LA TIERRA

April 1985

Volume 12, Number 2

JOURNAL OF THE SOUTHERN TEXAS ARCHAEOLOGICAL ASSOCIATION

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 amateur 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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Volume 12, Number 2 Jimmy L. Mitchell
April, 1985 Editor

Cover Illustration: Some artifacts recovered from inundated area of Falcon Lake. See Pete Saunders' article, this issue.

Manuscripts for the journal should be sent to: Editor, La Tierra, Jim Mitchell, 926 Toepperwein Road, Converse, Texas 78109. Copies of past issues of the journal are available from the Editor, also. To order Special Publications, order from the office, 123 East Crestline, San Antonio, Texas 78201.

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E D I T O R I A L

STAA CO-HOSTING TAS ANNUAL MEETING

The last time the STAA hosted the annual meeting of the Texas Archeological Society in San Antonio was in 1975, when the STAA was less than two years old. That meeting, held at the Sheraton Motel and Conference Center on the Austin Highway, proved to be an outstanding success. The meeting highlighted the emerging new spirit and vigorous energy of the new Southern Texas group, and gained us a wider membership beyond the vague boundaries of the our region.

Now it's ten years later, and the STAA Board has volunteered to co-sponsor the 1985 TAS annual meeting (November 1 - 3). It will be co-hosted by the Center for Archaeological Research of the University of Texas at San Antonio, the Institute of Texan Cultures, and the Witte Museum. A coordinating committee has been set up of representatives from each organization, and each organization is participating in all phases of the meeting preparations.

The conference is to be held at the Sheraton again, and we anticipate a very good turnout. We encourage all STAA members to volunteer to help make this meeting a success. If you can take registrations, put up decorations, sell books, run a slide machine, find missing electric cords, or even just bring your artifacts for display, then please volunteer. You will be receiving a special letter with details of how to help later in the year. Please participate fully so that this will be the best TAS meeting yet!

The Editor

NOTES ON SOUTH TEXAS ARCHAEOLOGY: 85-2

Thomas R. Hester

A Ceramic Platform Pipe from Duval County, Southern Texas

During the course of a public seminar in Uvalde, Texas, in June 1984, I was shown a remarkable archaeological specimen found west of Freer in Duval County (Figure 1). This artifact, a ceramic platform ("monitor") pipe, is in the collection of Mrs. O. F. Everett of Uvalde (Figure 2). It was found on the surface, broken into three fragments. Other surface specimens at the site included Perdiz and Scallorn arrow points and an oval sandstone bead or pendant with two perforations (Ray Smith, personal communication). Although I was struck by the unusual form of the pipe, the first of its kind that I have seen in southern Texas, it does appear to be derived from the same ceramic tradition that produced bone-tempered pottery in southern Texas between ca. A.D. 1250-1400.

The complete specimen, as illustrated in Figure 2, is 155 mm long. Its width, at the bowl, is 36.5 mm, and at either end, 32 and 34 mm. Thickness at the bowl is 8 mm, and at the ends, 7.5 and 10 mm. The bowl itself (apparently made by the coiling technique) is 41 mm high, with a maximum diameter of 39 mm, a minimum diameter of 35 mm, and a rim thickness varying from 4.5-6.0 mm. The weight of the artifact is 167.5 grams.

In terms of manufacturing technology, the specimen is bone-tempered, greatly resembling the "Leon Plain" ceramics of southern and central Texas. The surface is essentially smooth, although some areas bear striations resulting from the smoothing process. The original surface appears to have been reddish-brown (there is a chipped spot on the bowl rim); "light reddish brown to reddish brown" (Munsell 5YR 5/3-6/4). However, there is a smoothed and burnished brown slip overlying the original exterior surface. Munsell color readings of 5YR 4/3, "reddish brown," to "very dark brown" (10YR 2/2) and "black" (10YR 2/1) represent the variation in the color of this slip. Most of the slipped surface has been burnished, in the same style seen on many bone-tempered sherds from southern Texas. The slip is indeed unusual, but I have seen sherds from the region that have somewhat similar treatment (Hester and Hill 1971:197; see also Black 1982:413,444). A couple of final observations: the base of the pipe exhibits small surface cracks, perhaps from shrinkage during the drying or firing phases; and there are openings, 4 mm in diameter, at both ends, with the pipe stems emerging within the bowl, offset by about 5 mm. Interestingly, the bowl contains no residues--and, indeed, it appears to me to have never been "smoked" or used as a pipe in the strict sense, although its form surely suggests that (intended?) function.

Fragments of several other ceramic pipes have been found with the Late Prehistoric Toyah horizon occupation at site 41 LK 201, in the Choke Canyon Reservoir basin (Black 1982; Highley 1986). All appear to be pieces of pipe bowls; fragments of possible platform elements have not been recovered. The specimen reported by Black (1982:427-428; Fig. 91) seems to be a pipe bowl larger than the one reported here, as Black estimates its maximum diameter at about 50 mm. Highley (1986) has reported two, and possibly three, additional pipe bowls from the site. One is the lower part of a bowl, with a projected rim diameter of about 40

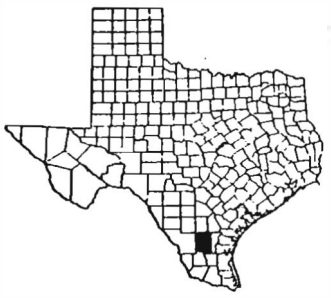

Figure 1. Location of Duval County, Southern Texas.

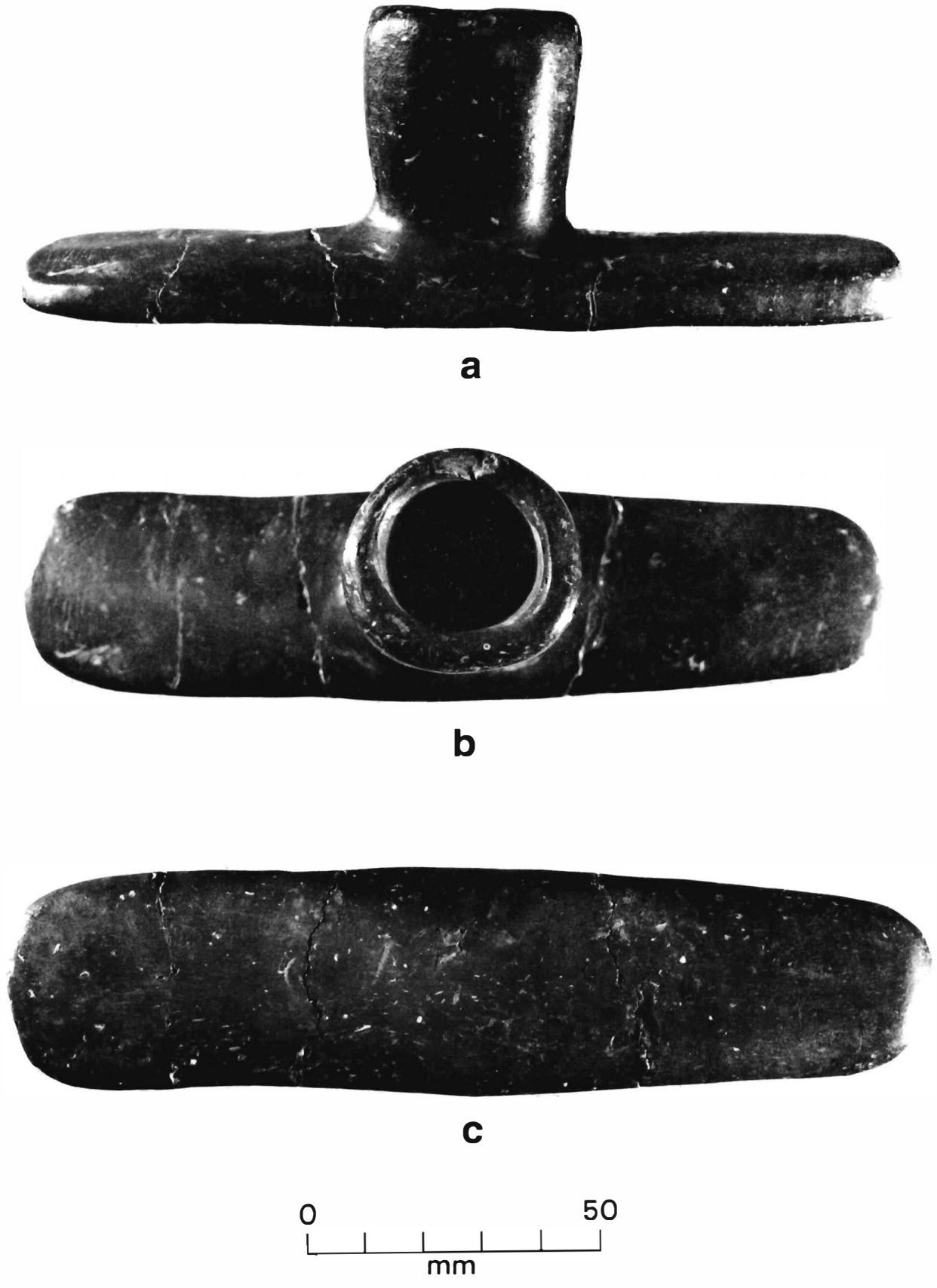

Figure 2. Ceramic Platform Pipe from Duval County. a, side view; b, top view; c, bottom view. Illustrated actual size.

mm. This specimen contains a black residue that has yet to be analyzed. A second pipe bowl represents a mid-section and is 35 mm in diameter. A third set of sherds from LK 201 represent a possible pipe bowl, too fragmented for measurement. However, it also has charred residue on the interior part of the presumed bowl.

All of the specimens from 41 LK 201 fall within the bone-tempered ceramic technology. Though none have slipped surfaces, they do exhibit varying amounts of burnishing. Highley (ibid.) notes that one of the specimens appears to have been made via a "pinch pot" method, while a second was made by the coiling technique. Unfortunately, all of the specimens are too fragmentary to ascertain whether or not they were once part of platform pipes of the kind illustrated in Figure 2.

Other pipes recovered from south Texas sites are usually made of stone. These include tubular stone pipes from Archaic sites (cf. Hester 1980), a small sandstone pipe fragment from a Late Prehistoric site in Zavala County (Hill 1978), and an elbow pipe of unknown date, found at 41 LK 67 (Brown et al. 1982:169).

I have made a cursory search of the literature on pipes in the ceramic traditions of East Texas and the Southern Plains, but I have thus far not found any comparable specimens. I would be grateful for any comparative data that La Tierra readers might have. Furthermore, Rochelle Leneave, a student at UTSA, is currently conducting research on stone pipes from southern and south-central Texas, and data on such specimens can be routed to her through the Center for Archaeological Research.

ACKNOWLEDGMENTS

Mrs. O. F. Everett kindly loaned the pipe to the UTSA Center for Archaeological Research and provided Ray Smith with additional information on its discovery and associated artifacts. John Poindexter of the UTSA Office of Media Resources took numerous color slides and black and white photographs to document the artifact. These are on file at the Center for interested researchers.

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RECOVERY OF DROWNED RIO GRANDE RIVER ARTIFACTS, ZAPATA AND STARR COUNTIES, SOUTH TEXAS

R. K. Saunders

ABSTRACT

This report briefly describes the recovery of a significant quantity of lithic artifacts from areas normally flooded by the waters of Falcon Reservoir in southern Zapata County and western Starr County, in South Texas. Several hundred artifacts are documented ranging from the Paleo-Indian period (Golondrina) to near-historic times (Starr). This report provides an overview of the artifacts recovered and records the background of this effort.

INTRODUCTION

In recent years, drought conditions in the Rio Grande River watershed have drastically lowered the level of Falcon Reservoir below its normal level of 301 feet above mean sea level; by the spring of 1984, the level was down to 277 feet. Many acres of ground were exposed including numerous archaeological sites. Artifacts of all kinds were leached from the lake bottom soil. Several hundred projectile points and other artifacts were recovered. A strong effort was made to recover all lithic materials excluding only small thinning flakes; the collection of materials is currently at the Center for Archaeological Research of the University of Texas at San Antonio for evaluation.

BACKGROUND

As reported by Byfield (1966), it was not without some distress that the residents of Starr and Zapata Counties heard in the early 1950s that their homes and townsites were to be covered by the waters of a new lake as the U. S. Government sought to condemn over 90,000 acres to develop a new dam and lake on the Rio Grande deep in South Texas (see Figure 1). The news must also have produced

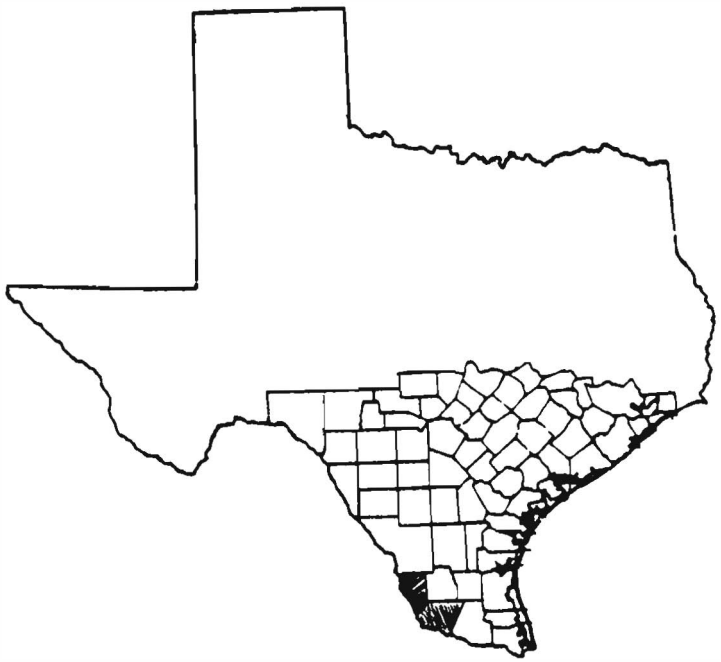


Figure 1. Map of Texas showing Zapata and Starr Counties (darkened area).

great distress in the academic community due to the impending loss of literally hundreds of archaeological sites. However, "progress" would not be denied despite the storm of controversy; in December 1952, the gates of the new dam were closed and Falcon Lake began to fill. Two huge floods filled the lake to its brim with over 4 million cubic feet of water in less than a year.

In spite of the many benefits derived from the lake, it now covers thousands upon thousands of prehistoric artifacts in a watery grave from which there is little hope of recovery. Not only were the artifacts inaccessible but they were also being altered by the solubility and deposition characteristics of the water. Almost all of the artifacts recovered showed some degree of "limey" deposit due to the very high dissolved solids content of the lake water. What changes were brought about by solubility can only be speculated about. For instance, no pottery sherds were found. Could there have been some initially, which dissolved after thirty years under water? The calcium carbonate deposits on the artifacts recovered from the usually submerged sites had to be removed with a vinegar solution or by the use of a commercial product called Lime Away.

SITES

The locality encompasses a series of 21 sites in the floodplain of Falcon Reservoir. They have been labeled alphabetically (A thru T) in Figures 2 and 3 (which are copies of contour lines from USGS 7 1/2 minute series topographic quadrangle maps of the Falcon Village and Beckwith Arm areas). The sites are situated on the eastern side of the reservoir in the very southwestern corner of Zapata County except for one very small site (labelled A) which is in the very northwestern edge of Starr County. All sites are on normally inundated land controlled by the International Boundry and Water Commission.

Sites B and K appear as islands when the lake level drops below 295 feet; these sites eventually become peninsulas as the lake level recedes further. The 284' and 277' contours shown are estimates since current USGS maps do not show lines below the normal pool elevation. The entire area involved (including normal land and water surfaces) can be encompassed in a rectangle 3 miles wide and 9 miles long. The coordinates for the southeast corner of this rectangle are 99°7'30" West and 26°33'6" North. The area is approximately 75 miles SSE of Laredo, Texas, and 19 miles NNW of Roma-Los Saenz, Texas.

It should be noted from Figures 2 and 3 that the concentrations of artifacts occur only on what appear to be points of land. However, since the shallow embayments between such points are covered with deep layers of sand, the existence of artifacts in those areas cannot be readily determined. Thus, the search area may be one extended site with 21 subdivisions rather than a series of discrete sites. This possibility is supported by the fact that the land immediately adjacent to the lake has an almost continuous scatter of lithic flakes and debitage.

In order to determine if the sites reported here have been previously recorded, Dr. Tom Hester of UTSA requested all recorded site locations for the area from Carolyn Spock of the Texas Archeological Research Laboratory at the Balcones Research Center in Austin. The sites she reported, for the most part, do not coincide with the site or sites being reported here. While two or three are in close proximity, most of the recorded sites are above the normal water level.

The original surveys were probably based on surface observations and the relatively small number of sites found in no way reflects the multitude of sites that were present underground and thus, not visible. The waters of the new lake have had a drastic impact. They changed a three dimensional situation into a two dimensional one. The relative stratigraphic locations of the many sites in the layers of topsoil have been altered so that many of the sites are now on a single plane. Even now, a site can be revealed or can disappear in just a few days.

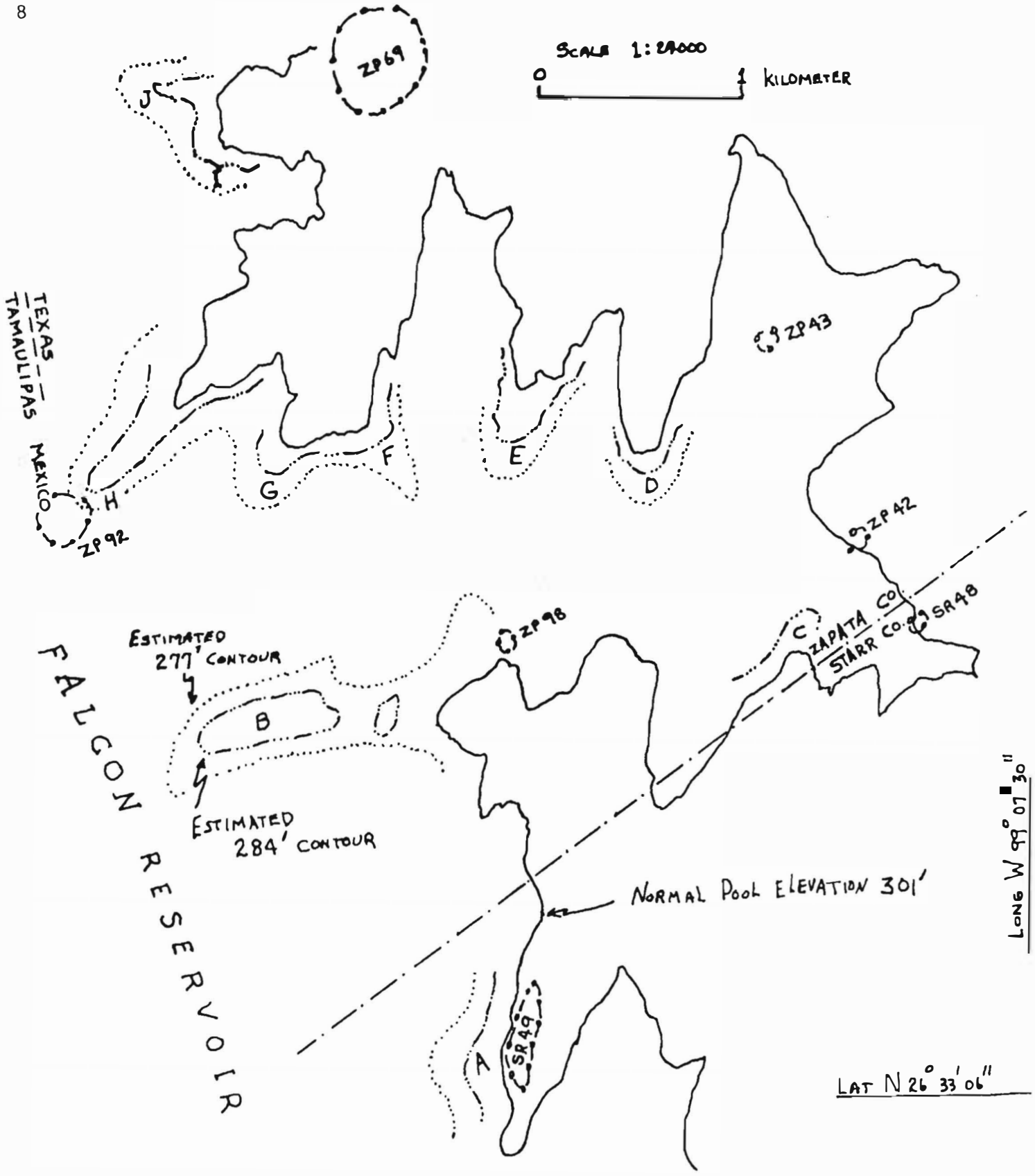


Figure 2. Relative Location of Sites in Zapata and Starr Counties, Southern Texas.

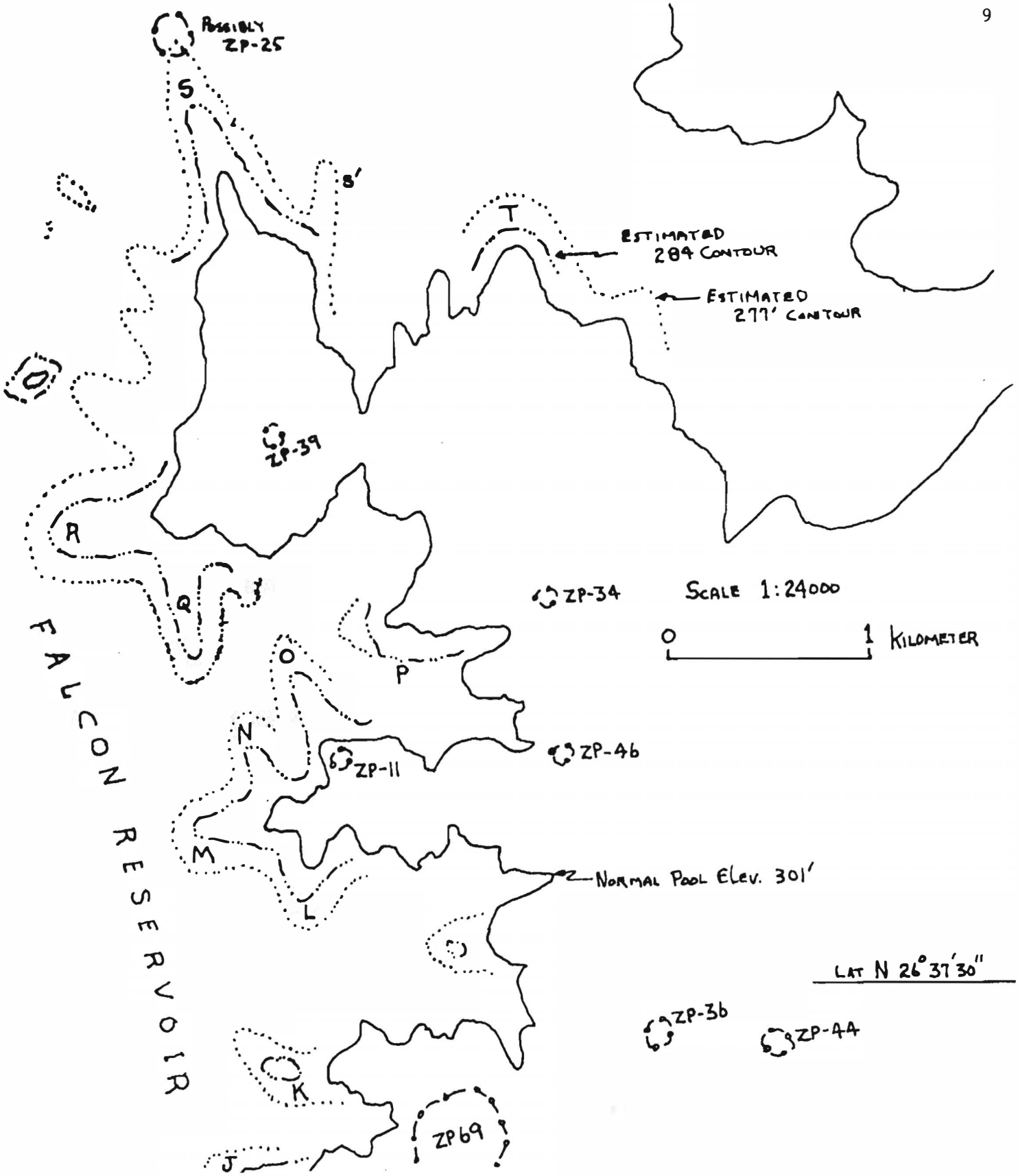


Figure 3. Relative Location of Zapata County Sites.

For example, the initial search of the area of site S' (see Figure 3) revealed a fairly flat, sandy point of land just barely above the water level; it produced only a few lithic artifacts and little other evidence of being a site. A second visit to this area followed a small rise and subsequent fall of the lake level. This time, the surface of the sand had a large deposit of flint chips and artifacts which included 27 projectile points. These had been uncovered by the rise and fall of the lake and wave action. A third visit after another cycle of the changing lake level produced nothing; there was no sign of flint chips, artifacts or any other evidence of a site - only sand.

As the water reached its lowest level, most of the sandy topsoil in each site has been eroded away by current and wave action. Any remaining soil consists of a dark gray or yellow clay hardpan. This hardpan was typically covered with small depressions and small, shallow holes (2" to 5"). Such features served to capture a large number of artifacts which might have otherwise been washed away. There is also some evidence that the hardpan is not a sterile layer since some artifacts were found deeply embedded in the walls of some of the holes. Excavation of the hardpan might well produce artifacts much older than those recovered from the sandy topsoil, but the feasibility of such a project would certainly be constrained by the major fluctuations of the lake level.

There are many similarities in site characteristics of these Zapata and Starr Counties sites and the San Isidro Site described by Epstein (1969), which is approximately 72 miles to the southwest. One similarity is found in the large number of clusters of red and dark brown rock fragments found scattered about in both areas. At San Isidro, the fragments appear to be burned and were assumed to be hearths. At Falcon Lake, the hearth rocks are mostly a coarse sandstone which probably does not explode when heated as some rocks do. Very little charcoal was found in association with the hearths but it could have disintegrated or floated away when the lake was inundated. One large concentration of charcoal was found at one of the hearth sites and a sample was taken for possible radiocarbon analysis; however, the uniqueness of this specimen makes it suspect as of possible recent origin. It is somewhat puzzling that no artifacts were found in direct association with a hearth feature. Only one such feature was actually excavated, although the presence of fire-blackened rock at a number of the sites suggests other possibly-productive search areas.

THE ARTIFACTS

The large number of artifacts found presented a difficult problem in terms of proper classification; no typological match could be found for many of the items. The artifacts which could be identified, however, appear to cover a time-span from the Late Paleo-Indian period to Historic times. The collection includes projectile points, scrapers, knives, choppers and hand axes, gouges, cores, unifacial tools, preforms, and utilized flakes, as well as numerous unclassified items. No drills were found nor was there any evidence of pottery.

The sheer size and diversity of the collection makes it difficult to report, and only the projectile points will be reported here. Hopefully, a more complete appraisal can be presented sometime in the future. The entire collection is currently on loan to the Center for Archaeological Research of the University of Texas at San Antonio for a comprehensive evaluation.

Although yet to be studied in complete detail, the collection appears to contain examples of the following projectile point types:

(a) Abasolo
(b) Almagre
(c) Bell
(d) Bulverde
(e) Cameron
(f) Catan
(g) Desmuke
(h) Fresno (or Guerrero)
(i) Gary/Kent
(j) Golondrina

(k) Kinney
(l) Langtry
(m) Lerma
(n) Matamoros
(o) Pandora
(p) Perdiz
(q) Plainview
(r) Refugio
(s) Shumla
(t) Starr
(u) Tortugas
(v) Washita (side-notched)
(w) Young

Examples of these artifacts are shown in Figures 4 thru 6. The drawings are shown actual size. Normally, only one example of each type is illustrated, although in some cases, a sizable number of the type were recovered. One striking conclusion to be drawn from the specimens in this collection involves the reproducibility of a given point style. Although there is variety in the actual size of specimens of each type, many of the specimens of a given size were incredibly similar. The outline of many points agree to within a few tenths of a millimeter. This suggests that they may have been made by a single knapper. These hand-made objects approach machine-made standardization. Such precision is remarkable and may have had some functional utility (such as a means of controlling throwing accuracy).

In addition to the known types, Figures 7 and 8 illustrate (also actual size) some of the more interesting specimens which were unusual in some way or which were not classified into current types. Some of these latter artifacts may belong to some existing category that was not known to the author through readily available publications.

The specimen shown in Figure 7a is quite similar to a large number of points found by Charles Langston (of Mission, Texas) in the Falcon Lake area. [Editor's Note: This may be a variety of Edwards point. Lynn Highley (1979:36-38) reported 22 Edwards points from Duval and Webb Counties, extending its known distribution into the Rio Grande valley.]

The example shown as Figure 7c is only a basal fragment but, assuming the projected shape is accurate, it is quite similar to the appearance of the Frazier point type described by Bell (1960). However, the normal distribution of this type is far removed from South Texas, which seems to rule out the possibility of this type in the Falcon Lake area.

The elongated triangular point shown as Figure 7e is relatively scarce in this collection; only one or two complete ones were found. Quite a few distal and proximal fragments were collected which seem to be of this type and other collectors in the Falcon Lake area have recovered a number of complete points of this type. It is quite similar to the Anthon point type proposed by Weir and Doran (1980:21 and their Figure 4) which was thought to be linked with southwest Texas. However, these elongated triangular points would seem to fit rather well into the South Texas triangular sequence (Early Triangular, Tortugas, Matamoros/Fresno, Guerrero) and may be a variety of one of these types.

The specimen shown as 8b is probably a Wells point and perhaps should have been included in Figure 6. Example d of Figure 8 is a triangular shape with a deep basal concavity; it may be a variant of the Tortugas type or one of the other South Texas triangular sequence. Figure 8e is also a triangular specimen which may be part of the same "family" of triangular points; it is a very finely made projectile point. It was found in the bottom of a Moped track in the sand along the shoreline of Falcon Lake.

Figures 9 and 10 illustrate some very thin bifaces; their profiles are shown to the right of each specimen to portray this characteristic. The specimen shown as Figure 9a could be either a chert awl or a projectile point; it is much too thin to have been utilized as a drill. A number of such specimens have been recovered by local collectors in the Falcon Lake vicinity. If it was used as a projectile point, it may well represent an experiment in some alternative method of hafting.

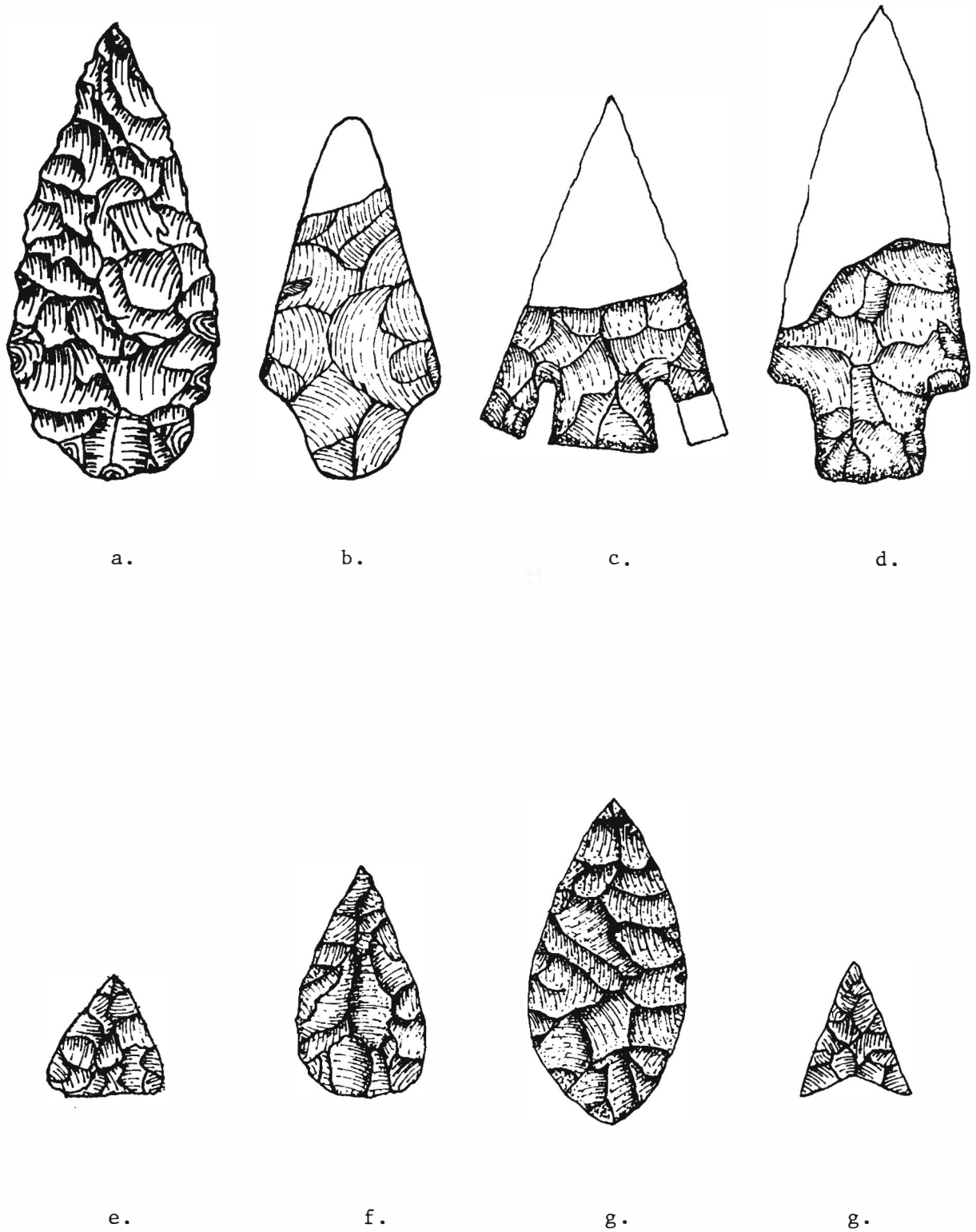
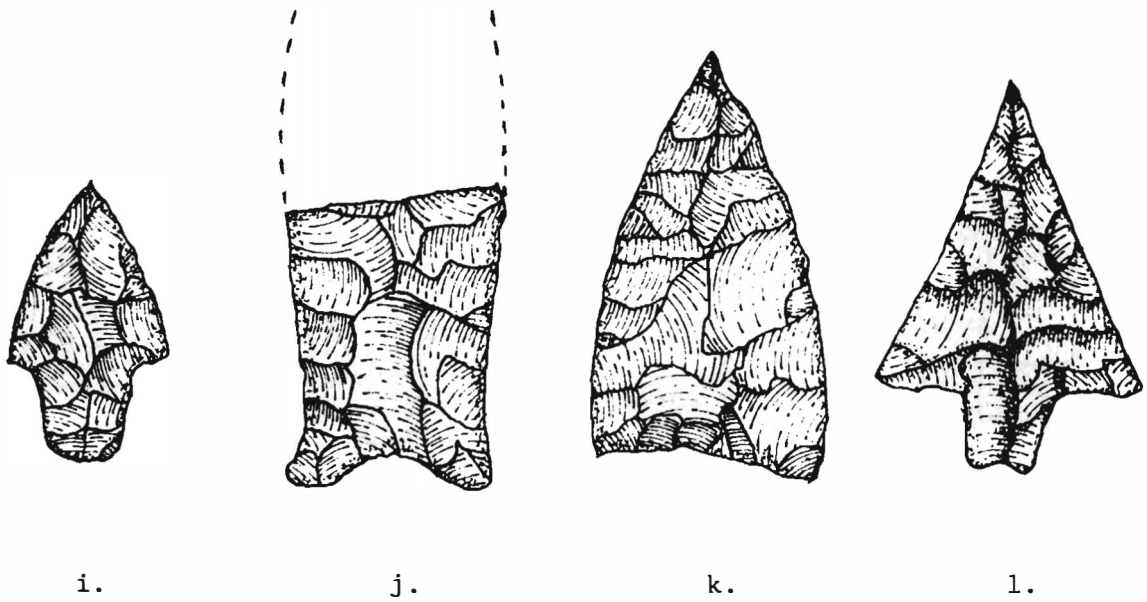


Figure 4. Examples of Falcon Lake Projectile Points. (Illustrated actual size; Drawings by the author.)



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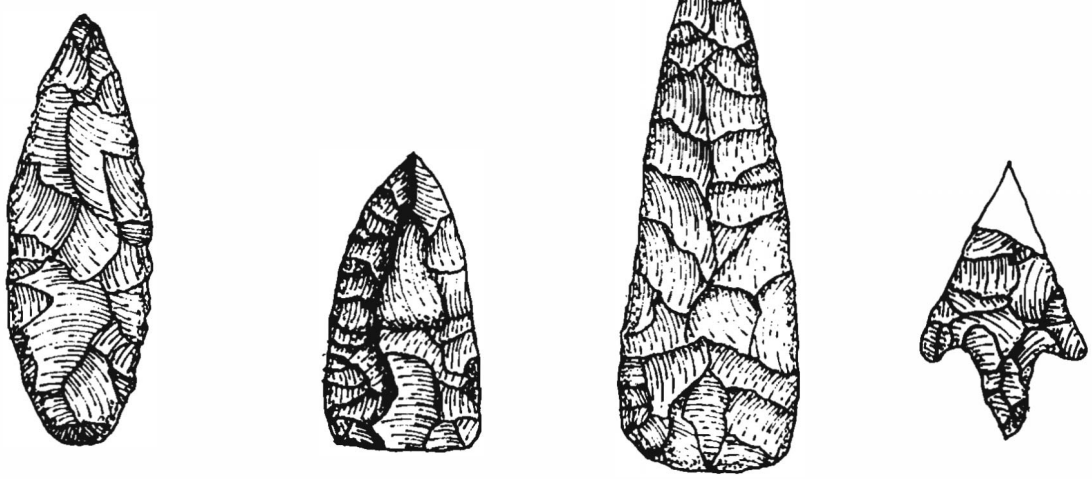

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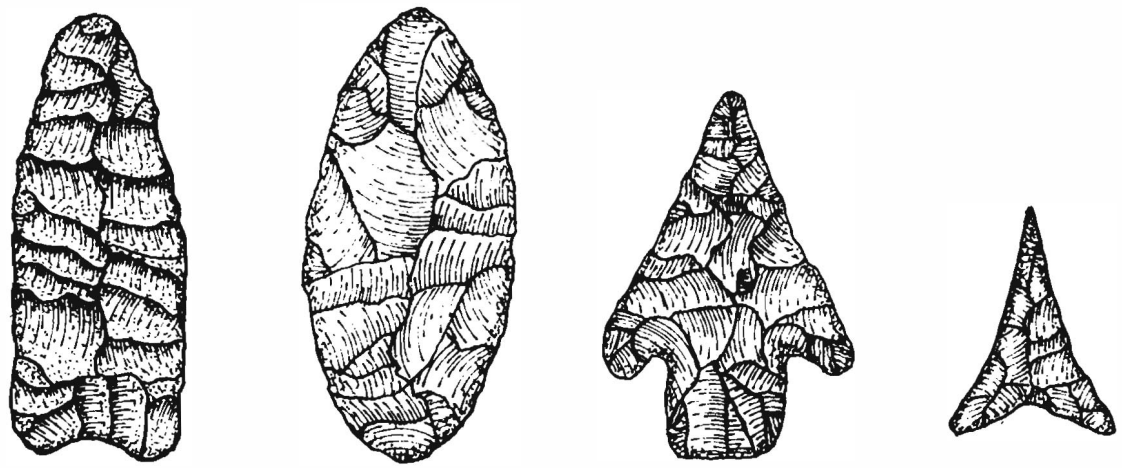
Figure 5. Examples of Falcon Lake Projectile Point Types. (Illustrated actual size; Drawings by the author.)



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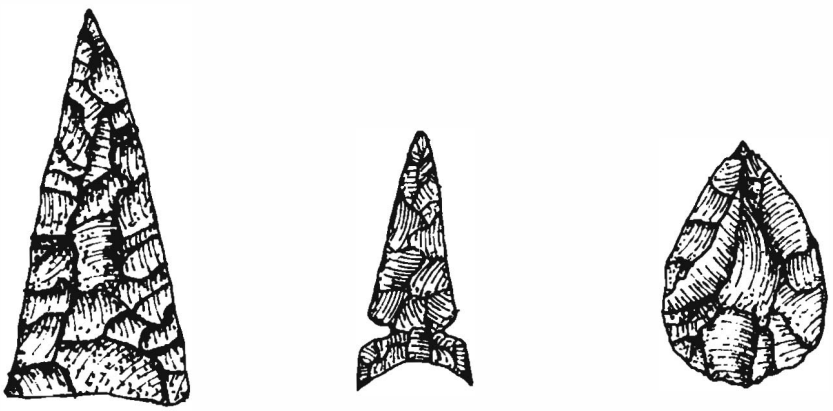


u. v. w.

Figure 6. Examples of Falcon Lake Projectile Point Types. (Illustrated actual size; Drawings by the author.)

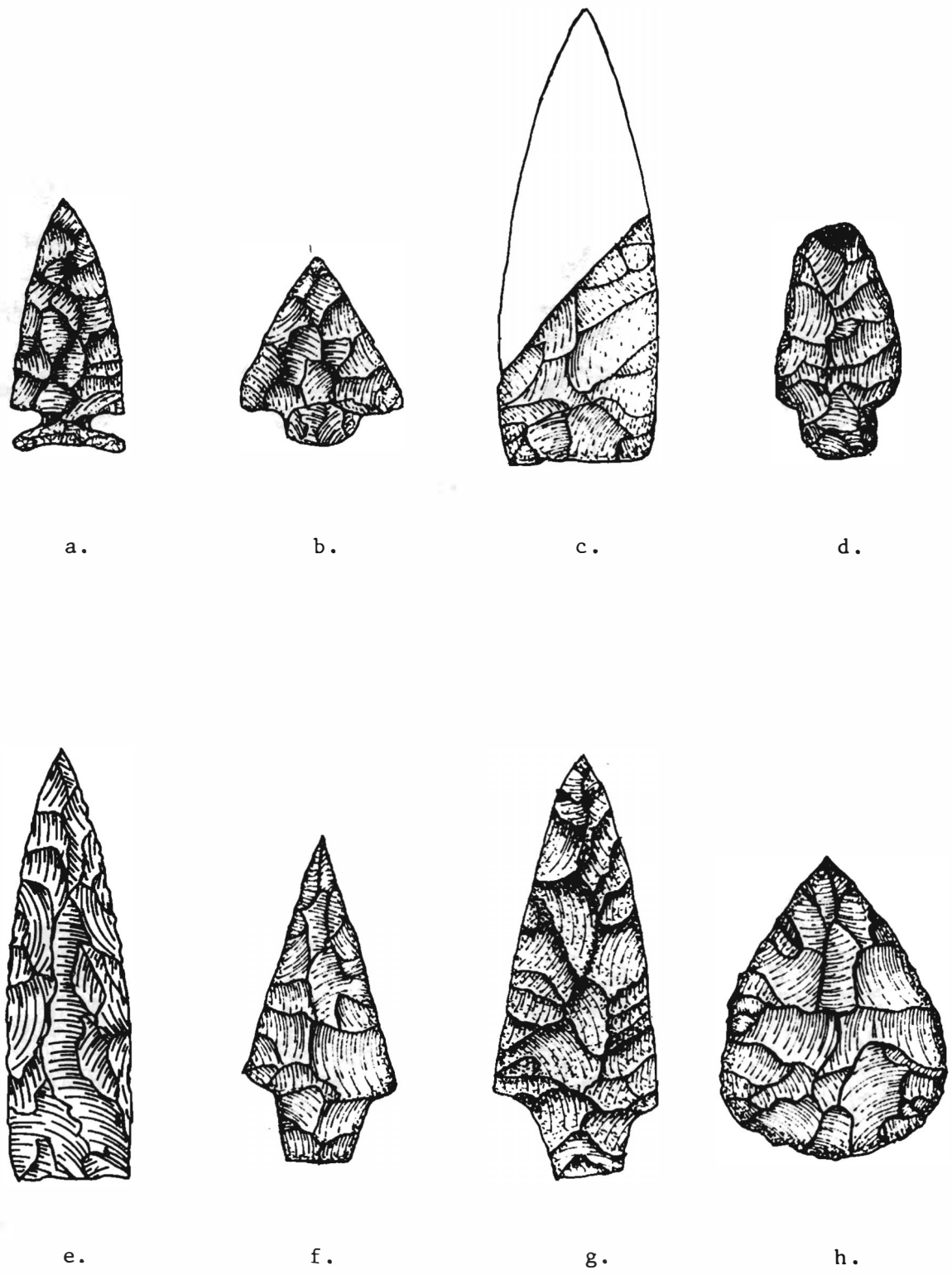


Figure 7. Examples of Unclassified Falcon Lake Projectile Points. (Illustrated actual size; Drawings by the author.)

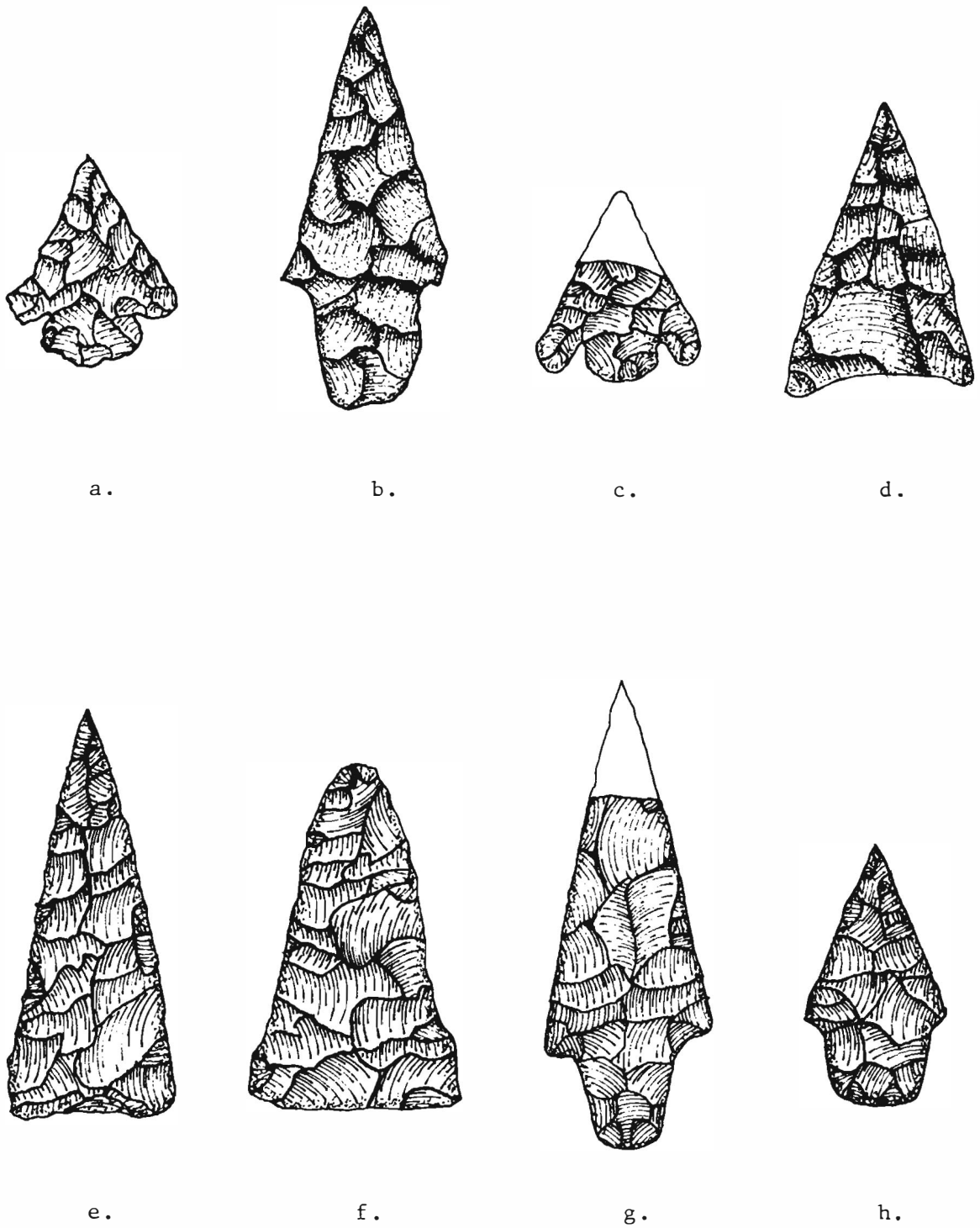
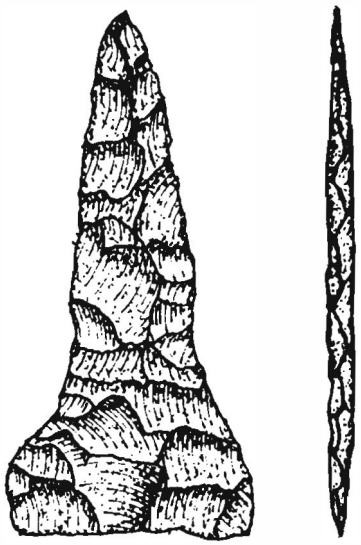


Figure 8. Examples of Unclassified Falcon Lake Projectile Points. (Illustrated actual size; Drawings by the author.)



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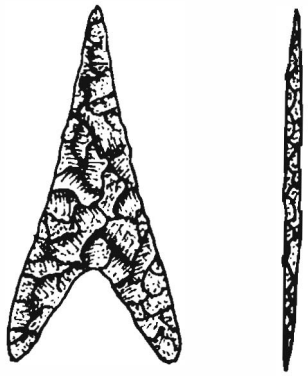

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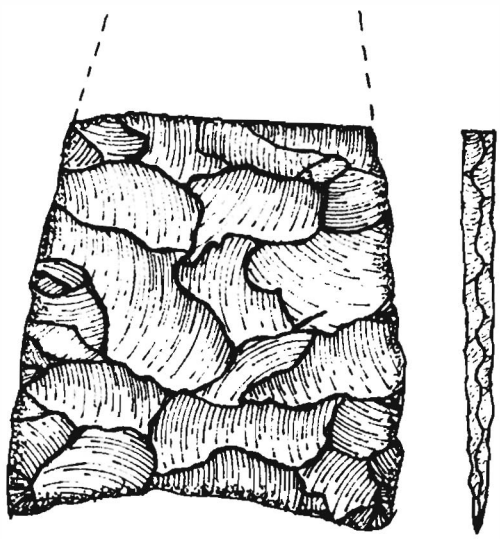

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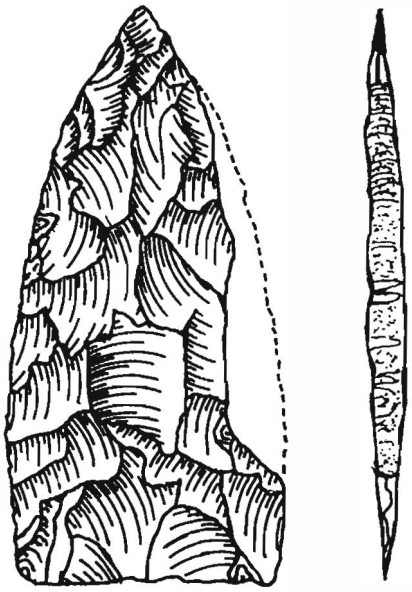
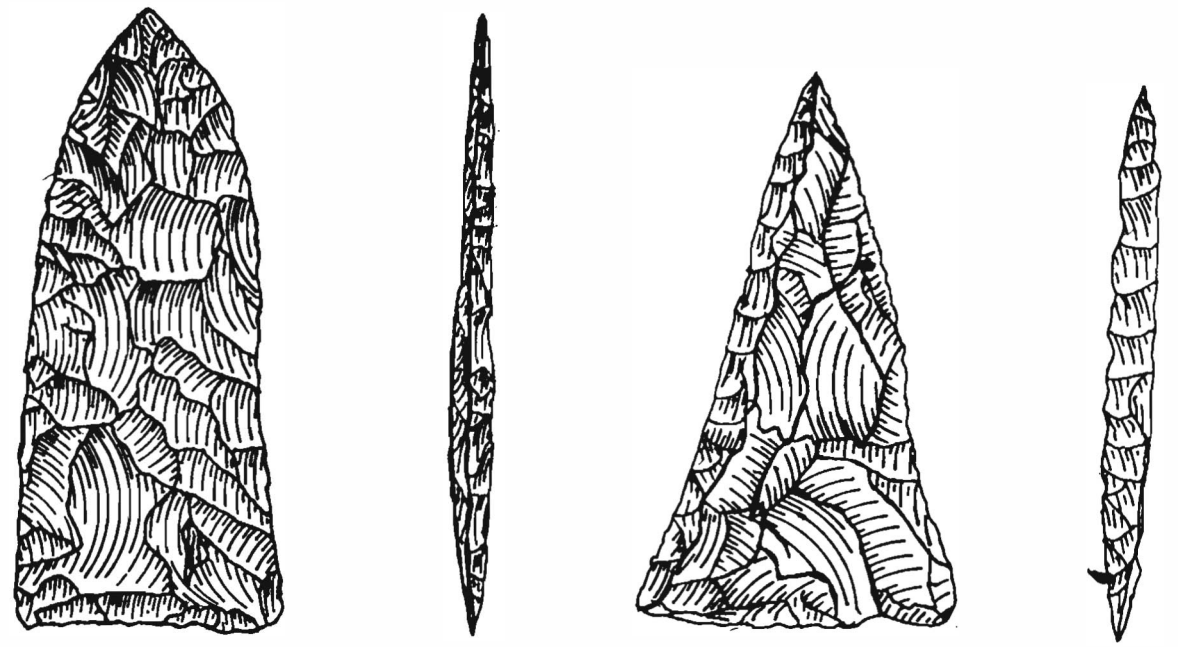


d.

Figure 9. Examples of Very Thin Bifaces from Falcon Lake. (Illustrated actual size; Drawings by the author.)



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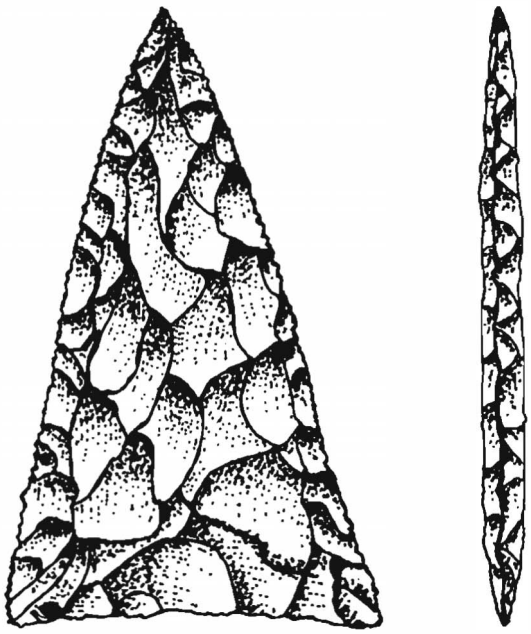

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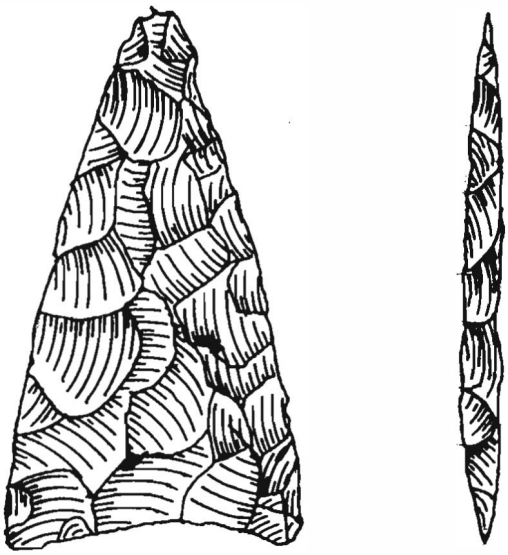

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Figure 10. Examples of Very Thin Bifaces from Falcon Lake. (Illustrated actual size; Drawings by the author.)

The specimen shown as Figure 9b is an unusually large Starr point. With a length of about 50mm, it exceeds the normal range for the Starr type (up to about 30mm; see Hester 1980:107 and Turner and Hester 1985:190). The extreme length, thinness, and fine workmanship of this specimen mark it as a most unusual artifact.

The thin bifaces shown as Figure 9 c-d and Figure 10 may have been knives or may simply be preforms. Their extreme thinness, however, tends to suggest that they are completed artifacts rather than an intermediate stage in lithic production.

DISCUSSION

An obvious conclusion to be drawn from this collection is that the area now covered by Falcon Lake was inhabited by a variety of peoples over an extremely long timespan. Based on the numerical distribution of types recovered from this vicinity, it appears that the peak occupation occured during Middle to Late Archaic times.

Although the relative occurence of the various types has not yet been calculated, it is my impression that this collection is quite similar to the Brom Cooper collections from McMullen County (Kelly 1983; Woerner and Highley 1983) and along the Nueces River (Ward 1984). Brom Cooper's collection contains more items classified as Paleo-Indian than in the Falcon Lake materials. Some of this difference could be the result of sample size and type of sampling but could have other significance as well.

As noted above, the major occupation seems to be Archaic. The evidence of the projectile points is strengthened by the presence of a very large number of Clear Fork Tools in the Falcon Lake collection. Hester (1980) notes that these tools were used principally in Archaic times.

The study of prehistory can be very frustrating. As with all things, it is the unknowns which tweak the imagination. How far is the truth from our speculations? How can we prove our tentative conclusions? Unfortunately, the present topography and fluctuating water levels of the Falcon Lake area pretty well preclude any extensive, well-controlled, and dated excavations in this vicinity. So the answers to many of the unknowns in this collection will probably remain unresolved. Nonetheless, the collection was undertaken in an attempt to salvage some sample of the artifacts below the normal shoreline. Both unrestrained relic collecting and the fluctuating water level of the lake have largely destroyed these sites over the last several years. Hopefully, at least some archaeological data can be recovered from the collection during its UTSA evaluation.

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A QUANTITATIVE ANALYSIS OF ANDICE AND BELL POINTS

C. D. Weber and L. W. Patterson

ABSTRACT

Analytical criteria for quantitative attributes of Andice and Bell projectile points are presented. Results of a statistical anlysis of these artifact types are presented, using exploratory statistics and discriminant analysis. It is concluded that Bell and Andice point types may represent a continuum of a single technological tradition of the Early Archaic period in Texas.

INTRODUCTION

The Bell projectile point type was first described by Sorrow, Shafer and Ross (1967:11-13) from specimens found at the Landslide Site, Stillhouse Hollow Reservoir, Bell County, Texas. McKinney (1981 in Table 4, 112) recently summarized the distribution of Bell points in Texas. The Andice point type was first described by Prewitt (1983:1-6) from specimens excavated by J. E. Pearce in 1929 from the Gault Farm Site, 41 WM 9, Williamson County, Texas. Concurrent with the presentation of Andice as an artifact type distinct from Bell, discussion began on attributes which could be used to distinguish between these two point types (Prewitt 1983:2; Chandler 1983:7-8).

As a result of these discussions and the need for detailed comparative data for replication experiments, a set of quantitative and qualitative attributes was developed by Weber that would accurately represent blade, notch, barb and stem characteristics of Andice and Bell points. These attributes were recorded for approximately 300 Early Archaic, deep basal-notched specimens. Thirty Andice and thirty Bell specimens were selected as representative of previous type descriptions, for further analysis using exploratory statistics and Discriminant Analysis. This report presents the results of analysis of the quantitative attributes.

QUANTITATIVE ATTRIBUTES OF ANDICE AND BELL POINTS

Since many of the specimens of Andice and Bell points used for this study were obtained on loan from private collectors, as a first step it was necessary to obtain sufficient data on detailed quantitative attributes to allow reconstruction of important characteristics after the specimens had been returned to their owners. Especially desirable were specific data which could be used to define the limitations of the technology used to manufacture these prehistoric artifact types. Other than stem lengths, such data are not available in previous reports (Chandler 1983:8; Prewitt 1983:2; Sorrow, Shafer and Ross 1967:11-13).

Blade Attributes

Three traditionally used attributes were selected to represent blade characteristics, including total point length, maximum width and maximum thickness. Since variability of these attributes results mainly from original preform size and subsequent blade resharpening, they are considered to be overall blade attributes rather than notch, stem or barb attributes. Even though maximum width and maximum thickness occasionally occurred below the notch termination axis, these attributes were treated as blade attributes because they were affected very little by subsequent stem and barb formation during the manufacturing process.

A technique was developed for describing the point of maximum thickness of a specimen relative to an X axis that runs through the basal notch terminations, and to a Y axis that bisects the stem longitudinally. Usually, maximum thickness

occurred on a flake scar ridge or at the juncture of two or more ridges. Ridges forming the point of maximum thickness were almost always more conspicuous on one face than on the other. A small spot of ink is placed on the most prominent ridge forming the point of maximum thickness. The specimen is then oriented with the spot of ink downward and it is then placed on a sheet of drawing paper. An outline drawing is made, and the specimen is removed, leaving an outline with the point of maximum thickness shown by an ink spot that was transfrered from the artifact to the paper. Next, an axis is drawn on the paper from one notch termination to the other, and a longitudinal axis is drawn to bisect the stem. The point of maximum thickness is expressed by X and Y coordinates measured in millimeters from the intersection of these axes, as shown in Figure 1A. Positive Y values indicate that the point of maximum thickness occurred on the blade, and negative Y values indicate that the point of maximum thickness occurred on the stem. It should be noted that since the Y axis bisects the stem, it may or may not intersect the distal tip of the specimen. High X values (positive or negative) usually indicate flat facial contour on Andice and Bell specimens.

Replication experiments demonstrated that most notching platforms are lost when the blade thickness above the notching platform exceeds 7.0 mm (Weber n.d.). A consistent technique for measuring blade thickness on the distal side of the notching platforms was desired to allow comparison of Andice and Bell points with experimental data. Blade thickness above the notching platforms is measured where the distal end of the notching flake termination intersects the alignment of the nearest stem edge (Figure 1B). Since postmanufacture resharpening of projectile points may reduce the original blade thickness at this location, detailed flake scar analysis is required to separate resharpened specimens from unresharpened specimens.

Notch Attributes

Weber (n.d.) has noted that maximum and minimum notch widths limit the sizes of tools used to produce notches. If very narrow notches were desired by the prehistoric craftsman, then maximum notch width indicates the amount of widening necessary to produce a notch through a certain thickness of raw material with a notching tool of a specific thickness. Maximum notch width also indirectly limits the width of the notching tool and the degree of maneuverability. Minimum notch width limits the maximum thickness of the notching tool. The point of maximum or minimum notch width is the distance between the notch termination and the location at which the maximum or minimum notch width was measured (Figure 1C). This technique allows differentiation between specimens with wider notches near the base and those with wider notches near the notch terminations.

Notching flake scar expansion on early replicas significantly exceeded notching flake scar expansion exhibited by most prehistoric Andice and Bell specimens. A reliable technique for measuring this attribute was developed so that the range of variability in prehistoric specimens could be established. Maximum notching flake scar expansion is measured from the edge at which the notching flake originated to the scar termination along an axis perpendicular to the stem or barb edge (Figure 1D). After limited experience with this technique, it was observed that maximum notching flake expansion usually occurred on one of the scars nearest the notch termination. Replication experiments indicated that this is the result of increasing blade thickness ahead of the notching platform. Only in cases of overshot and reversal of notching flake scar expansion toward the base (Weber n.d.) was maximum notching flake scar expansion nearer the base than the notch termination.

Barb Attributes

Maximum length, maximum thickness and basal width of barbs were tabulated for Andice and Bell specimens with at least one barb. Maximum length of the barb

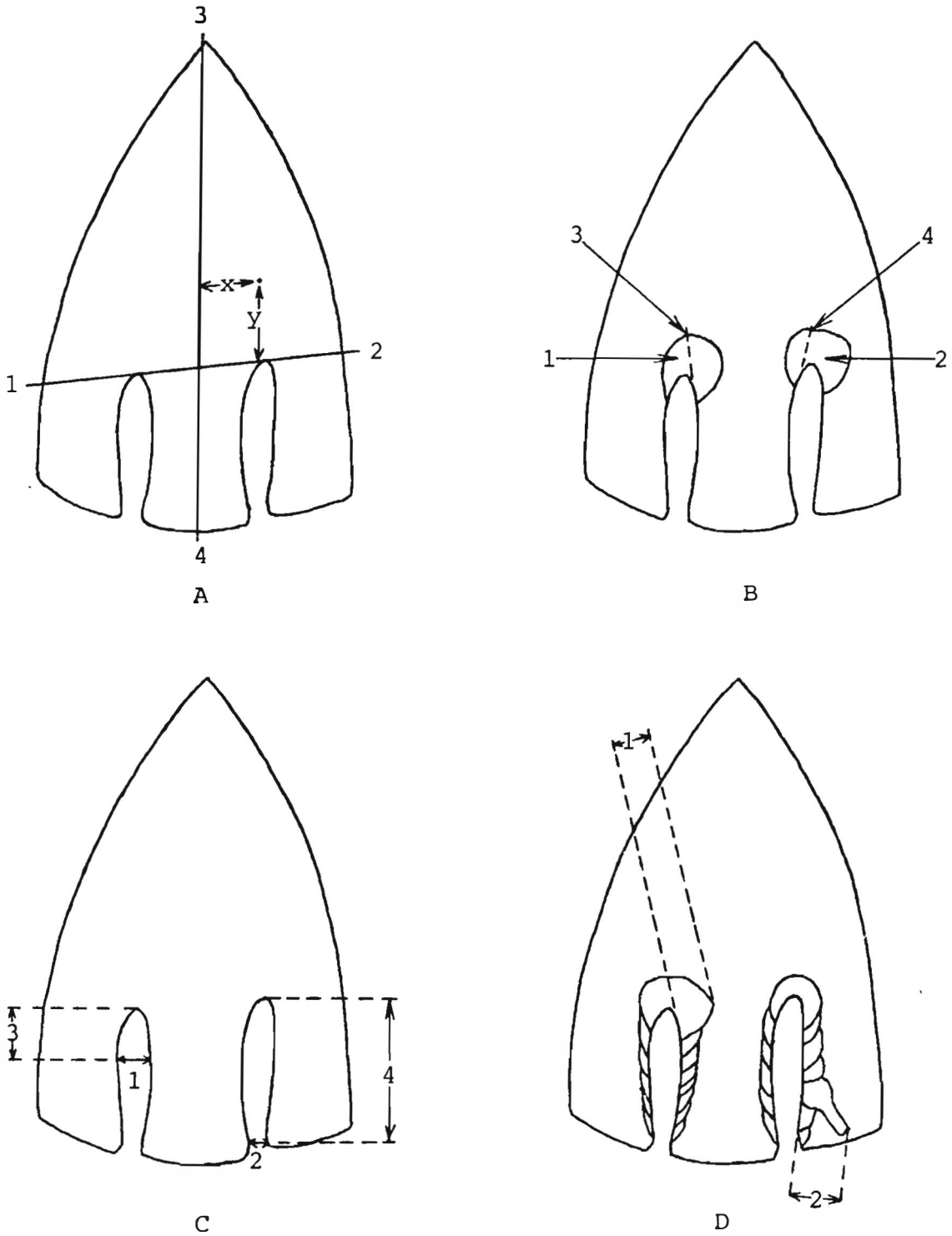

Figure 1. Measurement techniques for point of maximum thickness, blade thickness above notching platforms, points of maximum/minimum notch widths and maximum notching flake scar expansion. A, 1-2, notch termination (X) axis. A, 3-4, longitudinal (Y) axis bisecting stem. B, 1-2, terminal notching scars. B, 3-4, location for measurement of blade thickness above notching platforms. C, 1-2, maximum/minimum notch widths. C, 3-4, points of maximum and minimum notch widths. D, 1, maximum notching flake scar expansion toward stem. D, 2, maximum notching flake scar expansion toward barb.

below the notch termination was desired for comparison with stem lengths. Maximum barb thickness and basal width were used to estimate original preform widths of incomplete specimens.

Stem Attributes

Three traditionally used attributes were selected to represent stem characteristics, including maximum length, basal width and basal alignment. Basal alignment was renamed from terms used by Prewitt (1983:2) and Chandler (1983:8) who used the attribute terms "basal depth" and "basal convexity," respectively. The term "basal alignment" is preferred over the terms previously used because it can be used to include concave, straight and convex bases. Prewitt's term, "base depth," necessitates the representation of convex basal alignment with negative values. The senior author has observed a natural tendency among readers who have not examined tabulated data in detail to correlate positive values with convex surface features and negative values with concave surface features. This definition is used here for basal alignment data, with 0.0 mm representing straight bases.

Chandler (1983:8) commented that basal thinning scars on Andice points are significantly longer than those on Bell points. Chandler further stated that basal thinning scar terminations on Andice specimens are more likely to be found above the notch termination axis than those on Bell specimens. Maximum basal thinning flake scar length was included in the quantitative analysis to test the reliability of this attribute in distinguishing between Andice and Bell points. The relationship of the distal termination of basal thinning scars to the notch termination was also included. The distance of the scar termination from the notch termination axis was measured in millimeters and expressed by a positive (distal of axis) or negative (proximal of axis) value. To be considered as a basal thinning scar, the platform from which the flake scar originated must have been located on the basal edge of the stem. This eliminates any scars that originated from barb bases or lateral edges. Furthermore, the scar must be 10.0 mm or longer. This eliminates small scars that may have resulted from final edge alignment using hand and wrist pressure flaking.

Maximum stem thickness was desired primarily to complete the cross section curvature partially represented by maximum thickness, blade thickness above notching platforms and maximum barb thickness. Furthermore, it was hoped that tabulation of this attribute would provide quantitative data that would be useful in utilization studies.

Replication experiments demonstrated that, because notching platforms were often lost, "neck widths" of some forms with short expanding stems may actually correspond to stem medial section constriction on forms with longer stems. For this study, "neck width" was separated and modified to allow a comparison of these forms. Maximum haft width above the base usually represents "neck width" in contracting and parallel stem forms. Minimum haft width above the base usually represents medial section constriction of the stem in parallel and contracting stem forms, and it represents "neck width" in expanding stem forms.

EXPLORATORY STATISTICS

Data on 21 quantitative attributes were compiled for both the Andice and Bell data groups. It would have been very complicated to use all of these variables for discriminant analysis studies. Therefore, a screening method was used to determine which attributes were likely to be of value in determining discriminant functions.

The method used for the initial examination of attributes was the study of data overlaps for each attribute of each data group, at a range of two standard deviations from the means. The examination of data overlaps can be valuable as an exploratory statistical method (Patterson 1984). The results of these calcu-

lations are summarized in Table 1. Many of the attributes have large overlaps in data ranges (2 or more standard deviations from the mean of each group). Only five attributes were selected as having small enough overlaps between data groups to be of potential value for discriminant analysis. These attributes are: stem length, maximum stem thickness, maximum thickness, thickness above notch platform, and barb length.

DISCRIMINANT ANALYSIS

Discriminant analysis is a multivariate statistical technique used to classify data into groups. It is somewhat similar to regression analysis, but is used when there is no dependent variable. For the study made here, all observations are classified into two groups. A discriminant function is calculated along with a cutoff point. The value of this function for each observation is then calculated. If the function value is less than the cutoff point value, the observation is classified into one data group. If the function value is greater than the cutoff point value, the observation is classified into the other data group. For these calculations, the PAR program for discriminant function (Belanger 1982) was used with an Apple IIe computer.

Discriminant functions were calculated for each of the following four combinations of attributes:

1. Stem length, stem thickness, maximum thickness, blade thickness above platform, barb length
2. Stem length, maximum thickness, barb length
3. Stem length, maximum thickness
4. Stem length, maximum thickness, blade thickness above notch platform

All four of the functions developed here give 100% accuracy in classifying the selected Bell data group. For the Andice data group, Functions 1 and 4 give 100% accuracy and Functions 2 and 3 give 97% percent classification accuracy.

For determining which attributes are of basic value for classification use, the discriminant function that is successful with the least number of attributes is the one of most interest. Here it is shown that Andice and Bell projectile points can be classified using only the two attributes of maximum thickness and stem length. The discriminant function is:

$$DF = 0.9023(SL) + 3.4525(T)$$

$$\text{cutoff point} = 39.54$$

A discriminant function value for an observation that is greater than the cutoff point is classified as Andice and the reverse applies for Bell.

It can be noted that t-tests also show that Andice and Bell data groups are statistically distinct for both point thickness and stem length.

CONCLUSIONS

When Andice and Bell projectile points can be classified by the use of only two attributes, the question arises as to whether or not these two point types really represent separate technological traditions. The distinction between these two groups in this study might be due to bias obtained in selecting representative samples, although that is unlikely. In many respects, the two types are quite similar. There is a good possibility that Andice and Bell points

TABLE 1

ANDICE AND BELL ATTRIBUTE COMPARISONS

Attribute	Andice		Bell		Overlap	Overlap
	Avg.	SD	Avg.	SD	Range	Amount
Length	81.09	18.86	59.87	10.07	43.4 to 80.0	36.6
Width	47.61	4.59	41.45	3.91	38.4 to 49.3	10.9
Stem Base Width	17.29	1.94	18.12	1.71	14.7 to 21.2	6.5
Stem Length	22.68	3.60	14.26	2.04	15.5 to 18.3	2.8
Stem Thickness	7.00	0.60	5.34	0.60	5.8 to 6.5	0.7
Thickness	7.45	0.77	5.79	0.52	5.9 to 6.8	0.9
Notch Platform Thickness	6.12	0.65	4.56	0.46	4.8 to 5.5	0.7
Barb Basal Width	10.43	2.47	8.93	2.17	5.5 to 13.3	7.8
Avg. Depth Basal Thinning	21.46	5.25	17.92	3.72	10.9 to 25.4	14.5
Max. Stem Width	19.08	1.29	17.74	1.80	16.5 to 21.3	4.8
Min. Stem Width	16.84	1.55	16.87	1.56	13.8 to 19.9	6.1
Basal Alignment	- .035	1.16	1.88	0.92	.04 to 2.3	2.26
X Value Max. Thickness	.45	3.1	- 1.67	3.2	- 5.8 to 6.5	12.3
Y Value Max. Thickness	6.63	9.19	3.85	3.67	-11.8 to 11.2	23.0
Max. Notch Width	4.34	0.57	3.72	0.93	3.2 to 5.6	2.4
Min. Notch Width	2.83	0.45	2.47	0.54	1.9 to 3.6	1.7
Barb Length	21.25	4.05	10.68	2.81	13.2 to 16.3	3.1
Barb Thickness	4.44	0.58	3.37	0.48	3.3 to 4.3	1.0
Notch Scar Expansion, Stem	7.56	1.32	5.34	0.96	4.9 to 7.3	2.4
Notch Scar Expansion, Barb	5.44	1.56	3.98	1.37	2.3 to 6.7	4.4
Relation Notch to Termination	- .90	5.71	3.67	4.11	- 4.5 to 10.5	15.0

represent a single technological continuum. This is especially true since there are presently no data to indicate that these two point types have distinctive geographical or temporal distributions. Both point types occur in Texas during the Early Archaic time period (Prewitt 1981). There may also be a close technological relationship between these two point types and the Calf Creek point type (Parker and Mitchell 1979:27; Perino 1985-62) farther north.

ACKNOWLEDGMENT

Appreciation is expressed to Don Screws of Belton, Texas for furnishing the majority of the specimens used in this study.

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A CLOVIS POINT FROM KERR COUNTY

Donald J. Priour, M.D.

ABSTRACT

This report describes a Clovis point found on the surface in the upper Guadalupe watershed of Kerr County, Texas.

INTRODUCTION

Since Clovis points were first described in association with mammoth bones in the 1930s, the distribution of similar points has been widely reported (Haynes 1966). Paleo-period projectiles have been reported from Kerr and surrounding counties: Bandera (Hester et al. 1978), Kendall (Chandler 1983), Val Verde (Dibble and Lorrain 1968; Johnson 1964), Kerr (Sollberger and Hester 1972, Hester et al. 1978), and Gillespie (Kelly 1983b). Previously, such Paleo-Indian points from Kerr County have all been late Paleo points: Plainview, Golondrina, and Angostura (Sollberger and Hester 1972; Hester et al. 1978). Early Paleo-Indian points have been reported from nearby; a single Clovis was reported by Chandler from a site near Sisterdale in Kendall County. This site was also along the Guadalupe River drainage (Chandler 1983). In Uvalde County, Folsom points have been reported from the Kincaid rockshelter (Suhm 1958).

In January of 1982 a biface, which appears to fit best into the Clovis category, was recovered on the surface at a site in Kerr County, Texas. This specimen is being reported to further document the distribution of these points.

THE SITE

The Tom Moore site is a cluster of about five very large burned rock middens located along a major tributary of the South Fork of the Guadalupe River in southwestern Kerr County, Texas (see Figure 1). The site unfortunately underwent major destruction in 1949, when at least four large burned rock middens were bulldozed off at the surface to facilitate the agricultural exploitation of the terrace upon which these middens were located. There appear to have been at least four middens of large size, and a fifth smaller midden may also have been present.

This is now a cultivated area and receives, on the average, two tillings a year. Artifacts which have been found in the past on the surface of this site establish a prominent Middle Archaic component at this site. In addition, an Angostura point has been collected from the surface at this site.

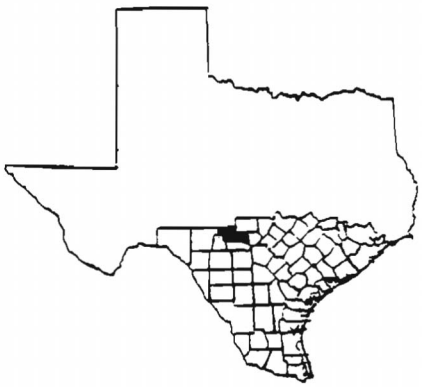


Figure 1. Map of Texas showing location of Kerr County (darkened area).

In 1982, a biface (Figure 2) was found on the surface of this site which appears to fall into the general description of a Clovis point (Suhm and Jelks 1962; see also Kelly 1983a:24-25). This specimen was located between the middens and the nearby creek, a distance of about 25 meters in each direction. The site had been freshly cultivated, and the specimen had an iron oxide stain which probably represented a strike from a plow blade.

THE SPECIMEN

This report is to further document the widespread distribution already known for this genre of biface. Description, using Kelly's (1983a) attributes, is as follows:

Length	86 mm
Thickness	10 mm
GRED	33/25
BCON	+ 10
Width	48 mm
HDIST	46
HPROX	43
HDIST-HPROX	+ 3
Width-HPROX	+ 5
Total	40
Fluting	20 mm shortest side/35 mm longest side

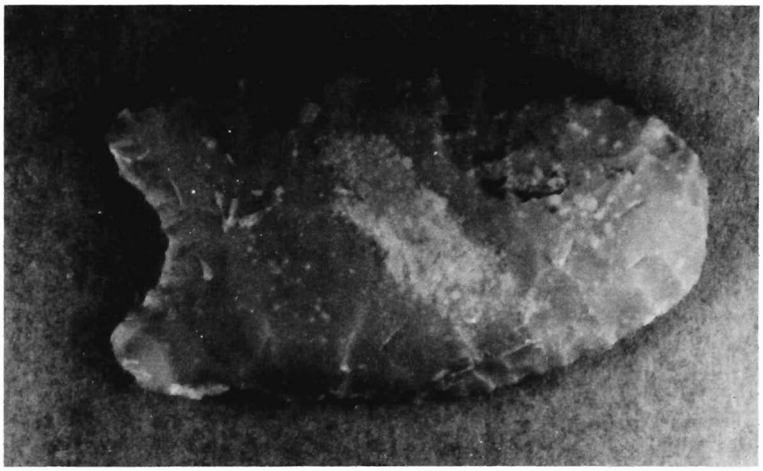
Material: brown Edwards Plateau chert

DISCUSSION

There is good evidence, on close examination of this artifact, that it has had a number of modifications. Some of these modifications have undoubtedly occurred unintentionally. As mentioned above, iron oxide stains suggest contact with modern tilling machinery. A heavy area of fracturing occurred near the base on both sides which has nearly obliterated basal grinding. Examination by microscope, however, demonstrates that basal grinding was definitely present. The fracturing in this basal area appears to have also been done by the tilling machinery. Evidence of this fracturing can be seen best on B (Figure 2). Other evidence of modifications appear also on side B near the distal end, where the original contour of the specimen seems to have been modified possibly during the Archaic period, when this point may have been reused at the adjacent Middle Archaic site. The distal end appears to have several large resharpening scars (percussion). There is also a line of small flakes along the edges which probably resulted from some sort of abrading utilization resulting from use of this biface as a tool. Finally, the distal end also seems to have an impact fracture.

Several other "Paleo" type specimens have been found in the vicinity. This site itself has produced at least one Angostura point. A gravel pit located within 150 meters from the site produced another Angostura. Because this site has a number of prominent Archaic burned rock middens and this is a surface find, it is impossible to determine whether or not this was deposited by the culture which manufactured it or if this was carried in by later Archaic users of this site.

I think the best hypothesis is that it is of somewhat local manufacture, and that it was either deposited on this site by its maker or carried in from a spot in the vicinity at a later Archaic date. There are several points to support this conclusion. First, this specimen appears to have been made of "local" chert, that is, Edwards Plateau, versus something more exotic such as an Alibates chert. Secondly, mammoth, mastedon, and elephant remains have been documented in the drainage of the upper Guadalupe River drainage. Mammoth remains are known to



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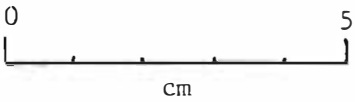

B

Figure 2. Clovis Point. A. Note iron oxide stain on the upper right hand area of the specimen. B. Note irregular flake scars along top basal area which probably resulted from contact with modern tilling machinery. Note also more regular flakes near the top distal margin which probably resulted from resharpening for secondary utilization as a tool.

the drainage of the upper Guadalupe River drainage. Mammoth remains are known to have been associated with Clovis culture in other parts of the country, so at least the subsistence base was present in the Kerr County area (Haynes 1966). Due to the widespread distribution known for Clovis points, one should not be surprised with a Central Texas documentation.

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ADDITIONAL ARTIFACTS FROM SITE 41 GL 12 IN GILLESPIE COUNTY, TEXAS

Bill Moore

INTRODUCTION

In a previous issue of La Tierra (Moore 1983:14-22) I described a surface collection from 41 GL 12, a site in Gillespie County which was apparently occupied primarily during the Middle Archaic period of Texas prehistory. When the article was written, I had forgotten additional artifacts from the site had been given to Rice University. Recently, the collection of 37 specimens was returned to me and they are described in this article in order to complete the inventory for the site. All artifacts from this site are now being curated at the Center for Archaeological Research, The University of Texas at San Antonio.

THE SITE

Site 41 GL 12 is situated in a plowed field in Gillespie County, south of the Pedernales River a few miles south of Fredericksburg, Texas (see Figure 1). This site consists of a burned rock midden which has been heavily disturbed by plowing. It is known to local collectors who have removed artifacts from the site for many years. The limits of the site have not been defined, but artifacts have been observed on the surface approximately 100 meters southwest of what is believed to be the primary locus of the site.

ARTIFACTS

Artifacts collected from this site consist of projectile points, projectile point preforms, refurbished projectile points (possibly used as knives, drills, or other kinds of tools), scrapers, miscellaneous bifaces, biface fragments, and manos. The surface of the site is literally covered with debitage and broken tools.

Of the projectile points collected from 41 GL 12, the vast majority of specimens appear to represent Middle Archaic and Late Archaic types. The dominant point form is Pedernales. Late Archaic projectile point forms constitute the second largest category from the site. The Early Archaic is represented by a few specimens and only one point may belong to the Late Prehistoric period.

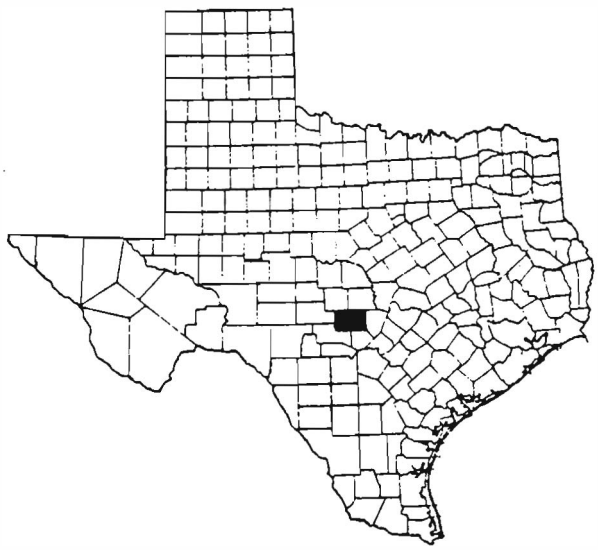

Figure 1. Map of Texas showing Gillespie County (shaded area).

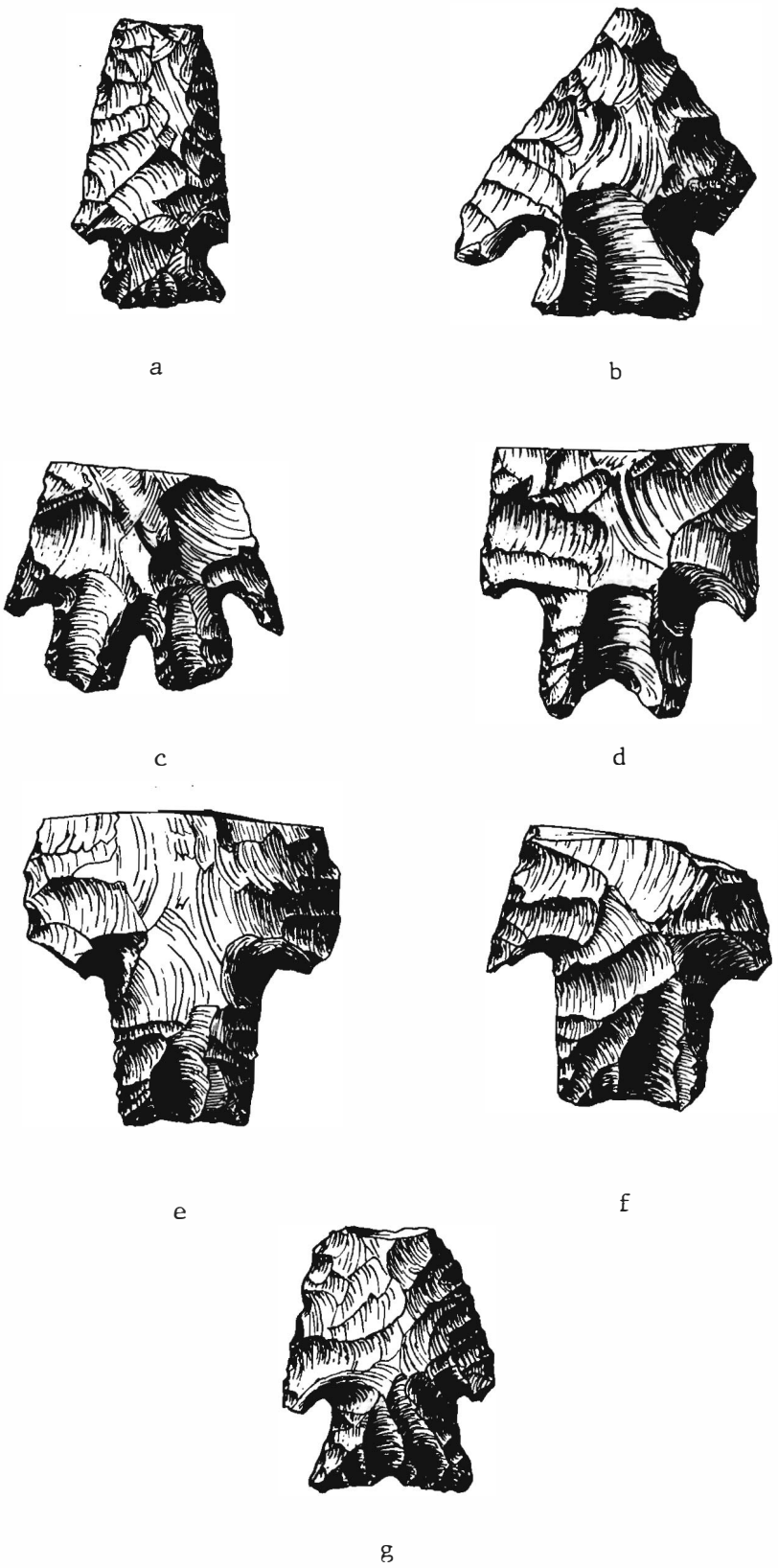

Figure 2. Additional Artifacts from 41 GL 12. a. Ensor (?); b. Castroville; c. Montell; d. Pedernales; e-f. Bulverde; g. Martindale. (Drawings by Staff Artist Richard McReynolds.)

A variety of point forms is present in this collection. The primary types in this collection consist of corner-notched and straight stemmed artifacts. Virtually all of the artifacts that are not listed in this article as belonging to an established type possess corner-notching. The stems are parallel-sided and expanding and the bases are convex, straight, and slightly concave. Following the typology designed by Suhm and Jelks (1962), the following types are present in the sample: 5 Bulverde, 2 Castroville, 1 Ensor, 6 Pedernales, 2 Martindale, and 3 Montell. Examples of these types are illustrated in Figure 2. The 16 remaining specimens are corner-notched and are described as follows: 5 with slightly convex bases and expanding stems, 1 slightly convex base with parallel stem, 5 straight or slightly concave bases with expanding stems, 1 slightly straight or slightly concave base with parallel sided stem, and 4 fragments with apparently parallel sided stems and unidentifiable bases.

CONCLUSIONS

The added artifacts do not change the conclusions stated in the previous article. The absence of arrow points, except for one possible exception (Moore 1983:Figure 3f), is evidence that the site was not occupied during Late Prehistoric or Protohistoric times. Pedernales is the dominant point form with 50 specimens from the site. The 5 Bulverde points in this sample bring the total of points typical of the Early Archaic to 14. With the 8 Middle Archaic points (Castroville and Pedernales) the total for the site is 32. These specimens suggest that site 41 GL 12 was occupied primarily during the Middle Archaic period and into the Late Archaic period. The Bulverde points, although viewed as indicators of the Early Archaic period, survived in some areas into the Middle Archaic period. Therefore, the examples of this point from 41 GL 12 may represent an Early Archaic occupation, a Middle Archaic occupation, or both.

ACKNOWLEDGMENTS

I would like to express my appreciation to the following persons for their assistance in the preparation of this article. Michael R. Bradle cataloged the collection and labelled each artifact; David L. Carlson allowed me to use the word processor at the Archeological Research Laboratory, Texas A&M University; Jimmy Mitchell edited the manuscript; and Richard McReynolds illustrated the artifacts.

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WHAT'S IN A NAME?: PART 2

Malcom L. Johnson

ABSTRACT

A further analysis of the names of some of the early historic Indian groups located along the central and southern Texas coast is presented to evaluate the hypothesis that such names are Spanish "nicknames" containing information about the groups.

INTRODUCTION

In an earlier report (Johnson 1985), the names of Indian groups encountered by Cabeza de Vaca during his journey through southern Texas (1533-1535) were examined. The names reported by Cabeza de Vaca appear to be composed of short Spanish words which served as a memory aid for him to remember each group by some distinguishing characteristic. Thus, analysis of such nicknames revealed new information about each group.

In the present effort, the same techniques used in the earlier analysis are applied to names of groups recognized during the early Mission period (1718 - 1780). While lacking the coherence of Cabeza de Vaca's set of names (all from a single source), none the less, the generally accepted names of these later Indian groups are also probably compound Spanish words formed into a nickname or memnonic, and thus may contain hidden information about the group.

As in the previous article, the names to be analyzed are those recognized and reported by Campbell and Campbell (1981) as relevant to the central and southern Texas coast. Interestingly, there is little or no overlap between the names used two centuries earlier by Cabeza de Vaca and the group names current in the 18th century.

HISTORIC INDIAN GROUPS
Names and Possible Interpretations and Locations

AGUASTAYA: AGUAS means water. TA - to take care or beware. YA - already, presently, immediately, or now. The name could translate as "Now afraid of the water." There is an old Tonkawa tradition that they were separated from a group of their people they called the Yakwal (Drifted People) by a sudden submergence or inundation of coastal land (Gatschet 1891:37)

ARCAHOMO: ARCA is an iron chest for money or a reserved person. HOME - obsolete V. Hombre. Could translate as "People of the Chest" or "Reserved People." They occupied the general Three Rivers area (Campbell and Campbell 1981:41).

CAMASUQUA: CAMA refers to a bed or couch; a place of repose or a litter. SU - his, hers, or theirs. QUA - ? This name seems to have something to do with where and how they slept. Alternatively, it could infer that their leader was carried about on a litter, or something about the way they carried their bedding and belongings. [Ed. Note: Dr. Jim Larkens (personal communication 1985) suggests the last part of this name might relate to Agua - water; thus the name might translate as "Bed (litter, etc.) above the water".] Prior to 1733, the Camasuqua lived along the lower Nueces river, west and northwest of Nueces and Corpus Christi Bays, probably in the western portions of Nueces and San Patricio counties (Campbell and Campbell 1981:44).

COPANES: Copanete or Copano is an obsolete Spanish term meaning a small bark or boat. The name may have been given to the group because of the number of canoes seen by the Spanish. The bay around which they lived is now known as Copano Bay (literally, small boat bay). At one time, St. Joseph's Island was known as the Ysla de los Copanes. From the locations for the groups noted by Campbell and Campbell, the Copanes may equate with the Guaycones or the Quitoles of Cabeza de Vaca.

MANOS DE PERROS: MANOS - hands. DE - of. PERROS - dogs. Literally this would be Dog Hands or Hands of the Dogs. The Manos de Perros, along with some Karankawa were removed from the coast by the Spanish quite early, and taken to Mission Concepción and Mission Valero (Schuetz 1969). Cabeza de Vaca mentions that some of the coastal Indians practiced female infanticide (Mariames, Yguazes) by letting their dogs eat the newborns. Alice W. Oliver also reported the absence of young girls among the Karankawa she knew (Gatschet 1891:17). The Manos de Perros may have been a similar group, allowing their female infants to be killed by their dogs; thus, a possible origin of the name. According to some notes taken from old maps and survey plats, one of the islands in the Laguna Madre used to be named Isla de los Manos de Perros; the name was later changed to Arrowhead Island, and it is now known as Ward Island (see Figure 1). This island may have been one of the main camping areas for this Indian group. It has been surveyed and partially excavated; the results indicate extensive Archaic and Late Prehistoric occupations with at least some historic contact in the form of a Spanish coin. Some contact with Central Texas and the Rio Grande Delta area is also demonstrated in terms of artifact forms (Campbell 1956). From their general location near Oso Bay and north Padre Island, the Manos de Perros may equate with some of the Camoles of Cabeza de Vaca (as located by Campbell and Campbell).

MOROAME: MORO means unchristened wine. A - to, in, at, on, by, or for. ME- me. Literally, "Wine for me." The name may indicate they were drunkards or wine beggers. [Ed. note: Dr. Larkens reports that MORO also means Moorish. Spain concluded a long crusade against the Moors in 1492. This could, therefore be a derogatory term: Moro + amar (to love) or literally "Moor lover!" (with contempt).]

OREJON: OREJA is Spanish for external ear, flatterer, tale bearer, or a flange - a projecting piece such as the claw of a hammer (or the barb of an arrow). The Orejon may have had large ears (Campbell and Campbell 1981), or may have been flatterers or liars. It is also possible, however, that the name refers to the type of arrow point they were using - they may have been using barbed arrow points such as the Perdiz while other groups in the area were using triangular points, such as the Fresno. The Orejon may have lived in the Bee County area (Hester 1980:42). Around 1780, they lived somewhere between the mouth of the Nueces River and St Joseph Island in San Patricio and Aransas counties (Campbell and Campbell 1981:41-42). Perhaps this was in the area of Port Bay which the Spanish called Laguna de Fuerte (see Figure 1).

PAJALAT: PAJA means straw, beard of grain, or blade of grass. LATA is a tin plate, lath, ledge, or batten. They may have eaten grass seeds, made trays from grass or straw, or covered their huts with straw and grass battens. The Pajalat lived south of San Antonio between the Frio and San Antonio rivers (Hester 1980:43). In 1727, however, they were just west of the San Antonio River in western Goliad County, and many of them entered Mission Concepción (Campbell and Campbell 1981:43).

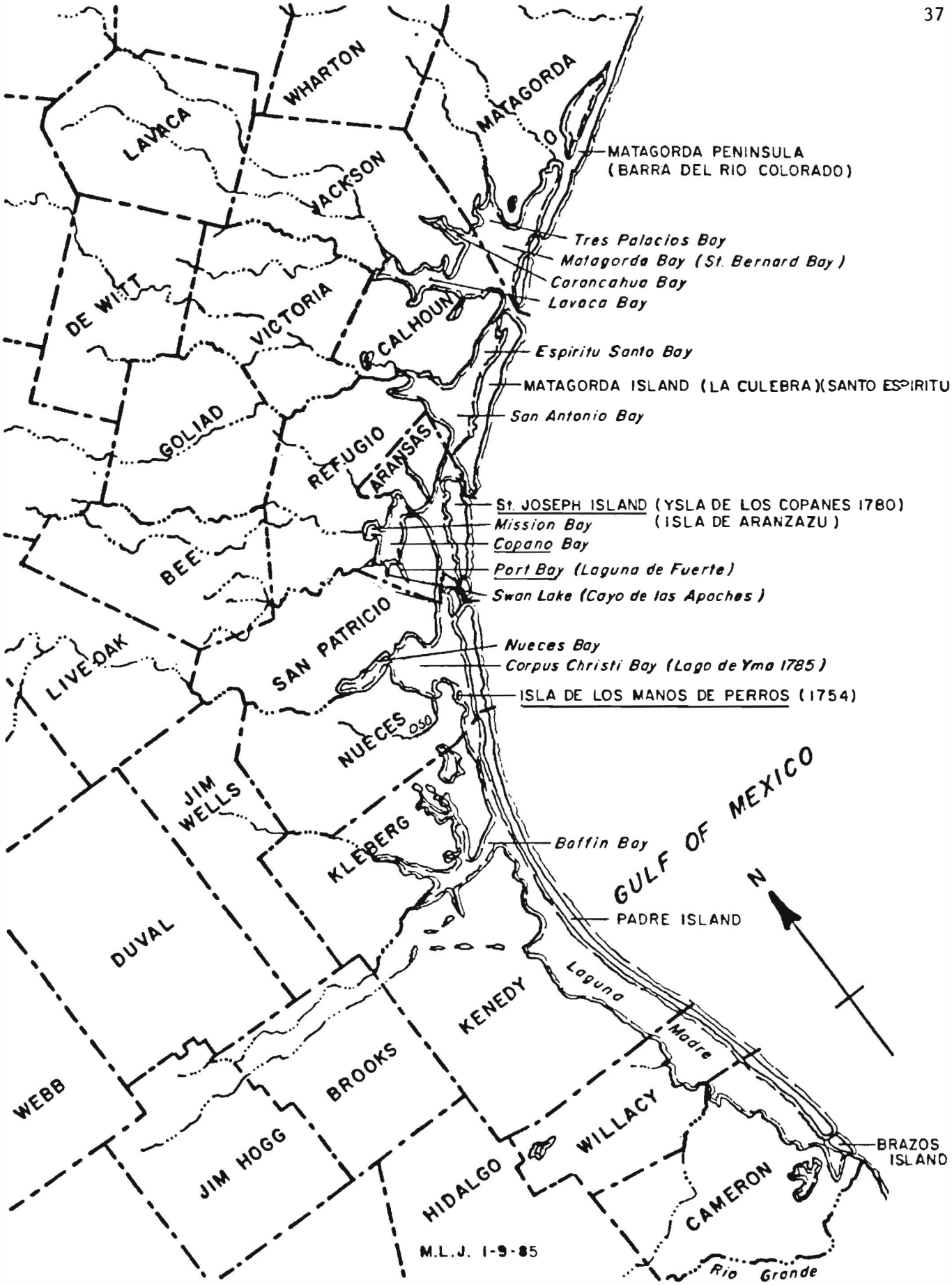

Figure 1. The Counties and Bays of the Central and Southern Texas Coast.

PAMAQUE: PAM means pampas or the treeless plains. A - to, in, at, on, by, or for. QUE - that or who. This name translates literally as the "People of the Plains" or "People of the South." Pamaque is a collective name for the Camasuqua, Sarapjon, Taguaguan, Tinapihuaya, and Viayan, who lived in the western portions of Nueces and San Patricio counties along the Nueces River inland from Nueces and Corpus Christi bays (ibid.,44).

PAMPOPA: PAM - the plains or pampas. POPA - poop, stern, or aft. May translate as "behind the plains." The Pampopa were seen in 1709 along the Medina River near the Bexar and Medina county line (Campbell 1975:9). Later they were observed in the Three Rivers area (where the Atascosa, Frio, and Nueces rivers join) of modern McMullen, Live Oak, and LaSalle Counties (Campbell and Campbell 1981:45-47). This would indicate they were generally west or upriver from the Pamaque described above. Pampopa may be a collective name for the groups who lived behind the plains, just as Pamaque refers to the people living on the interior plain.

SARAPJON: SARAPE is a narrow blanket worn by men or thrown over a saddle. Thus, the name may translate as "blanket wearers" or may indicate they made sarapes. (See also Pamaque above). [Ed. note: other possibly-related Spanish words include SARAPION which is a large, Tonka bean tree, and SARAMPION - measles].

TAGUAGUAN: TA - take care, beware, stay, or I recollect. GUAGUA - for nothing, or an insect which destroys fruit. The name may indicate that they were a harmless group or "nothing to be afraid of." Alternatively, it might refer to a group who comsumed large amounts of fruit (see also Pamaque above).

TINAPIHUAYA: TINA - a large earthen jar. PIHUA, V. Coriza, a shoe of undressed leather laced from toe to instep. YA - already, presently, now, finally, or at another time. This name seems to indicate they had pottery jars and carried them in some sort of netting or cradle made of leather straps. (see also Pampaque above).

VIAYAN: VIA - way, road, or route (also VIAJE - trip or journey). YA - already, presently, now, finally, or at another time. The name may indicte the group was always on the road - wanderers or vagabonds. (see also Pamaque above).

DISCUSSION

As in the initial analysis, many elements of the South Texas Indian group names appear to be translatable Spanish words. Some of these words and compound names (nicknames) appear to contain some clues as to the locations or characteristics of the peoples they represent. While the interpretations given here are speculative, they sometimes correspond with other data, such as the note on an early map of the Isla de los Manos de Perros, or the continuing use of the name of Copano Bay.

This study has demonstrated that there may indeed be more information about the Indian groups of South Texas hidden in the names used by early visitors to the area. It is a difficult problem, and quite often there are multiple possible meanings and alternative interpretations. It is obvious, though, that in some cases the names have just not been examined very closely.

My hope is that this initial rough effort will stimulate a more thorough, systematic review of early group names by someone who is an expert in archaic Spanish and Indian languages. Only through a more extensive study by someone fully qualified in linguistics will we ever be able to retrieve the cultural or locational information which may exist in such names.

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DR. DONALD J. PRIOUR is a physician who lives and practices in Kerrville, Texas; he is also an active TAS and STAA member. Dr. Priour has surveyed a number of sites in Kerr and adjacent counties. His discoveries include a painted rock, which he has reported in a previous issue of this journal. In addition, he has been studying arrow point distributions in the upper Bear Creak drainage system.

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 the STAA and has participated in both the STAA Dan Baker Site (41CM104) excavations and the UTSA-CAR/Witte Museum Baker Cave (Val Verde County) work of August 1984. He is currently building a home near Canyon Lake and discovering various ways to replicate various projectile point forms.

CAREY D. WEBER is originally from Fredericksburg but now resides on Route 1, Granger, Texas. He is a member of both the TAS and STAA. For several years, Carey has been working with replications of artifacts and experimental studies on how prehistoric lithic artifacts were made and used. His present collaborative effort (with Lee Patterson) focuses on a statistical method for differentiating Andice and Bell points. Hopefully this work can later be extended to include Calf Creek and other related Early (Pre-) Archaic point types.