bundle	Simple Non-Interlocking	Left to Right	9.5	4.0	.7	3	.3	2	.3
Bundle	Simple Non-Interlocking	Left to Right	14.0	5.0	.5	3	.25	2	.2
Bundle	Simple Non-Interlocking	Left to Right	7.0	2.0	.5	2	.3	2	.3
Bundle	Simple Non-Interlocking	Left to Right	19.5	1.8	.9	1	2.3	.4	.4
Bundle	Simple Non-Interlocking	Left to Right	14.5	.7	.6	-	2.0	.5	.3
Bundle	Simple Non-Interlocking	Left to Right	13.5	.5	.5	-	-	-	.3

ago or A.D. 638 to 773 (Stuiver and Reimer 1987). This is well within the range of the mortuary complex defined by Taylor (1966).

A number of fragments are of different style and construction, introducing some variability into the coiled assemblage. Ten pieces were built on a bundle foundation, rather than the half-rod of the burial basket (Table 2).

Plaited Matting

Seventeen specimens of plaited matting represent two construction types: simple and twill (Table 3). One virtually complete mat (Figure 5) and three fragments of another, both measuring approximately 50 by 22 cm, were produced by simple plaiting of two elements at a one-to-one interval. A checkerboard pattern is created by the elements passing at an angle of 90 degrees and terminating in a 90 degree self-selvage. The second mat is of similar construction but lacking selvages.

Thirteen fragments of matting are so similar that they probably are parts of a single specimen. The three largest pieces were folded to cushion the skull of the young child described below. The construction method, twill plaiting at two-to-two intervals, creates a herringbone pattern by passing each element over and under two elements in a staggered sequence. None of the fragments retain selvages.

Netting and Cordage

One entangled example of simple looping, untwisted netting was constructed of two-ply, s-spun, z-twisted cordage. This netting fragment has no center or selvage. The average diameter of the cordage is two mm. The seven other pieces of cordage are also two-ply, s-spun, and z-twisted (Table 4).

Lithic Artifacts

The lithic artifacts are all from one site where they were laying on the surface or in a large pothole dug by treasure hunters. This site also produced the throw-away twined bag and a pair of sandals. The lithic items are therefore a grab bag sample that may not be representative of the range of tools and technological processes employed in the El Fuste caves. The inventory includes 16 flakes, 6 bifaces and biface fragments, 2 unifaces, 5 utilized flakes, and 2 core fragments. Much of the material is potlidded and heat-fractured from accidental burning. Only three of the flakes have platforms, probably reflecting the predominance of heat-shattered fragments from discarded cores and flakes. The absence of bifacial thinning flakes is probably a function of the sample rather than any activities that took place in the shelter. Raw material includes chert, agate, and siltstone.

Bone Artifact

The lone bone artifact in the collection is a highly polished awl made from the long bone of a deer-sized animal. This tool type is common to all the Coahuila complexes defined by Taylor. This particular implement was probably used to force openings through which the active elements could be pushed to make the tightly woven pads of braided sandals (Turpin and Carpenter, in press).

Wooden Artifacts

The only wooden artifact in the collection with obvious functional implications is the pointed end of a digging stick, 48.5 cm long. Made of a tree limb, this stick was apparently discarded after it split longitudinally and snapped horizontally. The exterior is polished by wear; the tip is striated from use. The second stick is somewhat shorter and does not appear to be broken. The exterior is smooth and the ends are truncated. Both are made of extremely hard wood and are very durable.

CHILD BURIAL

The single subadult cranium was analyzed following standard osteological procedures (Steele and Bramblett 1988). Based on the number of deciduous teeth and the formation of permanent tooth buds, the individual was two years $\pm$ eight months at the time of death (Ubelaker 1989:64). This young age precludes a determination of the child's sex. At the time of death, the child was suffering from active cribra orbitalia, a condition associated with anemia (Steinbock 1976; Stewart-MacAdam 1989; Ortner and Putschar 1981).

The effects of growth and development and the plasticity of younger individuals (Enlow 1982)

Table 3. Attributes of Plaited Matting

Specimen Number	Type	Principal Interval	Length	Width	Diameter of Element
1	Twill	2/2	11.6	4.8	.2
2	Twill	2/2	26.0	19.0	.2
3	Twill	2/2	13.3	10.0	.2
4	Twill	2/2	9.8	6.1	.2
5	Simple	1/1	51.0	22.0	1.8
6	Twill	2/2	12.1	8.9	.3
7	Twill	2/2	6.5	6.5	.3
8	Twill	2/2	3.0	2.5	.3
9	Twill	2/2	5.0	3.0	.3
10	Twill	2/2	11.0	4.5	.2
11	Simple	1/1	20.5	15.0	1.1
12	Twill	2/2	13.5	8.0	.3
13	Twill	2/2	23.0	13.0	.3
14	Twill	2/2	8.2	6.7	.3
15	Simple	1/1	53.0	21.5	.8
16	Simple	1/1	18.0	12.0	1.6
17	Twill	2/2	7.0	7.0	.6

Table 4. Attributes of Cordage

Specimen Number	Nomenclature	Length	Width	Angle of Twist (in Degrees)	Segment Length	Strand Width
1	Two Ply "S" Spun, "Z" Twist	31.5	.3	32	1.0	.2
2	Two Ply "S" Spun, "Z" Twist	43.0	.2	37	.8	.15
3	Two Ply "S" Spun, "Z" Twist	3.5	.3	39	.8	.2
4	Two Ply "S" Spun, "Z" Twist	10.2	.3	39	.8	.2
5	Two Ply "S" Spun, "Z" Twist	30.5	.3	47	.8	.2
6	Two Ply "S" Spun, "Z" Twist	10.5	.3	44	.9	.2
7	Two Ply "S" Spun, "Z" Twist	10.5	.25	19	1.9	.15

usually render subadult remains unsuited for assessments of biological affinity. In addition, the fragmentary remains of isolated individuals may not be representative of the larger population. However, an attempt was made to determine if the child recovered from the Sierra el Fuste was typical of the Chihuahuan desert region. Measurements of cranial length (161 mm) and width (122 mm) resulted in a cranial index value of 75.77, just within the range of values for Chihuahuan desert individuals (Cranial index range = 67.2-75.5; Steele and Powell, in review). Moderate incisor shoveling on the unerupted upper left lateral incisor is a trait common to Native Americans and substantiates the child's biological affinity.

Although the cranium was essentially intact, the basicranial portions of the occipital and temporal bones, the left maxilla and zygomatic bones, and the nasals were missing. Given that the human skull is readily recognized and an object of curiosity, the infracranial remains may have been overlooked but, according to the collectors, no other skeletal material was contained within the burial niche.

The bone was well preserved and was stained dark brown, as is typical of human remains that retain a large amount of collagen. The right side of the cranium was darker than the left, and a hatched pattern of dark and light stains was observed on the right parietal. The child was apparently placed on its right side, its head pillowed by folded matting. Contact with this matting led to differential soft tissue preservation and the observed pattern of staining.

Rodent gnawing was evident along the left supraorbital margin and in the area of the left frontal boss. A number of facial and basicranial bones exhibited dry breaks; those along the nasal and orbital regions are considerably lighter in color than those in the basicranial region. Taphonomic evidence indicates that the individual was buried with soft tissue adhering to the skull and was in contact with matting during decomposition. The remains were later damaged by rodents which may have hastened disarticulation and the loss of other body parts. Finds of unassociated skulls are not typical of the region (Steele and Powell, in review) so the osteological analysis suggests that this was originally a complete primary burial.

DISCUSSION

The El Fuste collection contains examples of several major classes of Coahuilan material culture, most notably the fiber industry. The three carrying baskets are unusual for their state of preservation rather than any technological characteristics or raw material types. The basket fragments increase the number of styles represented in the collection but all are typical of larger assemblages, such as that from Frightful Cave. Similarly, the matting is of the most basic styles, one-over-one plaiting and two-over-two twill, and much of it has been reduced to fragments. The more durable artifacts of stone, wood, and bone, illustrate a range of activities, including food procurement with digging sticks, processing with small unifacial scrapers and expedient flakes, and weaving with the aid of bone tools.

Coahuila is most noted for the elaborate bundle burials recovered from vertical shaft caves, such as the famous site of Cueva de la Candelaria (Aveleyra, Maldonado and Martinez 1956; Weitlander-Johnson 1977). Eleven burials, nine from one location, were exhumed from open sites in the Laguna Mayran district southwest of Ocampo (Heartfield 1976), during Epstein's Northeastern Mexico Archeological Project. One of the five children included in that burial population was about two years old at the time of death (Heartfield 1976: 97), almost the same age as the El Fuste burial. In his popular publications on the prehistory of Coahuila, Cárdenas (1978, 1990) illustrates skeletal remains and artifacts apparently attributable to dry rockshelters in the vicinity of the horizontal shaft grave discussed here.

Based on the radiocarbon date from the basket that covered the skull of this child, the burial can be assigned to the Mayran Complex, a mortuary system best illustrated in the elaborate funerary sites. The geometric stair step pattern on the burial basket is similar to others, also containing human skeletal material, illustrated by Taylor (1966: Fig. 18) and the practice of niche interment is consistent with the majority of the burials known to date (ibid.:85-86). Even the pillow matting is typical of Mayran Complex graves. The diagnosis of childhood anemia is not surprising given that weaning to solid foods may well have begun around two or two-and-a-half years of age.

SUMMARY

Although unsystematically collected, the El Fuste collection seems representative of the general fiber industry associated with the Coahuila and Jora complexes throughout the span of northern Mexican prehistory. If anything, the collected items display considerable diversity in manufacturing techniques considering their origin in small obscure shelters. The radiocarbon date associated with the child interment, approximately A.D. 665, is further substantiated by the assay of a braided sandal, also in the El Fuste collection (Turpin and Carpenter, in press). The corrected and calibrated age of this sample, A.D. 870 to 993 (TX-7814), is somewhat younger but still within the range of the Jora complex, again roughly equivalent to the Late Prehistoric period in Texas.

Most importantly, the El Fuste collection emphasizes the excellent preservation afforded by the arid environment and dry rockshelters of Coahuila, a potential that has yet to be exploited. The most pressing need is for stratified, controlled excavations in these and similar sites before they, like the shelters of the Lower Pecos, are destroyed by treasure seekers.

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INCISED PEBBLES FROM BEXAR AND KERR COUNTIES

C. K. Chandler

ABSTRACT

Three small limestone pebbles with fine line incising are illustrated and described. Two are from a burned rock midden in northwest Bexar County and one is from a burned rock midden in Kerr County.

INTRODUCTION

Incised and engraved stones are very rare in Texas. Most of those reported have been of the type that have a series of deep parallel incised lines on or near the rounded corner of a large limestone cobble that sometimes has a deep groove. These are often thermally fractured. Those with the deep groove are generally considered to be arrow shaft straighteners; however, the purpose of the deep parallel lines has not been determined. The specimens reported here are unlike those. They are small and flat and have fine line incising on one or both faces. Two are from a burned rock midden in northwest Bexar County (see Figure 1). They are in the Steve Portillo collection. The other specimen is from a burned rock midden in Kerr County (Figure 1) near Kerrville. It is in the collection of Steve Schwarz and Tony Harden.

THE ARTIFACTS

Specimen 1 is illustrated in Figure 2. It is a plano-convex dirty white limestone spall or flake. Its flat side has several straight, nearly parallel incised lines oriented along the long axis and four similar lines oriented laterally at one end. They are rather neatly done with fine line incising that do not appear to present any particular design. It is 7 cm long, 5.8 cm wide, and is 6 mm thick. It is from a burned rock midden in northwest Bexar County and was found by Steve Portillo.

Specimen 2 is illustrated in Figure 3, A-A'. It is a portion of a smooth, flat limestone pebble and is broken diagonally across its mid-section. This break is not due to heat. The interior area exposed by the break is a fine-grained, dense milky white limestone. The outer surface is a dirty whitish tan. There is no evidence of pecking or grinding to shape it. It has been stream-rolled and presents a quite smooth surface for the incising. It has fine line incising on both faces and the incised lines are generally presented in groups of two. On the obverse there is a group of three lines centrally located along the long axis and there are short straight lines projecting diagonally from each side. Viewed alone, this portion of the motif has the appearance of a fletched arrow or a modified tree design. However, either of these interpretations requires one to ignore the rest of the motif. Above this fletch-like motif are three horizontal lines. The center of these three lines has a peaked triangle on each side of the three vertical parallel lines that may indicate a pass through two mountains of hills. There are three sets of two parallel lines that run in different directions from edge of stone to edge of stone and all cross the set of three vertical lines with the fletch-like design at the same location below the fletch motif. At their common point of intersection they form two or

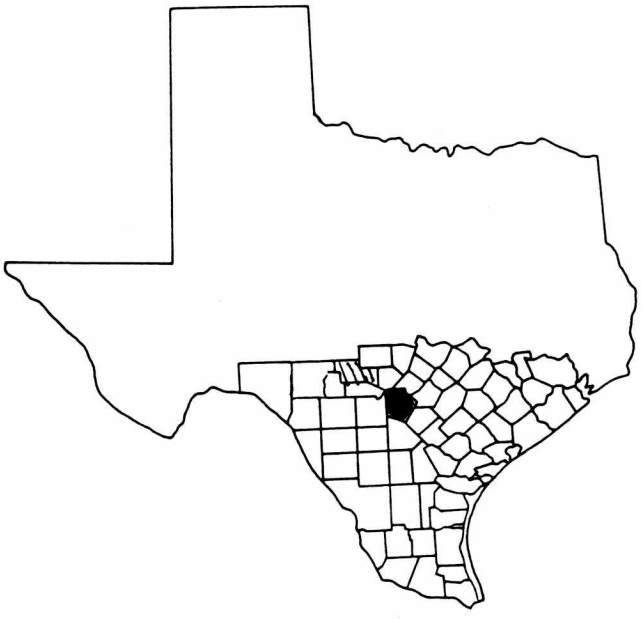

Figure 1. Texas map showing Bexar County (dark) and Kerr County (striped).

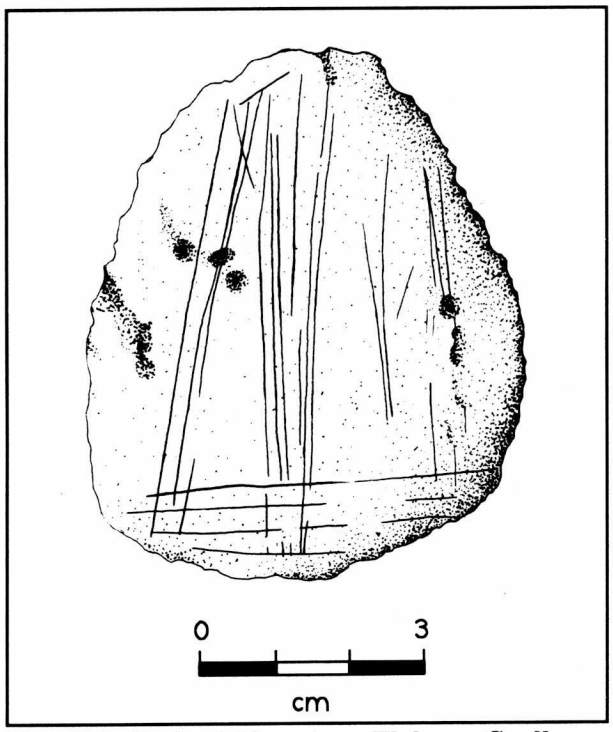

Figure 2. Incised Limestone Flake or Spall from Northwest Bexar County.

more crosses. In addition to the lines that form the fletch arrow and mountain pass motif and the several crosses there are six other sets of two parallel vertical lines and two single parallel lines on this same face of the pebble. On each side of the central set of three parallel lines with the fletching is a single set of two parallel zigzag lines. The overall pattern is undecipherable but it apparently had meaning to the person who did them.

The reverse of this specimen has several parallel incised lines that are generally presented in groups of two. Some of these are oriented with the long axis of the pebble and others are diagonals. This motif does not present a decipherable pattern. This specimen is 6.2 cm long, 5.1 cm wide and 8.7 mm thick. It is from the same burned rock midden as Specimen 1 and is in the Steve Portillo collection.

Specimen 3 is illustrated in Figure 3, B-B'. It is a plano-convex light gray limestone spall or flake with numerous light to heavy incised lines on both faces. The obverse motif is of mostly straight lines but some are lightly curved. At least two and perhaps three modified tree-like elements are depicted. There are several short lightly incised lines beginning at one edge and protruding a short distance toward the center. Similar to Specimen A-A', there is a group of three parallel lines centered at the long axis but they do not have intersecting lines that would form a tree-like element. The reverse has five heavily incised parallel lines beginning at the lower end and protruding toward the center. The center line of this group is forked at the top. Centered at the top end is a heavily incised line with intersecting short lines that form a tree-like element. To the right of this element are four chevron figures bordered with a straight line on each side. Numerous lightly incised straight short lines at diagonals intersect the heavier incisings over almost all of this face. Maximum measurements of this specimen are 90 mm in length and 55 mm wide. It is from a large, deep burned rock midden near Kerrville in Kerr County. It was recovered by Steve Schwarz and Tony Harden.

DISCUSSION

Incised and engraved pebbles have a wide distribution in North America but are rarely reported in Texas. Painted pebbles occur in relatively large numbers in the Lower Pecos and Big Bend areas and are considered to represent an important culture trait in these regions (Jackson 1938; Martin and Woolford 1932). Where pictographs and painted pebbles occur, incised and carved stones are rarely found. Jackson did report a few carved stones in Central and East Texas but these were very few in number. Incised stones occur in quantity in the eastern great basin where painted pebbles are virtually non-existent (Warner 1979:88-102). In the southeastern United States carved stones in the form of gorgets, ornaments, and pendants are common (Funderburk and Foreman 1968).

Recent reports by McReynolds and Chandler (1990) and by Chandler (1991a and 1991b) and the three specimens reported in this paper add to the meager information available about these seldom reported artifacts in Texas. Of the speci-

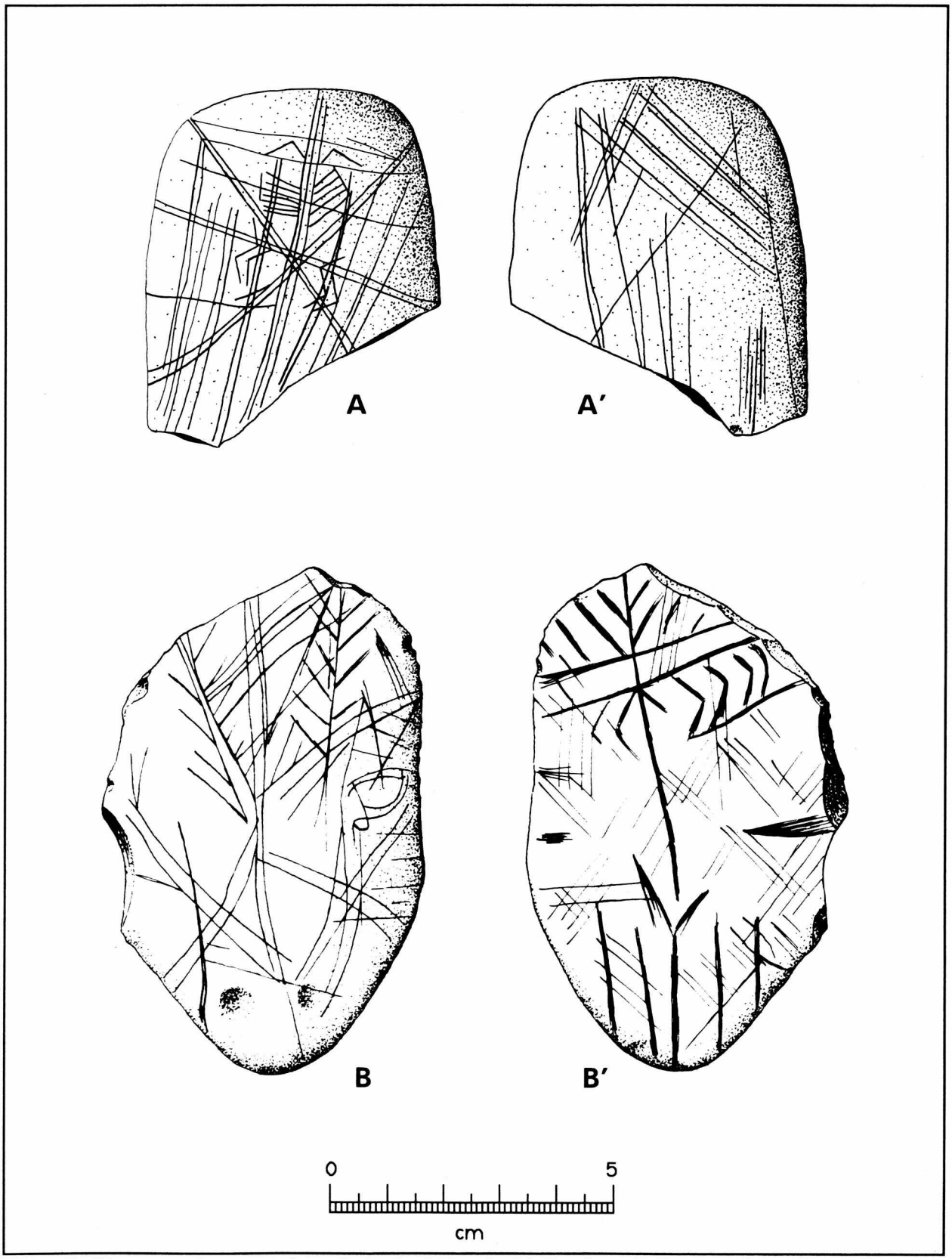

Figure 3. Obverse and reverse of two incised pebbles. A, A', Specimen 2, from northwest Bexar County; B, B', Specimen 3, from Kerr County.

mens illustrated each is different. The only repetitive thing about them is the use of straight lines. Interpretation of individual elements is confined to descriptive terminology that probably has no relationship to what the artist intended. Various depictions of what is being called a tree-like element does recur but this design may have a totally different meaning. Interpretation of these incisings is very speculative at best but this author believes most of them to have definite intent and purpose.

ACKNOWLEDGEMENTS

I would like to thank Steve Portillo, Steve Schwarz and Tony Harden for the loan of these artifacts for study and documentation. The illustrations are by Richard McReynolds and I extend to him my sincere appreciation.

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A TYPOLOGICAL STUDY OF SIDE-NOTCHED ARROW POINTS FROM THE FALCON LAKE REGION OF TEXAS AND MEXICO

R. K. Saunders and T. R. Hester

ABSTRACT

Some 111 side-notched arrow points out of 148 specimens from the lower Rio Grande region of Texas and Mexico have been given a tentative name of *Caracara*, and have had various attributes defined, and physical parameters measured, to form the basis for a typological description.

The Caracara type is compared to two other named points having similar configurations with which they may be related, but which are excluded, because of provenience or subtle physical differences.

INTRODUCTION

For a number of years now a distinctive side-notched arrow point has been found on either side of the lower Rio Grande with most of the points coming from the Falcon Lake area. The distribution is currently somewhat ill-defined, but is believed to be mostly confined to the lower Rio Grande drainage system which includes the Sabinas and Salado rivers in Mexico (Figure 1).

The problem was that up to the present time the specimens found did not have an official name. Because of a large gradation in size, a point could look somewhat like an Edwards or a Scallorn, or a number of other similar sized *named* points having somewhat similar configurations.

In view of the above, Hester suggested that the senior author attempt to come up with a suitable name and the typological measurements and data necessary to define the point.

In the early stages of this study the measurements of this form were based on 66 points out of 88 specimens, using an arbitrary prototype configuration. Since then a large number of specimens were found in a collection by Tom Beasley from sites within ten miles of the Rio Grande, on the western edge of Webb County. Unfortunately, the Beasley collection was not documented until after the original draft had been submitted to the Texas Archeological Society (TAS) typology committee for review. The collection contained some 64 points of which 45 conformed to the prototype configuration used for the previous group, and were complete enough to be measured. As a result an effort has been made to incorporate these new data with the old in order to provide better numbers statistically.

DISCUSSION

Projectile point types are often named for the location where the first ones are found. "Falcon" therefore would seem to be the name of choice for the points being studied, but this name could be linked to the "Falcon Focus" of which it was not a part, and so the name was ruled out. *Caracara* was chosen for the name because the bird is a member of the falcon family and it ranges over the distribution area. Since the area of distribution for Caracara is believed to be limited, it is hoped that the name chosen will indicate some uniqueness for the point and its principal source.

There are no perennial streams in this region of Texas that empty into the Rio Grande River below Del Rio. This may account for the fact that most of the Caracara in this study, which were found on the Texas side of the river, came from an area no more than a few miles wide paralleling the river. There are many perennial streams coming out of Mexico in the region so it most likely follows that Caracara may turn up along these streams for quite a distance into Mexico. However, circumstances would seem to indicate little, if any, data forthcoming in the near future from Mexico which would add to current knowledge of Caracara parameters or distribution.

The points in this study came from the counties of Webb, Zapata and Starr in Texas and from the eastern parts of the states of Tamaulipas and Nuevo León in Mexico (see Figure 1). A few

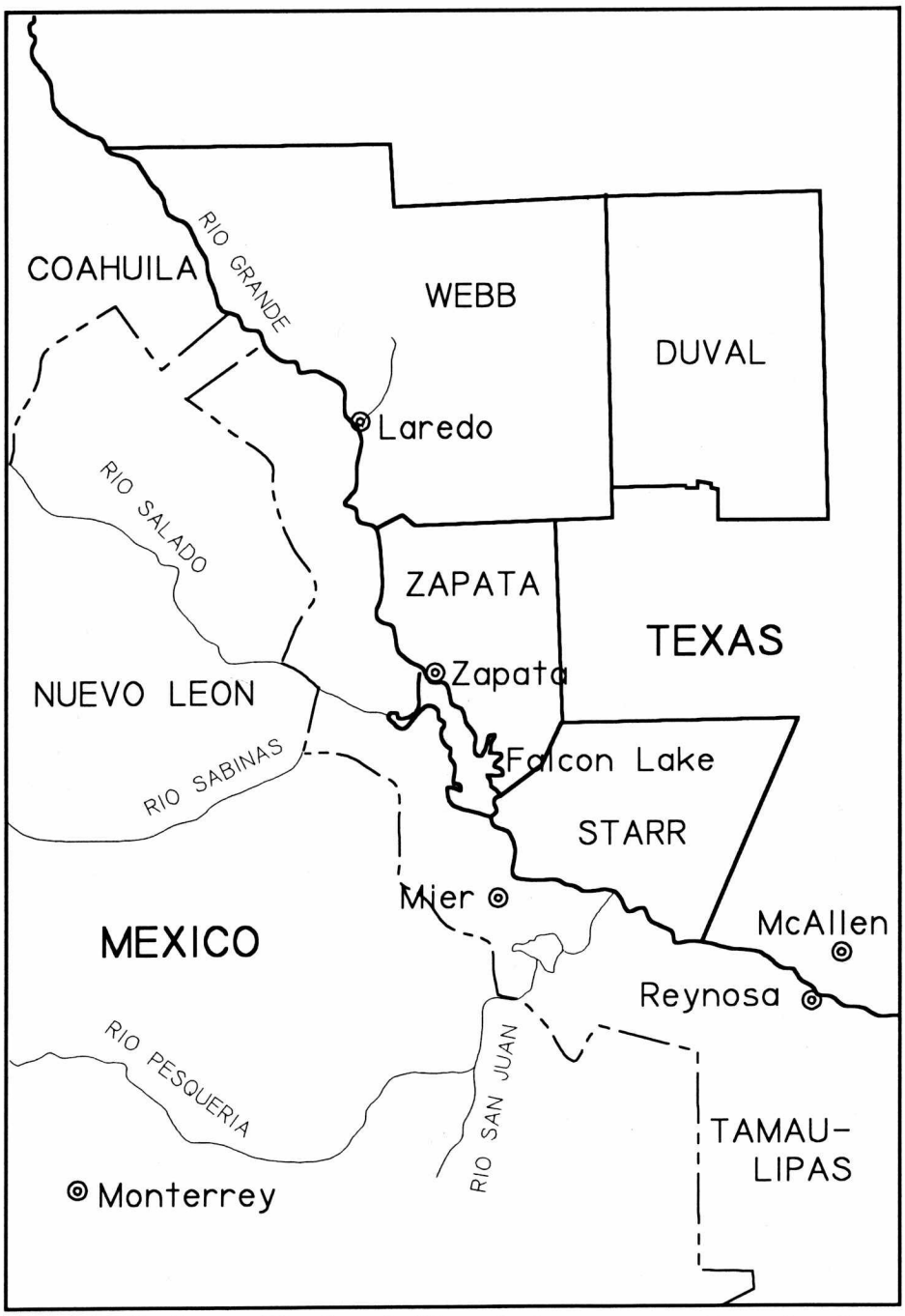

Figure 1. The Lower Rio Grande River drainage system. Tentative Caracara distribution appears centered in this region.

points which fit the description of Caracara have been found in Duval County, Texas (Hester 1972), and near Ocompo, Coahuila, Mexico (Villarreal 1978), but these finds may represent the outer boundaries of the distribution.

As it turns out, the selection of a name was easy compared to determining the physical characteristics which would define a Caracara. Figure 2 illustrates a few examples of the sample of 66 points out of the 84 known specimens that were assayed, to arrive at the average measurements for a Caracara during the first assessment. Eighteen of the points believed to be Caracara could not be measured because they were too severely broken

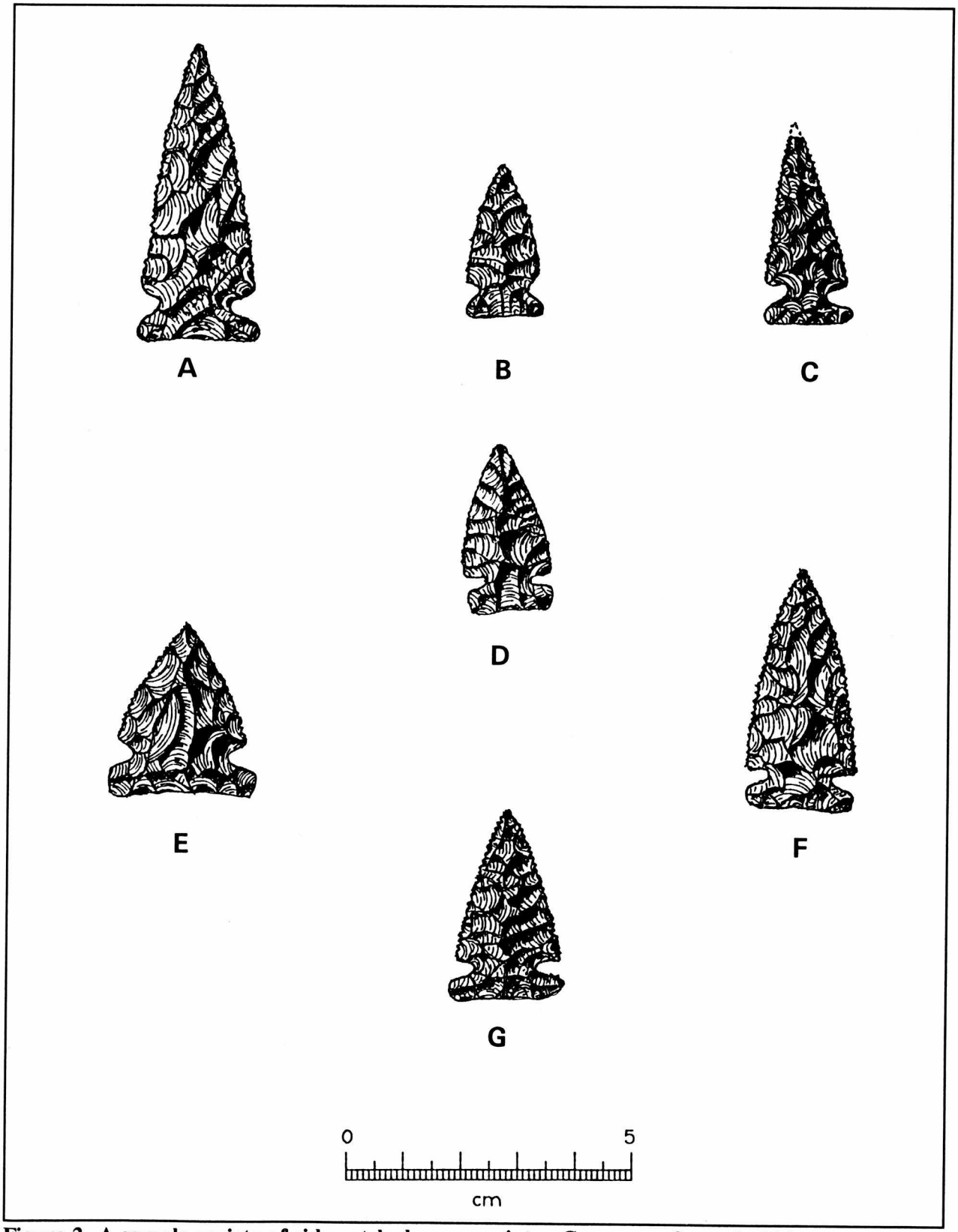

Figure 2. A sample variety of side-notched arrow points - Caracara - from the Falcon Lake Area. Example G is about average size for the 66 measured. Actual size drawings by the senior author.

or were mounted in permanent displays under glass. To show variability, and for purposes of comparison, the outlines of a number of Caracara which were used in the study are shown in Figure 3. The specimens were found by various individuals.

In order to illustrate the difficulty in trying to decide the least controversial configuration for a Caracara some factors which influence the shape of a point type have to be considered:

a. All side-notched points were not made by the same person.

b. Some have been resharpened, which results in a "new" shape.

c. Size, length and width depend on the size of the flake being reduced to a point.

d. The type of lithic material.

So how does one arrive at a reasonable prototype configuration? Perhaps the strongest influence is the shape of the first side-notched point (Figure 2, F) found by the senior author. It was so finely crafted that it initiated a search for any others of the same shape and quality. When many others of similar shape were found, and it was determined that the configuration did not have a name, it became mandatory to try to elevate the shape to the status of a "type."

In order to inject some objectivity during the first assessment, a visual selection of points,which arbitrarily seemed to more closely resemble one another, produced a tentative image of what an average Caracara might look like. Then, all points available were screened for shapes which did not reasonably match this image, and those that did not were eliminated.

The key diagnostic features used in this study to identify a Caracara were: body width, edge serrations, convex edges, and the location, width, and rounded ends of the stem "ears" (protuberances on the stem below the body). Some points with square-ended ears were included when their other features strongly suggested that they be included.

To be unequivocally side-notched, the width of the stem should be equal to, or greater than,the width of the blade. It should be noted in the summary of Caracara parameters that this constraint was found to hold in the average values determined from both collections (Table 1).

In order for the reader to get a better understanding of the complexity of this typological problem, it seems necessary to show similarities between Caracara and other side-notched, or corner-notched, points which may have the same provenience. Figure 4 illustrates the points which will be discussed. The two named points which

Table 1. Comparison of Caracara Parameters: Original versus revised 12-11-90

Average Dimensions, mm.	Collection RKS, et al.	*	Beasley	*	Combined	*
Length	33.84	66	27.58	38	31.55	104
Body Width	17.44	66	14.87	45	16.40	111
Stem Width	19.11	66	15.41	40	17.72	106
"Ears" Width	4.80	126	3.30	83	4.20	209
Thickness	4.25	39	--	-	4.25	39
Weight, grams	2.13	39	--	-	2.13	39

* Number of measurements

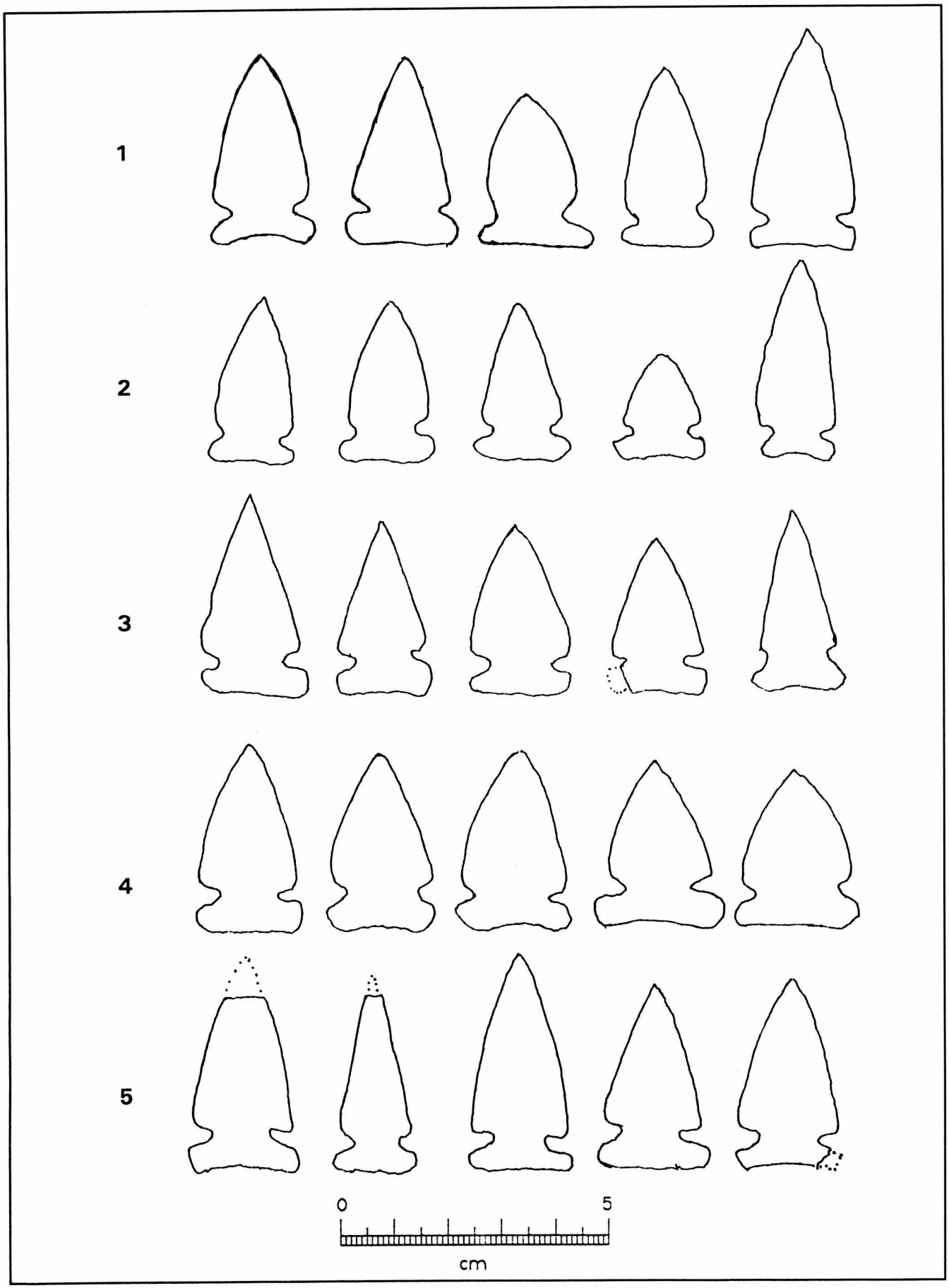

Figure 3. Outlines of side-notched points from various collections. Rows 1 and 2, Dr. J. Tunnell, found in northern Mexico; Row 3, Mr. T. Harter, found in Zapata County, Texas; Row 4, Mr. C. Langston, found in Mexico and Texas; Row 5, found by the author in Zapata County, Texas.

are most similar to Caracara, and found in the same region, are Scallorn and Edwards. A very similar type found west of the Rocky Mountains is known as Desert Side-Notched (Perino 1971), but its provenience mandates a separate typological classification. Similar types are also found in Arkansas, the Great Plains and Canada (Bell 1958) but were not considered for the same reason as Desert Side-Notched.

The point type with which the Caracara is most likely to be associated, and possibly misdiagnosed because of, is the Scallorn arrow point. Although predominately corner-notched, the ears of the expanding stem are rounded like a Caracara, and in some cases may be as wide as the shoulders of the body. Overall size and weight are about the same. However, a marked difference is in the shape of the shoulders. The Scallorn points have pointed barbs at the shoulders while the Caracaras have shoulders that may be squared, but are usually rounded and smooth.

The Edwards point distribution may extend to the Rio Grande and, in many cases, meets the criteria of being side-notched (stem equal to or greater than the body width), but the body edges are straight, the base is decidedly concave in most cases, the notches tend to angle strongly toward the tip, and shoulders or barbs are pointed, which yields a configuration quite unlike that of a Caracara (see Figure 4).

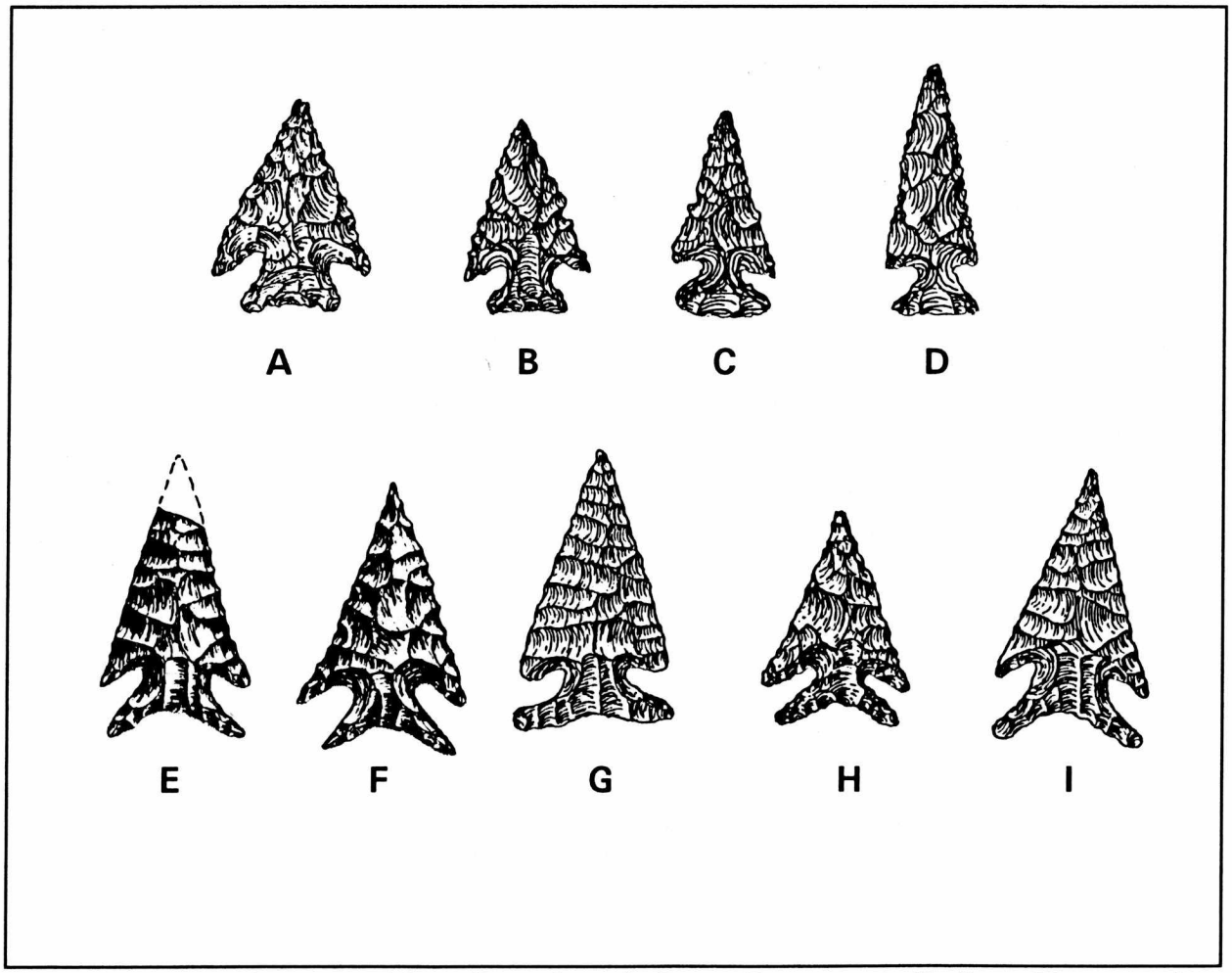

Figure 4. Arrow point types with configurations similar to Caracara. A, Scallorn (Turner and Hester 1993); B, C, D, Scallorn (Bell 1960); E, F, Edwards (Perino 1968); G, H, I, Edwards (Turner and Hester 1993).

Table 2. Caracara parameters versus Scallorn

	mm (Avg.)				
Point	Length	Body Width	Stem Width	L/BW	L/SW
Caracara	34.94	19.13	20.89	1.83	1.67
Scallorn	29.06	13.57	10.82	2.14	2.69

According to Bell (1960), "Scallorn points are small and range in length from about 1 inch to 1¾ inch. They are relatively narrow in width on typical examples." This width is in contrast to the Caracara which, due to predominately convex body edges, has a broad or "fat" body appearance. A comparison of parameters for the two types is shown in Table 2 (above).

These measurements were made on 18 Caracara points from the Charles Langston collection and 11 Scallorn points from Bell (1960). There is a very marked difference in the widths of the two types.

DISTRIBUTION

Based on current knowledge, the main concentration of Caracara points appears to be centered in the regions of Texas and Mexico that adjoin Falcon Lake on the Rio Grande. There is strong evidence that the distribution in Texas is primarily confined to a narrow corridor—less than 20 miles wide—paralleling the river from perhaps Del Rio, Texas to the Gulf of Mexico. The boundaries of the distribution in Mexico are very nebulous but may extend as far as 200 miles into that country. All the points from Mexico in this study, however, were found within a 50-mile radius of Falcon Lake.

Villarreal (1978) found four points near the community of Ocampo, Coahuila, Mexico which seem to have all of the diagnostic parameters prescribed for a Caracara. However, this is far enough away from the major concentration of Caracara (current knowledge) to be in another "area code" (designated area of specialized cultural provenience) to justify including them in an undefined side-notched type in that region.

Current evidence indicates that the point style being considered is not often found in quantity in Texas , except in areas of Webb, Zapata and Starr Counties immediately adjacent to the Rio Grande, with the possible exception of Duval County. The evidence that supports this conclusion is found in a number of *La Tierra* articles, other publications, and personal observations.

Collections that were obtained at some distance from the river show a paucity of possible Caracara points.

Highley (1979) found two possible Caracara points, which she classifies as Harrell, which came from Brom Cooper's collection in Webb and Duval Counties. Beasley (1978) found the proximal fragment of what may have been a Caracara in his collection from Santa Isabel Creek in Webb County, but the site is a little over 20 miles from where the creek enters the Rio Grande. This is in contrast to some 45 Caracara points he found within 10 miles of the river. Saunders and Saunders (1978) documented points from the Upper Santa Isabel Creek sites but reported no side-notched points, although their Figure 8 shows one or two "possibles." Their site would be about 25 miles from the river. Hemion (1980) reports no side-notched points in Brom Cooper's McMullen County collection. Cooper surface collected primarily in the counties of La Salle, McMullen, Webb and Duval. The senior author has had the opportunity to see the private collection of the late Brom Cooper at his home in Kingsville and no side-notched points, which could be classified as Caracara, were found.

Hester (1972) reported some side-notched points found at three Duval County sites by J. L. and Lotta Tunnell of Kingsville, Texas in the 1950s and early 1960s. The three points he classifies as Type I have notches and stems which fit the Caracara pattern, but the body edges are either straight or concave, indicating that they may be resharpened Caracara or a variant of same. The three points he classifies as Type II also seem to approach the pattern for a Caracara but could just as easily be variants of Toyah because the stems have squared tangs ("ears") and the bases are decidedly concave.

The distribution of the Caracara point type may be very limited, even in Mexico. Epstein (1969) does not mention finding small, thin side-notched points at the San Isidro Site which is about 72 miles south-southwest of Falcon Lake. Many of the gray areas in the Caracara distribution pattern may be cleared up when the huge collection of the late Dr. Pat Riley has been documented. Dr. Riley and his family surface collected for many years in South Texas and northern Mexico with most of their collection coming from areas on both sides of the Rio Grande. This collection has recently been donated to the Texas Archeological Research Laboratory (TARL) in Austin and cursory observations indicate that there are many, many Caracara among the thousands of points it contains. Hester (personal communication) has reported that a very large number of the Caracara type were found along the Rio Alamo in the vicinity of Mier, Tamaulipas, Mexico, which is just a few miles south of Falcon Lake.

SUMMARY

The name Caracara has apparently been accepted by the TAS typology committee although no "official" word has been received (documented) from any of its members. The Caracara point type is illustrated in the Second Edition of *A Field Guide to Stone Artifacts of Texas Indians* (Turner and Hester 1993:205. The authors have given permission to have the drawings of the point type by Kathy Roemer reproduced in this report (Figure 5).

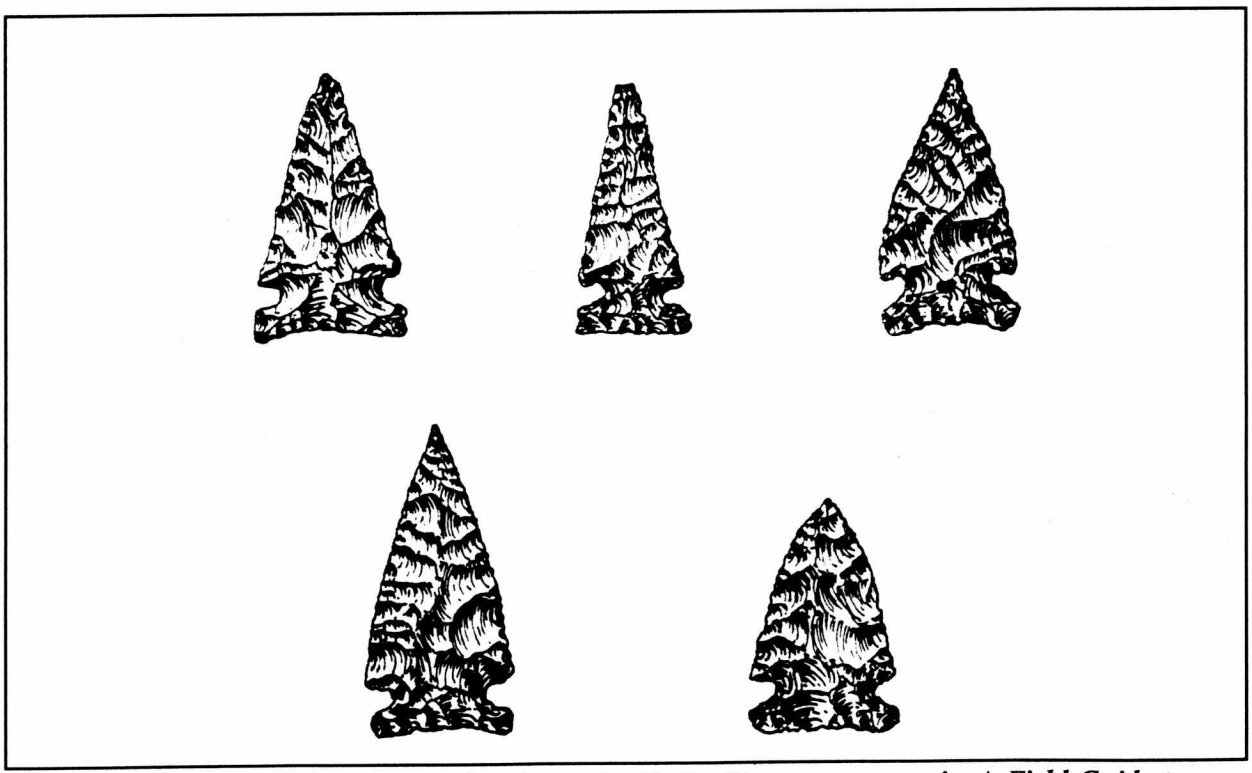

Figure 5. Examples of Caracara point drawn by Kathy Roemer, as seen in *A Field Guide to Stone Artifacts of Texas Indians* (Turner and Hester 1993:205).

SUMMARY OF TYPOLOGY, MEASUREMENTS AND DISTRIBUTION

NAME: Caracara. This small, very thin cross-section arrow point has convex to nearly straight lateral blade edges, never concave, which are often finely serrated. Flaking is random but usually well executed. The point is definitely side-notched producing two basal "ears" on the stem which usually extend slightly beyond the body shoulders and tend to have rounded ends, but may be squared. Both notches are near the base, less than 20 percent of the point length above the base, and tend to be parallel with the base. Bases are normally straight but may be slightly concave or convex. Proper identification can be difficult because of a rather large gradation in size.

MEASUREMENTS: The average length of the Caracara point for those measured before 1993 is 31.55 mm, body width is 16.40 mm, and stem width is 17.72 mm. The thickness is 4.25 mm. Average weight is 2.13 grams. The average width of the "ear" (stem protuberance below the notch, measured at a point midway of the notch), is 4.20 mm (see Table 1).

DISTRIBUTION: In Texas and northern Mexico, centered principally in the Falcon Lake region.

PERIOD: Late Prehistoric.

SITES: Starr, Webb and Zapata Counties (possibly Duval) in Texas and the States of Tamaulipas, Nuevo León and Coahuila in Mexico.

ACKNOWLEDGMENTS

The following individuals should be thanked for providing examples of side-notched points for this typology study: Thomas Harter, Gas City, Indiana; Paul and Frances Hamilton, Zapata, Texas; Charles Langston, Mission, Texas; James Wolf, Falcon Heights, Texas; John Tunnell, M.D., Taft, Texas; and Tom Beasley, Beeville, Texas.

Also, for guidance and much time spent in critiquing and correcting four or five rough drafts of this paper, the efforts of Dr. Thomas R. Hester are hereby gratefully acknowledged.

I would also like to thank the members of the Texas Archeological Society typology committee for their efforts and their positive response to the proposal presented in this paper.

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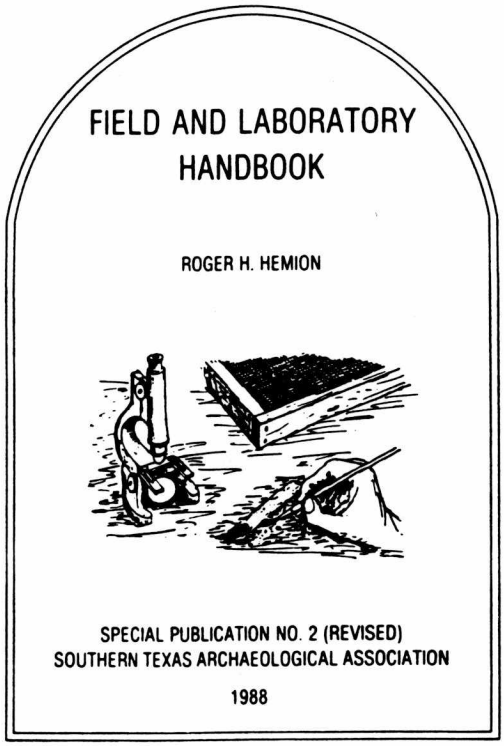

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A LATE ARCHAIC BURIAL IN BEXAR COUNTY, TEXAS

Royal L. Vereen III

ABSTRACT

The purpose of this report is to document a possible late archaic burial salvaged from private ranch road building activities on a ranch in northern Bexar County, Texas.

INTRODUCTION

In October of 1992 the author was monitoring road building activities on a private ranch in far northern Bexar County when a small midden was exposed. A test trench was opened on the damaged half and the discovery of a burial prompted a salvage operation to ascertain any culturally significant deposits. This report is preliminary with emphasis on the burial itself. Follow-up reports on subsequent excavations will be forthcoming.

SITE DESCRIPTION

A small burned rock scatter was exposed by bulldozing adjacent to a spring fed tributary of Cibolo Creek located on a small deflated terrace bordered on the north by a small gully (former spring), on the south by an erosion fan, and on the west by stair-step limestone shelves. The area contains diverse flora including walnut, cherry, elm, and live oak trees all covered in Spanish moss, which indicates the protected nature of this Balcones Escarpment environment. Numerous springs, both prehistoric and historic, are located within one-half mile of this site, as is the main channel of Cibolo creek. The terrace on which the site lies is only 15 meters square with extreme deflation apparent on the eastern and northern borders.

TESTING

Initial testing to determine the extent of the deposits and the possibility of locating an intact area was to dig a test trench along the north/south axis below the erosion "fall" line. In this way the excavators were able to note both the deflation and locate a possible flat underlying shelf. The profile began as a thin lens of burned rock on top of an orange unconsolidated large limestone nodule base rock. The soils were a dark brown humus with the burned rock layer, and an orange clay associated with the limestone nodules. Both of these layers contained numerous tertiary flakes and *rabdotus* snail. Artifacts included Middle Archaic Pedernales, Gary, and Kent (Davis 1991) dart points and associated preforms within the burned rock; Bulverde, Travis, and Nolan dart points and Clear Fork tools (ibid.) were located within and between the nodules. As the trench progressed, the burned rock lens (Level A) began to thicken to approximately 20 cm and a gray soil layer (Level B) began to appear which was nearly devoid of burned rock, artifacts and snail. The base level (Level C) also began to deepen to approximately 10 cm. The stratigraphy began to show that an area of minor disturbance was being entered and is where the burial was encountered.

BURIAL DESCRIPTION

The burial was located by the protrusion of a knee joint in the eastern profile of the test trench. The upper and lower leg bones were carefully excavated to determine the orientation of the remains which were flexed facing to the west. Excavation then proceeded from the top of the profile which was approximately 30 cm above the knees, which were resting on top of the C level. The midden lens was noticeably thinner and after removal, several large limestone rocks were encountered which covered the burial completely. The largest stone was placed over the shoulder and head of the individual and after

removal revealed that the skull was facing west with the top of the head to the north. This individual (Figure 1) was lying on the upper back with the skull facing west and the mandible resting on the right clavicle. Cranial crushing may have been a result of bulldozer weight. Articulation was good on all the major bones but root damage seems to have obliterated the upper chest and left hand, as well as the upper teeth, which were pushed westward away from the skull. The spinal column had also been displaced with a vertebra lying horizontally and several others missing. The left arm was flexed with the hand overlying the upper right arm. The legs were tightly flexed with the right knee joint pointed up at approximately 20° and the lower left leg elevated towards the foot approximately 10°. The spinal column was tilted downward from the pelvis toward the rib cage. The skull was tilted up towards the chest area. This burial had a conch whorl pendant in direct association located underneath the left mandible with the concave face towards the skull and lying on the right edge (see Figure 2). The anterior end has one biconically drilled hole, which was uppermost *in situ*. Small hollow bone fragments were located within the neck and clavicle area, and are believed to be bird bones that were a part of the ornamentation. Excavation was carried out only to the horizontal midline due to the extremely fragile nature of the bone.

The overall positioning of this burial indicates that the burial pit was just large enough to accommodate the individual. With the head tilt, the leg angles, as well as the position of the pendant, the interment seems to be head first with the legs pushed in last. The large limestone rocks were then placed and the burial was backfilled with midden materials which included flakes, *rabdotus* snail, and small burned rock fragments.

Figure 1. Upper detail of burial in Bexar County showing pendant *in situ*, just under jaw.

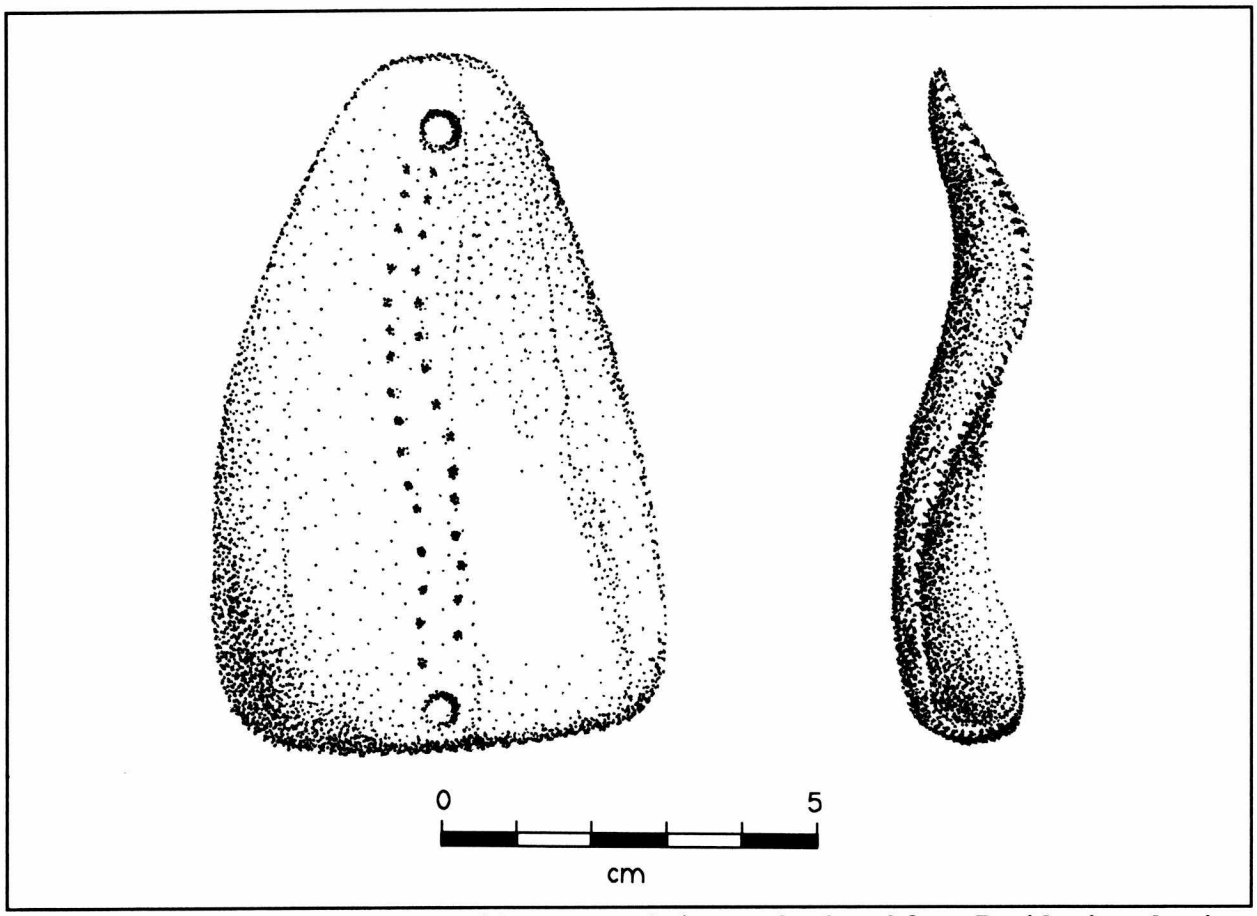

Figure 2. A, Conch whorl pendant with punctate design on the dorsal face; B, side view showing edge decoration and wear. Illustration by the author.

ARTIFACT DESCRIPTION

The only artifact associated with the remains was a conch whorl pendant (Figure 2) located underneath the left mandible. The trapezoidal-shaped shell has two biconically drilled holes centered at both ends neither of which shows much wear. The overall dimensions are: Length, 9.5 cm; Width, 6 cm at the wide lower end; and 1 mm in thickness. The concave face shows small abrasion scratches but no decoration, whereas the convex face also shows the light abrasion lines and a double row of 31 small drilled depressions that run from the upper suspension hole to the lower hole. All the edges have been ground smooth and then decorated with small cuts every 1 mm except on the two lower corners which have been worn smooth, presumably from use wear. The location of the pendant suggests that it was worn close to the neck with the narrow end uppermost. The drilled hole decoration on the convex face as well as the use wear on the lower corners of the concave face indicates that it was worn convex side out. It is likely that some other decoration was used in addition to the pendant and observation of small hollow bones in association, and the location of a second hole on the lower edge appears to support this assumption.

DISCUSSION

The position of the burial pit, which had been dug through the upper midden level and Level B and allowed the remains to rest on the C

level, seems to indicate that the interment occurred after the Middle Archaic (Pedernales, Gary, Kent; see Davis 1991) occupation of the site and probably during the Late Archaic, which was still using the site as an occupation/activity area. Late Archaic materials (Castroville, Darl, Ensor; ibid.) have been located on the surface but as yet have not been observed in the test trench. It is hoped that the area set aside for controlled excavations will show some stratification within Level A, which will help in showing the approximate time frame of this burial.

Several sites have produced conch whorl pendants in association with burials as both grave goods and as ornamentation. It is felt that the overall shape and the punctated design of this specimen lends itself to comparison with other specific examples. Lukowski (1988) at 41BX1 reported three burials that contained conch whorl pendants with associated radiocarbon dates of 3310±110 B.P. and 1920±160 B.P. (TX-3989 and TX-3993) in the Olmos Basin of Bexar County. These pendants are very similar to the example given in this report and it is believed they are contemporaneous.

Prewitt (1981) in his chronology of this area, indicated that marine shell pendants were an index marker of the San Marcos Phase and is associated with Marshall and Lange points with an estimated age of 2600 B.P. to ca. 2250 B.P. He also noted that isolated flexed burials occur in the Twin Sisters Phase with the estimated dates of 1750 B.P. to ca. 1400 B.P.

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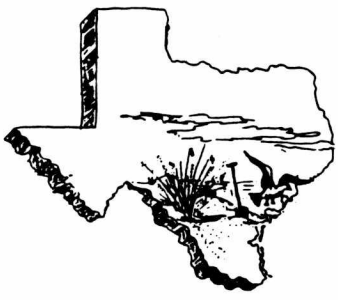

COASTAL BEND ARCHEOLOGICAL SOCIETY

Another local archaeological society our readers may find interesting to participate in is the Coastal Bend Archeological Society, recently risen from a short functioning hiatus, and now a very active group.

A recent business meeting vote has returned their monthly meeting to the first Wednesday of each month. The meetings will be in the Hilltop Community Center, Corpus Christi, at 7:00 o'clock p.m.

Contact Larry Beaman, 303 Rolling Acres Dr., Corpus Christi, Texas 78410 for further information.

PRISMATIC BLADE TECHNOLOGIES IN TEXAS

Leland W. Patterson

ABSTRACT

Comments are given on Paleo-Indian large prismatic blade technologies and later small prismatic blade technologies at archaeological sites in Texas. Prismatic blade technologies are sometimes overlooked in the analysis of lithic collections. Criteria are discussed for recognizing a true prismatic blade industsry. The need to obtain more data on the temporal and geographic distributions of prismatic blade industries in Texas is noted.

INTRODUCTION

Prismatic blade industries are widespread in Texas (Patterson 1974a), but this type of technology is not well studied in all parts of the state. It has been noted that there are two types of prismatic blade technologies in Texas (Patterson 1980a; Sollberger and Patterson 1976). These two types of technologies are the manufacture of large prismatic blades in the Paleo-Indian period (10000-6000 B.C.), and the manufacture of small prismatic blades, starting as early as about 2000 B.C. in Southeast Texas (Patterson 1980b). As Collins and Headrick (1992:27) note, there is little evidence for Paleo-Indian blade technology continuing into the Archaic period. Thus, there is a considerable time gap between the end of large blade manufacture and the start of small blade manufacture in Texas.

It is not always easy to recognize a true prismatic blade industry at an archaeological site, for several reasons. A few prismatic blades can be produced fortuitously during other lithic manufacturing operations, such as primary reduction to produce flake blanks, and in bifacial reduction to manufacture dart points. Paleo-Indian prismatic blade technology may be especially difficult to find at archaeological sites. As Kozlowsky (1990: 422) has noted for the European Upper Paleolithic period, blade cores can be transformed into flake cores, which would reduce evidence for blade manufacture. Also, Paleo-Indian tools made on large prismatic blades were highly curated by very mobile bands, so that many prismatic blades were removed from the original manufacturing site. To conclusively identify a true prismatic blade industry, both product blades and polyhedral cores should be found, or at least a significant number of prismatic blades. It has previously been noted (Patterson 1980a) that retouch for tool manufacture may remove evidence as to whether a tool was made on a true blade or on an irregular flake.

PALEO-INDIAN BLADE TECHNOLOGY

Paleo-Indian prismatic blade technology was first identified in association with the Clovis culture (Green 1963; Hester 1972:97). Collins and Headrick (1992:36) state that "We do not see true prismatic blade technology surviving into Folsom times." This is a rather tenuous position, however. Irwin and Wormington (1970:Table 1) note that tools were made on prismatic blades in a number of Paleo-Indian cultures, including Clovis, Folsom, Midland, Agate Basin, Hell Gap, Cody, and Frederick. Goodyear (1974:Figure 19) shows the presence of true blades in the Dalton culture in Arkansas, which Morse and Morse (1983:71) date to a range of 8500-7500 B.C. At site 41ME3 in Medina County, Texas, thermoluminescence (TL) dates of 9551$\pm$765 B.P. (7601 B.C.) and 7098 $\pm$760 B.P. (5148 B.C.) (Patterson 1981) possibly indicate that at least some of the many large prismatic blades found at this site (Patterson 1977) were made after the Clovis period. It may be concluded for the present that prismatic blade technology for the entire Paleo-Indian period in Texas (10000-6000 B.C.) has not been well studied.

Collins and Headrick (1992) use length as the main attribute to identify Paleo-Indian large blades. Blade width is a generally more useful attribute, especially when blade segments are being examined. Paleo-Indian large blades generally have widths over 20 mm, while later small blades typically have widths under 15 mm (Soll-

berger and Patterson 1976).

No Paleo-Indian blade industry has been found in Southeast Texas, but imported Paleo-Indian large blades are found occasionally in this region, made of Edwards Plateau flint (McClure and Patterson 1989; Patterson 1990; Patterson et al. nd). This is an indication of highly curated tools by some very mobile Paleo-Indian groups, or perhaps an indication of Paleo-Indian trade. Many Paleo-Indian groups in Southeast Texas used only local chert raw materials, which are not very suitable for the production of large prismatic blades.

It has previously been noted by Patterson (1979) that there are technological reasons why Paleo-Indian large blade technology did not continue into the Archaic period. Prismatic blades are not particularly suitable for the manufacture of dart points, because blades are sometimes too narrow and because dorsal ridges on blades are sometimes difficult to remove. When many dart points were being manufactured at a site, such as happened in the Archaic period, there were generally enough by-product flakes for unifacial tool use without the need for large prismatic blades. It should also be noted that large prismatic blade manufacture requires a high quality of raw material and specialized flintknapping skill.

I tend to agree with Collins and Headrick (1992) that the blade cores published by Kelly (1992) are Paleo-Indian rather than Late Prehistoric, based on size and morphology.

As noted by Collins and Headrick (1992), there has been a recent increase in data on Paleo-Indian blade cores in Texas. These data are still not enough to comprise a very representative sample. Some examples of Paleo-Indian polyhedral blade cores in Texas have been published by Chandler (1992), Collins and Headrick (1992), Goode and Mallouf (1991), Kelly (1992), and Patterson (1977).

LATER PRISMATIC BLADE TECHNOLOGIES

There are a number of sites in Southeast Texas with industries for the manufacture of small prismatic blades, in the Late Archaic (1500 B.C.-A.D. 100), Early Ceramic (A.D. 100-600), and Late Prehistoric (A.D. 600-1500) time periods. At site 41HR315 (Patterson 1980b), small prismatic blade technology starts at the end of the Middle Archaic or early in the Late Archaic and continues through the Late Prehistoric. Both blades and polyhedral cores have been found at several sites in this region, such as 41HR315 (Patterson 1980b), 41HR182 (Patterson 1985), 41HR184 (Patterson 1973), and 41WH37 (Patterson and Hudgins 1989). Small prismatic blades were used in Southeast Texas for the manufacture of arrow points, side-blade inserts and perforators. Unifacial arrow points were sometimes made on small blades, and start before bifacial arrow points in this region (Patterson 1992). Blade widths at sites in this region seem to be mainly in the range of 9 to 14 mm (Patterson 1980c:Table 2, 1985: Table 2; Patterson and Sollberger 1976:Figure 5).

Industries to manufacture small prismatic blades occur in other regions of Texas. Hester and Shafer (1975) have described small blade technology on the Central and South Texas coast, related to the Late Prehistoric period. Small bade technology, including blades and polyhedral cores, has been identified at site 41BN8 in Bandera County (Patterson 1976), with possible Late Archaic context, where unifacial arrow points were manufactured on blades. Collins and Headrick (1992: Figure 5) have illustrated small blade cores from sites in Hays and Nueces Counties, related to the Late Prehistoric period. Although somewhat out-of-date, many of the sites with blades throughout Texas shown by Patterson (1974b,Figure 1) represent the widespread occurrence of small blade technologies.

The morphologies of small polyhedral blade cores found in Texas are quite variable (Collins and Headrick 1992:Figures 5,6; Patterson 1973: Figures 1,7). All blade cores have at least three parallel flake scars that show the purposeful serial production of small blades.

SUMMARY

This brief article has given comments on the two principal types of prismatic blade technologies found at prehistoric sites in Texas, which may contribute to a better picture of the current status of research on this subject. There are fairly good

descriptions available on the technologies involved, but data on the geographic distributions and frequencies of these technologies are far from forming a good representative sample. Because of the difficulties in identifying prismatic blade technologies at some sites, and the lack of experience by many archaeologists with this type of technology, it is probable that prismatic blade industries are often overlooked at sites in Texas. Hopefully, a greater awareness of the existence of prismatic blade technologies in Texas will contribute to generating a larger database on this subject.

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C. K. CHANDLER, Documentation Chairman of STAA, is a retired railroad management official and engineering consultant with an insatiable interest in Texas archaeology. He is Past President of the Texas Archeological Society and a member of the Coastal Bend Archeological Society. C. K. was the 1985 Robert F. Heizer Award winner for his extensive work in south Texas archaeology (see Vol. 13, No. 1). Also, in 1985, he recorded more archaeological sites with the Texas Archeological Research Laboratory than any other individual. C. K. is a valued contributor of manuscripts to *La Tierra* and the *Bulletin of the Texas Archeological Society*, covering such varied subjects as metal points, rock art, and hearthfield sites in Terrell County. He has been honored by being named a TAS Fellow, and was also appointed as a steward for the Office of the State Archeologist. The Chandlers reside in northern San Antonio.

T. R. HESTER is Professor of Anthropology and Director, Texas Archeological Research Laboratory (TARL) at the University of Texas at Austin. Dr. Hester taught at the University of Texas at San Antonio from the time the University opened in 1973. He has done fieldwork in Texas, the western United States, Belize and Egypt, and is the author of numerous books and papers on archaeology including *Digging into South Texas Prehistory* (1980) and *A Field Guide to Stone Artifacts of Texas Indians* (with Ellen Sue Turner, 1985, revised 1993). As Professor in the department of Anthropology he teaches both undergraduate and graduate courses, and works with students in the archaeology Ph.D. program.

LELAND W. PATTERSON is a retired chemical engineer whose last professional position was Manager of Environmental Affairs, Engineering for Tenneco, Inc. His work included cultural resource studies for environmental impact studies and the general overview of any archaeological work required. He has published 280 archaeological reports in local, state, regional and national journals, such as *American Antiquity, Plains Anthropologist, Journal of Field Archaeology and Bulletin of the Texas Archeological Society.*. He is a member of several archaeological societies and has served as a member of the American Institute of Archaeology Committee for American Archaeology. Lee now plans to write an integrated synthesis of southeast Texas that covers all time periods and geographic subregions. Because of his untiring efforts to conduct survey, record over 150 prehistoric sites in Texas, Louisiana and Ohio, and publish his findings, Patterson has received the Golden Pen Award from the Texas Archeological Society.

JOSEPH F. POWELL is a staff archaeologist at the Texas Archeological Research Laboratory at The University of Texas at Austin, where he is completing work for his M.A. degree in anthropology. His research interests include paleopathology, paleodemography, and statistical methodology. He has conducted archeological fieldwork in Kentucky, Utah, and Texas, has served at Columbia University as a research archaeologist for the Adena Project, and at Eastern Kentucky University as an instructor in physical anthropology.

R. K. (PETE) SAUNDERS retired from Exxon Research and Engineering in 1977 so that he and his wife, Dorothy, could become full-time "trailerites." While spending the winter of 1979-1980 at Los Lobos Trailer Park on Falcon Lake he began to find lithic artifacts and became an avid avocational archaeologist. He is a member of STAA and the Texas Archeological Society (TAS) and has participated in the Dan Baker site excavations, as well as TAS field schools, and the UTSA-CAR/Witte Museum Baker Cave (Val Verde County) excavations in 1984. He has a home near Canyon Lake and has discovered various ways to replicate projectile point forms.

SOLVEIG A. TURPIN received her doctoral degree from the University of Texas in 1982. She is currently the Associate Director of the Texas Archeological Research Laboratory at that institution. Her major research interests are hunter-gatherer adaptation to the arid lands of southern Texas and northern Mexico and the remarkable rock art characteristic of that region. Other papers on the historic period pictographs have been published in *Archaeology* magazine, *Plains Anthropologist*, the Smithsonian Institution publication *Columbian Consequences*, and *La Tierra* (1986).

ROYAL L. VEREEN III is an artist who lives in Bulverde, Comal County, Texas. A graduate of Texas A&M University with a bachelor of arts degree in political science and a minor in geology, he began archaeological work and interest during a survey of the 4,380-acre Stone Oak subdivision in north Bexar County, Texas. He is currently working on a manuscript of Pre-Archaic campsite and related sites along the Cibolo Creek.

THE SOUTHERN TEXAS ARCHAEOLOGICAL ASSOCIATION

The Southern Texas Archaeological Association brings together persons interested in the prehistory of south-central and southern Texas. The organization has several major objectives: To further communication among avocational and professional archaeologists working in the region; To develop a coordinated program of site survey and site documentation; To preserve the archaeological record of the region through a concerted effort to reach all persons interested in the prehistory of the region; To initiate problem-oriented research activities which will help us to better understand the prehistoric inhabitants of this area; To conduct emergency surveys or salvage archaeology where it is necessary because of imminent site destruction; To publish a quarterly journal, newsletters, and special publications to meet the needs of the membership; To assist those desiring to learn proper archaeological field and laboratory techniques; and To develop a library for members' use of all the published material dealing with southern Texas.

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