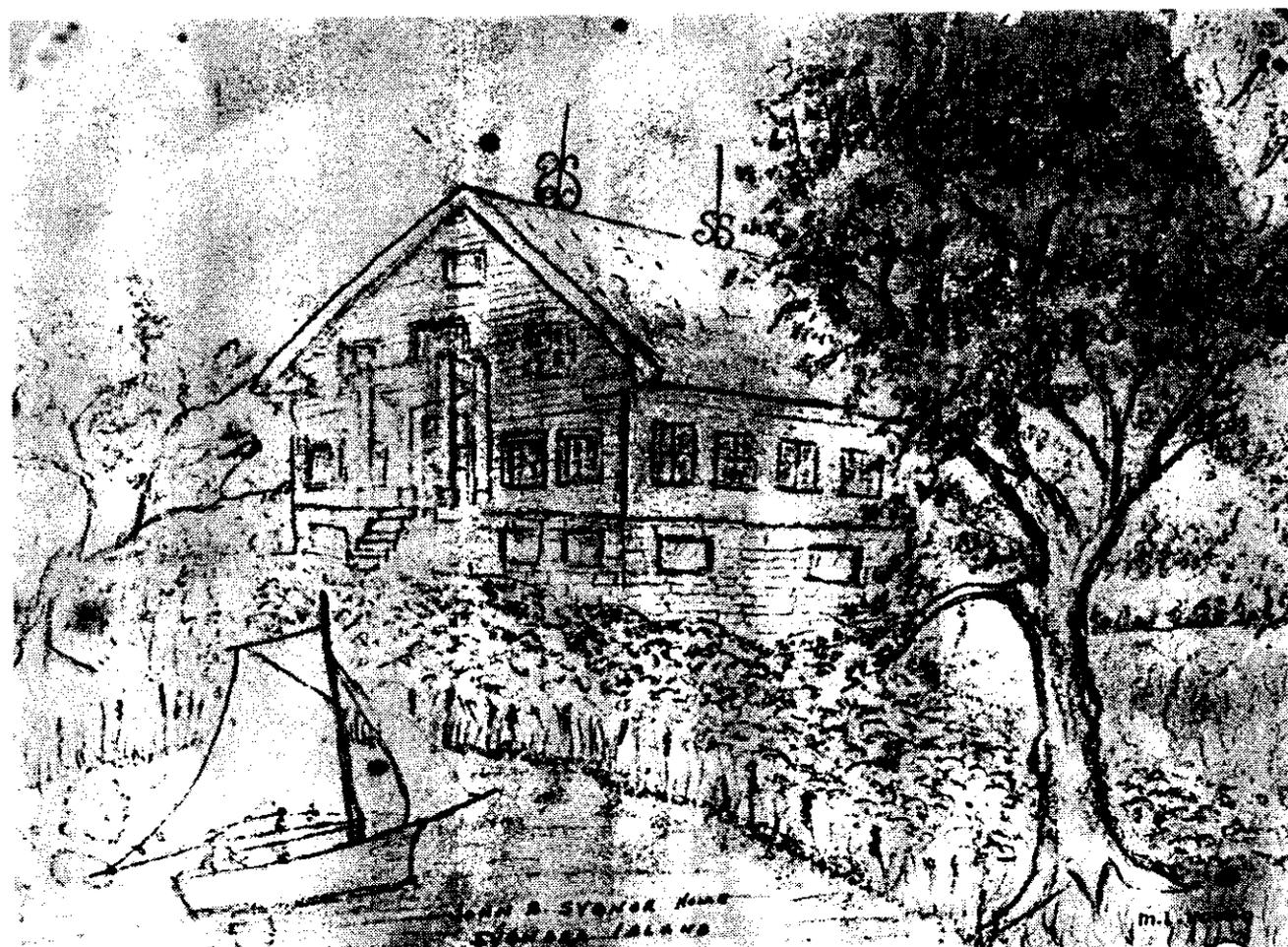




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The Role of the Avocational in Regional Archeology

Leland W. Patterson

(paper presented at annual meeting of the Society for American Archaeology, New Orleans, 1991)

Abstract

The wide range of activities in research and public education being done by avocational archeologists in Southeast Texas is discussed as a regional example, with the Houston Archeological Society as the principal center of organization. In this region, avocational archeologists engage in the same full range of research areas where professionals perform, but with more emphasis on cultural resources located on private lands, where public funding for research is generally not available. The interactions of avocational and professional archeologists in Southeast Texas are also considered.

Introduction

Funding for archeological research in the United States is limited, especially for work on private lands where a large proportion of the cultural resources of this nation occur (Patterson 1987, 1988:380). The resources of avocational archeologists should be fully developed and supported to maximize the discovery, preservation, and research potential of archeological data for private lands. Avocational archeologists are also in a unique position to contribute to local public education concerning archeology. In addition, avocational archeologists frequently contribute to projects by professionals on both private and public lands. Avocational archeologists also interact with professionals in a variety of other ways. The term "avocational archeologist" as used here includes any person who participates in the scientific aspect of archeology, and does not include persons who are interested only in collecting artifacts.

This paper considers the many types of activities in archeology where there is participation by avocationalists. Examples focus on the regional activities for Southeast Texas of the Houston Archeological Society (HAS) and its individual members. The HAS has been in successful operation for over 30 years. Avocational archeologists can and do engage in the same full range of research activities being addressed by professionals. On specific research subjects, avocational archeologists sometimes attain more expertise than their professional counterparts.

Southeast Texas has a land area somewhat larger than the state of Connecticut, with historic and prehistoric cultural resources spanning a period of about 12,000 years. It is now possible to do detailed studies here on regional syntheses, with much of the available data provided by the contributions of avocational archeologists.

Research activities by avocational archeologists

In Southeast Texas, avocational archeologists participate in a wide range of research activities on an individual basis and in organized programs of the HAS. These research activities cover both historic and prehistoric archeology, and related historical archival research. Archeological site survey work and recording for state records are done both by individuals and HAS programs. As part of this work, landowner collections of artifacts are recorded and significant collections are published, to preserve information in original context. Surface collections comprise a valuable part of the regional archeological data base. Archeological site surveys by avocationalists are often more

effective than surveys done by professionals, because avocational archeologists can make more intensive surveys of specific areas over longer time periods. A large proportion of the recorded archeological sites in this region have been recorded by avocational archeologists. Several HAS members have each recorded over 100 sites for state records. This includes historic (Hudgins 1986) and Historic Indian (Hudgins 1984) sites as well as prehistoric sites.

The HAS maintains an active program for field work on both historic and prehistoric sites. Major excavation projects are conducted at highly significant sites, especially well-stratified prehistoric sites where chronological sequences can be obtained (Patterson et al. 1987). The HAS field program has resulted in data for an occupation sequence of over 10,000 years in Southeast Texas, including some radiocarbon dates for each time period from Paleo-Indian through the Late Prehistoric. Of equal value, short-term excavation projects are often conducted to establish the nature of a site where surface collections are not very diagnostic. Short-term excavation projects by the HAS have made significant contributions to the regional archeological data base. This type of project typically involves 20 to 30 people for 1 to 3 days with 6 to 12 one-meter square test pits made. About 70% of archeological site publication in inland Southeast Texas has been done by avocationalists. Due to the vagaries of work opportunities, a higher proportion of archeological sites have been published by professionals for the coastal margin of this region. Avocational archeologists are in a unique position to gain access to cultural resources on local private lands, especially where professionals are sometimes viewed with suspicion regarding possible future land-use restrictions.

The HAS has an extensive publication program, which includes a journal, a newsletter, a report series, and special publications. The HAS Journal typically publishes reports and articles on archeological surface collections, results of short-term excavations, and specialized research topics. The report series covers the results of major site excavations, computerized regional data bases (Patterson 1989a,b), and larger studies on specialized subjects such as ceramic patterns (Black 1989). A bibliography on publications concerning regional prehistory is periodically published (Patterson 1989c). Southeast Texas is now a well-documented area for prehistoric cultural resources, with publication by the HAS being a major factor. This society has a policy of prompt publication of the results of field research projects.

Some members of the HAS participate as Archeological Stewards in a program of the Office of the State Archeologist of Texas. One project in this program resulted in the recording of 78 prehistoric sites and publication of related artifact collections (Kindall and Patterson 1986), for one of the least published areas of Southeast Texas.

Aside from participating in organized research activities of the Society, some HAS members do individual research on a wide variety of subjects concerning regional archeology and methods of analysis of various types of artifacts. Published results of research by individual avocational archeologists are a significant portion of the literature on the archeology of Southeast Texas.

Training of avocational archeologists

Due to personal interests, several avocational archeologists in Southeast Texas have become experts on specific subjects, such as lithic technology, ceramics, and faunal analysis. Thus, many of the publications by avocationalists on regional archeology are done at a significant technical level. Many avocational archeologists are fully capable of doing independent archeological research. Avocational archeologists make their maximum contributions when their expertise has reached a level where support from professional archeologists is not necessary. Avocational archeologists with educational backgrounds in other subjects, such as engineering, education, and medicine, are capable of being self-trained in many archeological subjects. Expertise by HAS members in field work methods has been obtained mainly by direct participation in excavations and surveys at the local

level and at summer field schools of the Texas Archeological Society. The HAS has a brief yearly field school for new members and also conducts occasional lectures at laboratory sessions on specialized subjects, such as lithic technology. No need has been found for the HAS to develop a formal certification program for its members, as is being done for avocationalists at some other places in the United States. Quality control for work by the HAS is assured with peer review by experienced members, including review of proposals for all field projects to insure adequate organization.

Public education on archeology in Southeast Texas

The HAS and its individual members participate in a variety of activities regarding public education in archeology. An excellent lecture series at monthly meetings is open to the public, which includes lectures most frequently by authorities on North American and Mesoamerican archeology, but sometimes also by specialists on the archeology of other areas of the world. Special lectures and lecture series are provided by the HAS for schools, libraries, and civic groups. Local schools and universities often send students to HAS excavation projects as an educational experience. The HAS has sponsored a number of archeological exhibits in public places, including two traveling exhibits that are now in active use. Some HAS members who are professional teachers are particularly active in programs to instruct both students and teachers in various public school systems. One HAS member is the senior author of a resource book for teaching basic archeology (Wheat and Whorton 1990).

Interactions of avocational and professional archeologists

While the HAS is mainly a society of avocational archeologists, its membership includes several professional archeologists from local universities, and a few contract archeologists. Professional archeologists often serve as officers of the HAS, provide advice for programs of the Society that are generally run by avocationalists, and give lectures on topics concerning their specific areas of research. In a reverse role, avocational archeologists with special expertise often give advice to professionals, and sometimes even co-author publications with professionals (Aten et al. 1976). HAS members have participated in historic and prehistoric archeological field projects by professionals throughout Southeast Texas (McClurkin 1968; Shafer 1966).

Professional archeologists have given support for HAS use of facilities at local universities. The HAS uses an excellent auditorium for monthly meetings at the University of St. Thomas and an HAS library is located at the same institution. Rice University has allowed use by the HAS of their archeology laboratory for cleaning and sorting artifacts. Texas A&M University has donated several publications to the HAS library, and has shown artifact assemblages from excavations in Southeast Texas to groups of HAS members. The HAS routinely donates copies of publications to archeologists at several local universities. Over the past 30 years, the HAS has had continuing interactions with professional archeologists from Rice University, the University of Houston, Texas A&M University, the University of Texas at Austin, and the University of Texas at San Antonio. The Houston Archeological Society Journal and report series serve as publication locations for both professional and avocational archeologists.

The presence of professional archeologists in a region does not automatically mean that there will be much interaction between professionals and avocationalists on local archeology. Many professionals have interests only in doing contract work or in doing research in other geographic areas. Also, avocational archeologists must be doing some significant work to become of interest to professionals. Fortunately, there are good relationships between professional and avocational archeologists in Southeast Texas, with a high level of mutual respect.

Summary

The Houston Archeological Society has many successful programs for research and public education that may be used as examples of what can be accomplished on a regional level by avocational archeologists. The key to success is the availability of a cadre of highly motivated avocationals with a wide variety of talents and educational backgrounds. Some of the areas of expertise by avocationals here include society administration, field work administration, public education, lithic technology, ceramic technology, faunal analysis, geology, computer technology, and historical archival research. The ability to form good working teams for specific projects has also been an important factor in the success of HAS activities.

Most of the successful regional archeological societies in Texas are located in major population areas, such as Houston, San Antonio, Dallas, and El Paso. This type of location is conducive to formation of a group of sufficient size, and where individuals with suitable interests, backgrounds, and talents are available to form a successful archeological society.

It should be noted that all funding of HAS activities is done privately by members, with no public funding involved. Thus, much archeological work is done that would otherwise not be executed due to the lack of government funding support (Patterson 1981). In many states, such as Texas, the majority of cultural resources are located on private lands. Avocational archeologists are the main resource available for discovery, analysis, and preservation of data concerning cultural resources on private lands (Patterson 1987). If an adequate record of man's past in the United States is to be established, the resources of avocational archeologists must be fully exploited, including recognition and support by professionals. It is especially important to consider the resources of avocational archeologists in regional planning for archeological research and preservation (Patterson 1990).

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Another Bannerstone from Harris County, Texas

Alan R. Duke

Abstract

This report records details on the physical characteristics of a bannerstone found recently on Cypress Creek, Harris Co., Texas (41HR375).

Introduction

The project to record all bannerstones found in Texas continues in an effort to expand the information presented in the report "A Bannerstone from Austin Co., Texas" by Alan R. Duke and Bruce R. Duke (1988) and also the report "Additional Bannerstones from Texas" by Alan R. Duke (1989).

The request by the author to both vocational and avocational archeologists to provide information on bannerstones has again made it possible to add to the general knowledge of the artifact. To date only 16 bannerstones have been reported in Texas.

The artifact

This bannerstone came from the wall slump of a backhoe trench being excavated at site 41HR375 on Cypress Creek.

Excavation was carried out by The Archeological Research Laboratory at Texas A&M University for the Harris County Flood Control District.

Site 41HR375 contains material from the Middle and Late Archaic through Early Ceramic and possibly Late Ceramic. The Middle-Late Archaic component contains Palmillas, Matamoras, and Gary points.

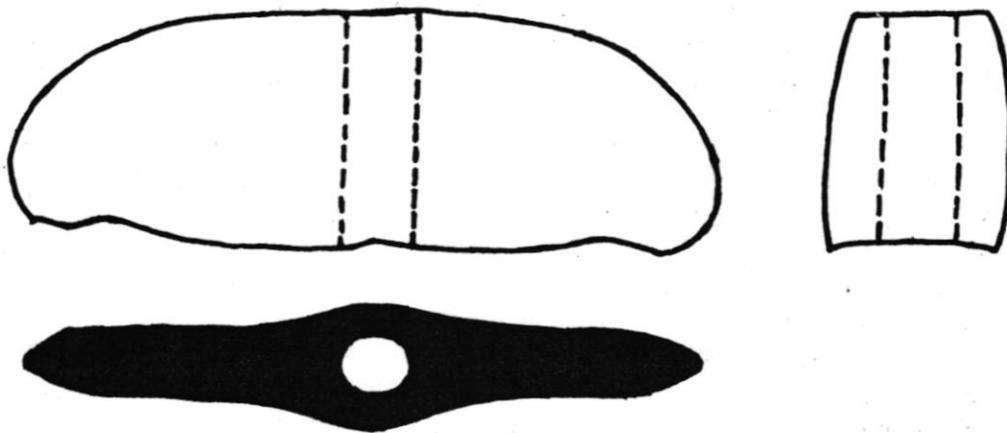
The shape of this bannerstone, when compared to those of similar bannerstones dated through association with other types of artifacts, indicates its age falls in the Early-to-Middle Archaic period. This designation is based on chronological sequences established in the southeastern United States (Kwas 1981).

The bannerstone is made from fine-grained brown sandstone, and estimated dimensions and weight¹ are as follows:

Length	-	11.18 cm
Thickness	-	3.84 cm
Weight	-	86.8 gm
Hole diameter	-	1.28 cm

This is the fourth bannerstone reported in Harris Co.

¹Only half of bannerstone found



Not drawn to scale; dimensions given above

Figure 1. Bannerstone, Cypress Creek, Harris Co., Texas, 41HR375

Acknowledgments

The author would like to thank the following persons and organizations for their contributions that made this report possible: Roger Moore, Blaine Ensor, Harris County Flood Control District, and The Archeological Research Laboratory at Texas A&M University. Sketches are by B. R. Duke.

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The Lost Lake Ruin — A Memoir

W. Marshall Black

On a fall day in 1941 a friend and I set out to explore the northern shoreline of Lost Lake. We launched our skiff at Old River Terrace and rowed about 1.5 miles southward to the entrance to Lost Lake, thence back northward to the shoreline. Old River Bay and Lost Lake are relic channels of the San Jacinto River configured like nested letter "C's." Figure 2 is a map made at the time by tracing a 1917-vintage USGS map. A spit of high ground separated the two waters for about 2000 feet east-west and 800 feet north-south. This was densely wooded with pine. The shoreline was a continuous reef, about five feet high, of Rangia shell. To the southeast there were other small Rangia "reefs" emergent. Prehistoric potsherds were abundant. At the time I had no concept of shell middens and Goose Creek pottery had yet to be named.

At the eastern end of the forested area we were much surprised to find ruins of a substantial building which appeared to be very old. It was built of Rangia shell and a weak mortar. The walls were about 14 inches thick and were plastered inside and out. Figure 1 shows this construction. The outline was about 50 feet square with a small room projecting from the southern side. Figure 4 is a floor plan. The maximum height of a wall remnant was about four feet; however, the shoreline reef had banked up around the southern side to a depth of possibly eight feet above the deeper ground level inside this room. There remained the base of one window on the north side and doorways to the east and west. Two massive pillars were in the central interior. There appear to have been six rooms with perhaps a hall area in the center plus the projecting square room on the south. The plan is more suggestive of a residence than any other utility. There was a scatter of handmade brick about, as well as pieces of cast and wrought iron hardware.

Mr. Wayne Neyland, a founding member of our Society, borrowed my notes some years later for the purpose of recording sites. I have a cryptic memo from him dated 1970 in which he implies that the ruin was recorded as 41HR16, and states that a Col. Sydnor's residence was on Lost Lake. I leave it to a historian to tell the story of how such a massive structure came to be in such an isolated locale.

Lost Lake and its ruin no longer exist. Figure 3 shows the topography in 1982. The area has been diked to contain dredge spoil.



Figure 1. The southeastern corner of the Lost Lake Ruin in 1941

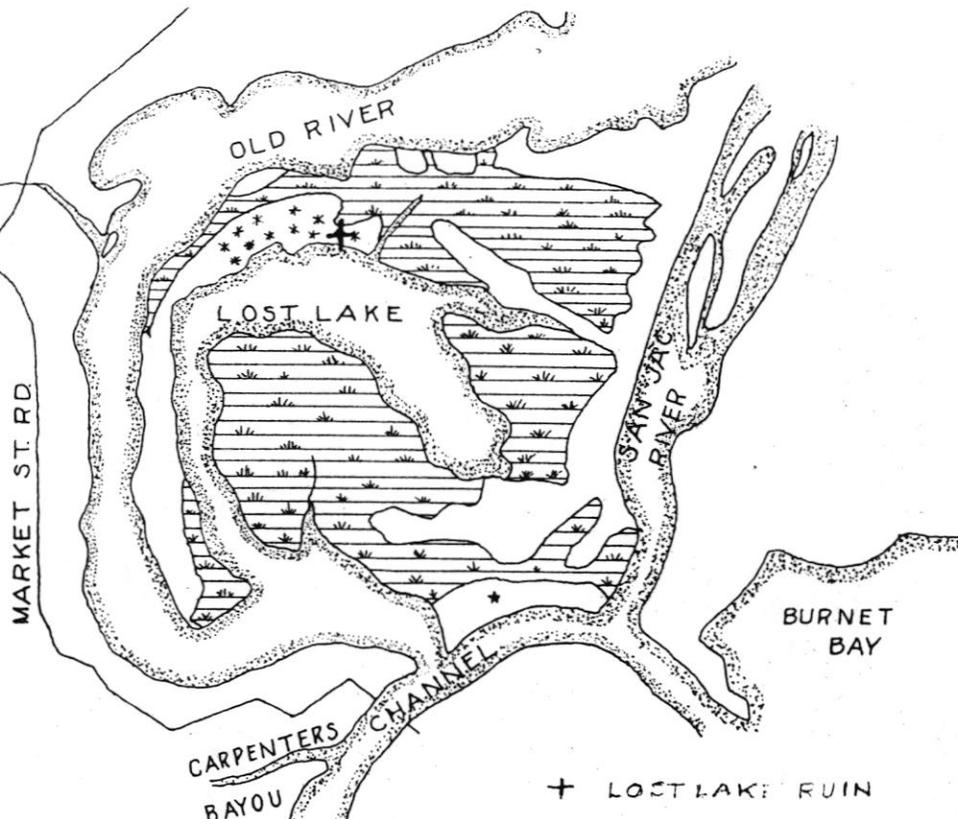


Figure 2. The Lost Lake area circa 1917. A "+" marks the ruin location.

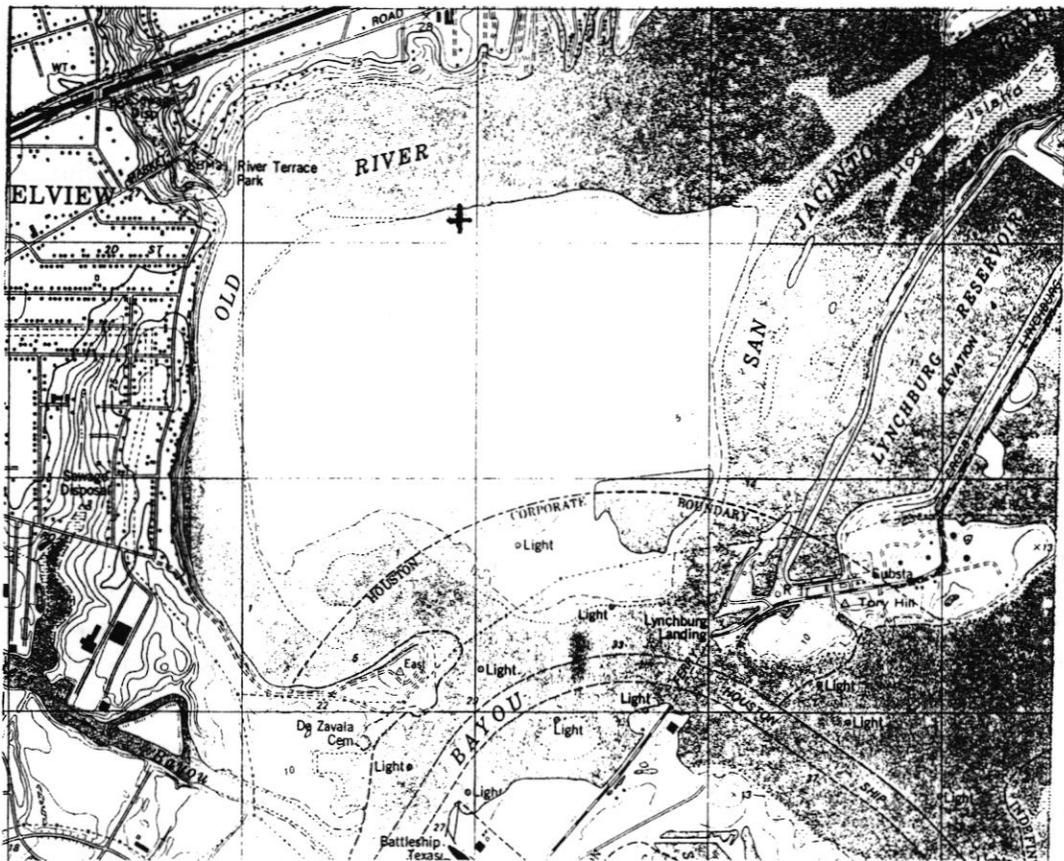


Figure 3. The former Lost Lake area circa 1982. A "+" marks the ruin location based on a best fit of all shorelines against the 1917 map (Figure 2).

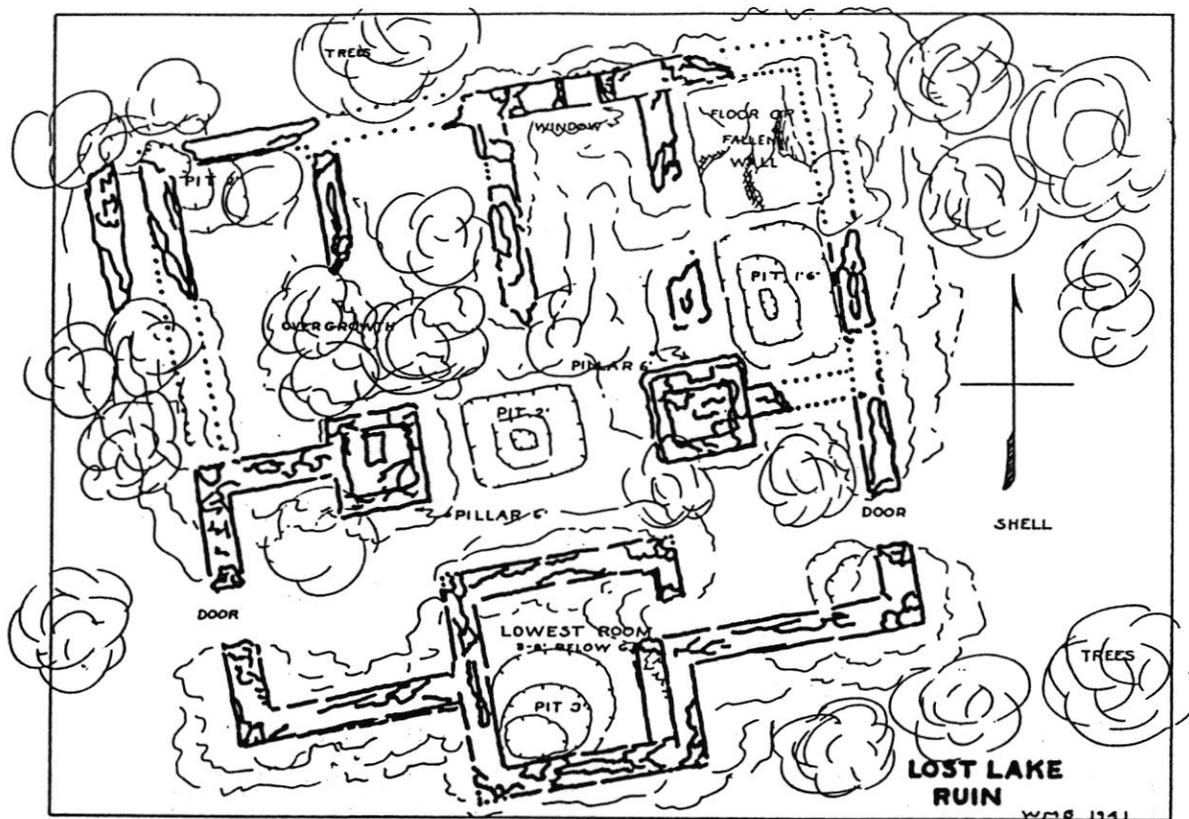


Figure 4. Floor plan of Lost Lake Ruin as seen in 1941. The shoreline of the lake was immediately to the south.

Editor's note:

Marshall Black's article on Lost Lake Ruin prompted a telephone call to Jean Epperson concerning the Sydnor family history. Subsequently, Jean kindly consented to the invitation to write a short, informative article on the history of the site, as a companion work to Marshall's. Jean's article follows. It is not intended as an in-depth historical report. rlg

Sydnora, The Ruin at Lost Lake

Jean L. Epperson

A number of generations of young people and some older folks, too, speculated over the years about the ruins on the island between Old River Lake, Lost Lake, and the Trinity River in Harris County. While canoeing on Lost Lake during the 1940s, this writer was intrigued by the obviously very old shellcrete remains of thick walls. Local lore attributed the ruins to swashbuckling Jean Lafitte whose corsair base was located on Galveston Island from 1817 to 1821. It was told that he sailed his vessels up the San Jacinto River to careen and repair them, and what better place to use than this low-lying island. The not-so-romantic truth was that John Barrett Sydnor, a Galveston business man, built his home and business here after the Civil War began. The place was called "Sydnora;" see Figures 1 and 2.

John Barrett was the son of John Seabrook Sydnor, a mayor of Galveston and an influential and wealthy businessman. John Barrett was in business with his father in Galveston until the Civil War, when he and his family moved across the San Jacinto River from Lynchburg. The thriving town of Lynchburg, at the confluence of the San Jacinto River and Buffalo Bayou, was an important port and business center during the 1860s and 1870s. The land west of the San Jacinto, including Lost Lake and Old River Lake (old meanders of the San Jacinto River), was patented to J. T. Harrell. In 1870 Harrell was operating a retail dry goods business and in the next household John B. Sydnor had living quarters and a dry goods and grocery store, in a large three-story structure.

Brook W. Hamilton of Houston, a grandson of John Barrett Sydnor, during an interview in 1981 identified the ruins in Lost Lake as his grandfather's home. His mother, who was born there, had showed it to him when he was a boy.

John Seabrook, the elder Sydnor, died September 7, 1869, while visiting his son and family at Sydnora. He was buried in Galveston in Potters Field, being destitute after the Civil War even though he still owned many acres of land.

The hurricane of 1875 devastated the coast, and Lynchburg was virtually destroyed. The Sydnor family and others survived the storm on the top floor of Sydnora; everything else (the rest of the house and surrounding houses) was flooded. Boats were tied to the upper balcony. The family moved away after the storm. John Barrett Sydnor became Harris County commissioner in 1877 and died of pneumonia in 1888. Mrs. Sydnor sold the property sometime thereafter.

Several archeological investigations have been made of Sydnora and Lost Lake Island, but little has been written and nothing done toward conservation, even though the site was considered to be significant. Owned by the Port of Houston Authority and utilized as a spoils reservoir for dredge material from the Houston Ship Channel, the site is now completely covered by mud and silt.

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Powhatan House

1991 Historical files of John S. Sydnor's home, built in 1847, and now home of the Galveston Garden Club at 3427 Avenue O, Galveston, Texas

Webb, Walter Prescott

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United States Population Census

1860 Galveston County, Texas: Galveston

1870 Harris County, Texas: Lynchburg

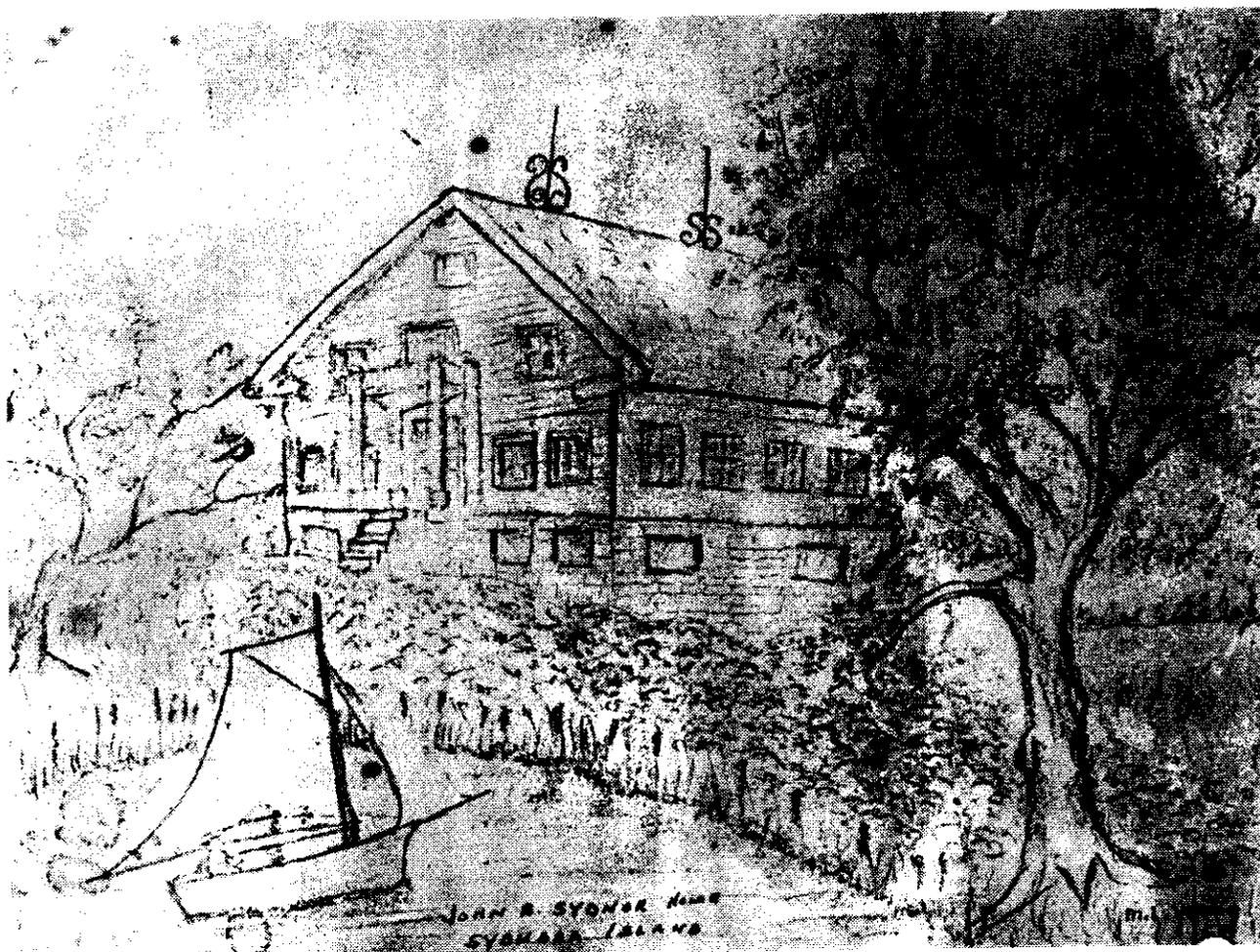


Figure 1. Drawing of Sydnora by M. L. Young. The original is at Powhatan House, Galveston, Texas.

The general artifact assemblages and faunal remains associated with Dalton, San Patrice, and Early Side-Notched point types demonstrate that an Archaic broad-based hunting and gathering lifestyle was practiced in the Southeast Woodlands during the same time period as the early Folsom Paleo-Indian culture of the Plains. This is several hundred years before the usually defined starting time of 10,000 years B.P. for the Eastern Early Archaic period (Jennings 1989:120). In general, archeologists tend to view time periods in prehistory too rigidly, when data supports only approximate boundaries for time periods.

Since the Clovis point type is earlier, there is a tendency to regard early notched point types as developments from Clovis (Story 1990:197). No data are available to support this evolutionary concept, however. Development from Clovis technology is easiest to envisage for the Dalton point. Some Dalton points have a lanceolate form similar to Clovis, and are often made from exotic materials as was done for Clovis. Early Side-Notched and San Patrice points, however, do not have lanceolate forms and are generally made from local raw materials. The relationships of early notched point types to Clovis technology remain a matter for further investigation (Patterson 1989b).

Other notched point traditions

During most of the Eastern Early Archaic period (Late Paleo-Indian period in Texas) from 10,000 to 7000 years B.P., a wide variety of notched point types occur. In subsequent sections of this paper, relationships of notched point types in Southeast Texas and the greater Southeast Woodlands will be discussed. In Southeast Texas, smaller proportions of Late Paleo-Indian Plano point types and straight-stemmed points are also found during this time period. After 7000 years B.P., straight and contracting stem points become predominant in Southeast Texas and the Greater Southeast Woodlands.

Most early notched projectile points in Southeast Texas have ground stem edges, but there is considerable variation in other attributes.

Relationships of Early Notched point types in Southeast Texas

A wide variety of early notched points is found in Southeast Texas, including the rather distinctive San Patrice type. A question may be asked about how separate and distinctive the San Patrice tradition is compared to that of other early notched point types. San Patrice and other early notched point types have been found together at sites such as 41WH19 (Patterson and Hudgins 1985; Patterson et al. 1987) in Southeast Texas and the John Pearce site (Webb et al. 1971) in Louisiana. Therefore, the San Patrice point style cannot be considered to represent a totally separate cultural tradition.

Table 1 summarizes the occurrence of sites with San Patrice only, Early Notched only, and with both types of points together; these data come from a computerized data base (Patterson 1989a). Contingency Table tests show no statistical differences between the actual distributions of point types and a theoretical uniform distribution where point types occur at sites in equal numbers together or separately. The eastern zone of Southeast Texas is an exception, where sites with San Patrice alone are predominant. This may be more apparent than real, however. There is a problem in distinguishing early notched points in the eastern zone from later notched types, because the wide use of petrified wood in the eastern zone tends to blur some attributes. A general conclusion can be made that the San Patrice point type cannot be used as an indication of separate cultural groups.

It should be noted that in Texas some types of early notched points occur farther west than the San Patrice point. The San Patrice point has not been found farther west than the Colorado

Relationships of Early Notched Projectile Point Types in Southeast Texas and the Greater Southeast Woodlands

Leland W. Patterson

Introduction

This paper considers the relationships of a wide variety of early notched projectile point types in Southeast Texas and the greater Southeast Woodlands. The approximate time period involved is 10,500 to 7000 years B.P. A variety of technological traditions are discussed which apply to a rather uniform Archaic hunting and gathering lifeway practiced during the entire time period over the entire Southeast Woodlands, eastern Texas to the Atlantic coast.

It has been shown that Southeast Texas was an interface between prehistoric lithic traditions of the Southern Plains and the Southeast Woodlands (Patterson 1983, 1990a). This technological-cultural interface appears to extend northward into Northeast Texas, eastern Arkansas, and eastern Missouri. In Texas, the chronological period considered here is named the Late Paleo-Indian, but farther east this same time interval is named the Early Archaic period. In Texas, the term Late Paleo-Indian is used because the Plano lanceolate point tradition is considered to be a continuation of the earlier Clovis and Folsom fluted point traditions. As Shafer (1977:187) has noted, early lithic traditions of East Texas should be classified with a hunting and gathering lifeway, rather than with the big game hunting lifeway of the Southern Plains.

This paper discusses the geographic distributions of early notched projectile point types, and possible cultural and technological relationships. The Albany (Edgefield) hafted scraper is also considered with the technological traditions discussed here.

Earliest notched point traditions

On the western end of the Southeast Woodlands, two projectile point styles started as early as the Folsom Paleo-Indian point of the Great Plains, immediately after or during the Clovis period. These early notched point styles are Dalton and Early Side-Notched. Dalton is widespread in the upper part of the Southeast and especially abundant in Missouri and northern Arkansas (Story 1990:190), and is common in Northeast Texas (Story 1990: Figure 27). The Dalton point has been given a time range of 10,500-9500 years B.P. by Morse and Morse (1983:71).

In Southeast and South Texas, an Early Side-Notched point type starts as early as Folsom, probably at least by 10,500 years B.P. Early Side-Notched points were found well below Folsom at a site in Bee County (Sellards 1940). At site 41WH19 in Wharton County, Texas, an Early Side-Notched point was found at the same excavation level as a Folsom point (Patterson and Hudgins 1985; Patterson et al. 1987). The stratum in question at site 41WH19 has one radiocarbon date of 9920 ± 530 years B.P. Only two Folsom points have been reported in Southeast Texas, but early notched points are common, and appear to have been used in this region instead of Folsom during the same time period.

The San Patrice point type seems to have started slightly later than Dalton and Early Side-Notched points. Story (1990:202) gives a provisional time range of 10,300-9300 years B.P. for San Patrice. Story (1990:202), Ensor (1986), and Morse and Morse (1983:104) note relationships between the Dalton and San Patrice point traditions. I would like to suggest that the San Patrice point style may have resulted from an interface between Dalton and Early Side-Notched point traditions in adjacent geographic areas.

The general artifact assemblages and faunal remains associated with Dalton, San Patrice, and Early Side-Notched point types demonstrate that an Archaic broad-based hunting and gathering lifestyle was practiced in the Southeast Woodlands during the same time period as the early Folsom Paleo-Indian culture of the Plains. This is several hundred years before the usually defined starting time of 10,000 years B.P. for the Eastern Early Archaic period (Jennings 1989:120). In general, archeologists tend to view time periods in prehistory too rigidly, when data supports only approximate boundaries for time periods.

Since the Clovis point type is earlier, there is a tendency to regard early notched point types as developments from Clovis (Story 1990:197). No data are available to support this evolutionary concept, however. Development from Clovis technology is easiest to envisage for the Dalton point. Some Dalton points have a lanceolate form similar to Clovis, and are often made from exotic materials as was done for Clovis. Early Side-Notched and San Patrice points, however, do not have lanceolate forms and are generally made from local raw materials. The relationships of early notched point types to Clovis technology remain a matter for further investigation (Patterson 1989b).

Other notched point traditions

During most of the Eastern Early Archaic period (Late Paleo-Indian period in Texas) from 10,000 to 7000 years B.P., a wide variety of notched point types occur. In subsequent sections of this paper, relationships of notched point types in Southeast Texas and the greater Southeast Woodlands will be discussed. In Southeast Texas, smaller proportions of Late Paleo-Indian Plano point types and straight-stemmed points are also found during this time period. After 7000 years B.P., straight and contracting stem points become predominant in Southeast Texas and the Greater Southeast Woodlands.

Most early notched projectile points in Southeast Texas have ground stem edges, but there is considerable variation in other attributes.

Relationships of Early Notched point types in Southeast Texas

A wide variety of early notched points is found in Southeast Texas, including the rather distinctive San Patrice type. A question may be asked about how separate and distinctive the San Patrice tradition is compared to that of other early notched point types. San Patrice and other early notched point types have been found together at sites such as 41WH19 (Patterson and Hudgins 1985; Patterson et al. 1987) in Southeast Texas and the John Pearce site (Webb et al. 1971) in Louisiana. Therefore, the San Patrice point style cannot be considered to represent a totally separate cultural tradition.

Table 1 summarizes the occurrence of sites with San Patrice only, Early Notched only, and with both types of points together; these data come from a computerized data base (Patterson 1989a). Contingency Table tests show no statistical differences between the actual distributions of point types and a theoretical uniform distribution where point types occur at sites in equal numbers together or separately. The eastern zone of Southeast Texas is an exception, where sites with San Patrice alone are predominant. This may be more apparent than real, however. There is a problem in distinguishing early notched points in the eastern zone from later notched types, because the wide use of petrified wood in the eastern zone tends to blur some attributes. A general conclusion can be made that the San Patrice point type cannot be used as an indication of separate cultural groups.

It should be noted that in Texas some types of early notched points occur farther west than the San Patrice point. The San Patrice point has not been found farther west than the Colorado

River at the western edge of Southeast Texas. Some types of early notched points (called Early Stemmed by Turner and Hester 1985:87) are found as far west as the Lower Pecos River.

Relationships in the Southeast Woodlands

Many of the notched point types in Southeast Texas have morphologies similar to those of early notched point types found in other parts of the greater Southeast Woodlands, during the Eastern Early Archaic period (Texas Late Paleo-Indian period). Justice (1987) has shown the wide geographic distributions of some early notched point types. Both the San Patrice/Hardaway Side-Notched group (Justice 1987: Map 14) and the Kirk Corner-Notched group (Justice 1987: Map 28) are shown to occur from East Texas to the Atlantic coast.

A wide variety of early notched points was found in excavations at site 41WH19 in Wharton County, Southeast Texas. Table 2 shows morphological correlates for these point types in other parts of the Southeast Woodlands. It is interesting to note that the earliest side-notched point types from site 41WH19 (Early Side-Notched types 1,2,3) cannot be easily matched to point types with other names in other parts of the Southeast Woodlands. This seems to follow a development pattern. By the end of the Clovis period, the idea of a projectile point hafting system using notched points had spread throughout the eastern United States. The general idea did not result in a single standardized point type, however. Later in the Eastern Early Archaic period, the widespread geographic contacts of small hunter-gatherer groups throughout the Southeast Woodlands resulted in some widespread distributions of point types with similar morphologies.

There can be a wide variation of early notched point types even on a local basis, as is well illustrated at the John Pearce site in Louisiana (Webb et al. 1971). Here, there is not only a wide range of San Patrice point styles, but also a variety of other side-notched point styles. Much of the stylistic variation is possibly caused by variations produced by individual craftsmen. As Jennings (1989:118) has noted, "The change in chipped stone point 'fashion' could hardly be explained by wide influence of a single band or tribe, given the assumed weak social organization at the time and the low population density." Also, variations in point styles cannot be explained by broader cultural changes, because the Eastern Early Archaic period had a rather uniform hunting and gathering lifeway over a long time period. As Jennings (1989:26) states, "There is an unproved assumption that changes in details of the attributes of artifacts are an index to significant changes in other aspects of the culture where the objects had their original value." On a general basis, changes in projectile point styles seem to have been similar throughout the Southeast Woodlands. There is a chronological sequence from side-notched to corner-notched and then to stemmed point types (Fagan 1991:310).

The Albany-Edgefield hafted scraper

There is another artifact type that shares the wide geographic distribution of early notched points throughout the Southeast Woodlands. This artifact type is called the Albany scraper in Texas and Louisiana and the Edgefield scraper farther east. In Mississippi, the term Waller scraper has been used for a more diminutive variant version of the Albany scraper (Geiger and Brown 1983).

As noted by Michie (1973:3), this artifact type may be a combination tool, although the term scraper is generally used. One working edge of the tool is diagonal, straight or concave, and steeply retouched, indicating heavy-duty use as a scraper for wood and/or bone. The second working edge is convex and has an acute angle. The acute-angled second edge of a specimen from site 41HR182 (Figure 1C) is crudely serrated and may have functioned as a denticulate tool for sawing slots or

crosscuts in bone or wood. Some examples of Albany scrapers for Southeast Texas are shown in Figure 1. The side-notched base indicates use as a hafted tool.

The Albany-Edgefield scraper is found throughout the Southeast Woodlands, but in much lower frequencies and concentrations than associated early notched point types. This artifact type is another indication of commonly shared lithic traditions throughout the Southeast Woodlands. Many sites in Southeast Texas have early notched points, but only six sites in Southeast Texas have Albany scrapers (see Tables 1 and 3). All six sites have both San Patrice and other early notched point types. The Albany scraper is also found in Northeast Texas (Duffield 1963).

It is common to associate the Albany scraper with San Patrice points in Texas, Louisiana, and Mississippi, but this is not an exclusive relationship. In Texas (Table 3), Louisiana (Webb et al. 1971), and Mississippi (Geiger and Brown 1983), both San Patrice and other early notched point types are associated with the Albany scraper. Farther east, the Albany-Edgefield scraper is found at some sites that do not have the Hardaway Side-Notched equivalent of the San Patrice point, such as at Russell Cave in Alabama (Griffin 1974: Figure 33). Michie (1973) has given examples of the wide geographic distribution of the Albany-Edgefield scraper throughout the Southeast Woodlands. He associates the Edgefield scraper with the Taylor side-notched point in South Carolina.

Conclusions and summary

This paper has considered the relationships of early notched projectile point types and the associated Albany-Edgefield scraper in Southeast Texas and the greater Southeast Woodlands during a time period of 10,500 to 7000 years B.P. It appears that there is a general Texas Late Paleo-Indian/Eastern Early Archaic tradition over the entire Southeast Woodlands, starting during or at the end of the Clovis period. The greatest variation in the morphologies of notched point types occurs at the start of this lithic tradition, when the idea of a notched point hafting system seems to have spread rapidly throughout the Southeast Woodlands from some undetermined location of initial innovation, without the use of a single standardized point morphology. Throughout the time period under consideration, there are local variations in notched point types which represent the variation in production techniques by individual flintknappers, and stylistic preferences of local cultural groups. There are also wide geographic distributions for some projectile point types, such as San Patrice/Hardaway Side-Notched, and for the Albany-Edgefield scraper, from Texas to the Atlantic coast. The wide geographic occurrences of standardized lithic technologies probably resulted from wide-ranging contacts of mobile hunter-gatherer groups, rather than from any high degree of social organization. It also appears that a broad-based hunting and gathering lifeway was practiced throughout the Southeast Woodlands from the earliest time of human habitation, with the hunting of now-extinct types of big animals being only incidental to a broader hunting and gathering lifeway in earliest Paleo-Indian times.

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Table 1. Sites with Early Notched Points in Southeast Texas

	zone			total region
	west	central	east	
San Patrice only	2	10	10	22
Early Notched only	7	5	1	13
both types	3	9	2	14

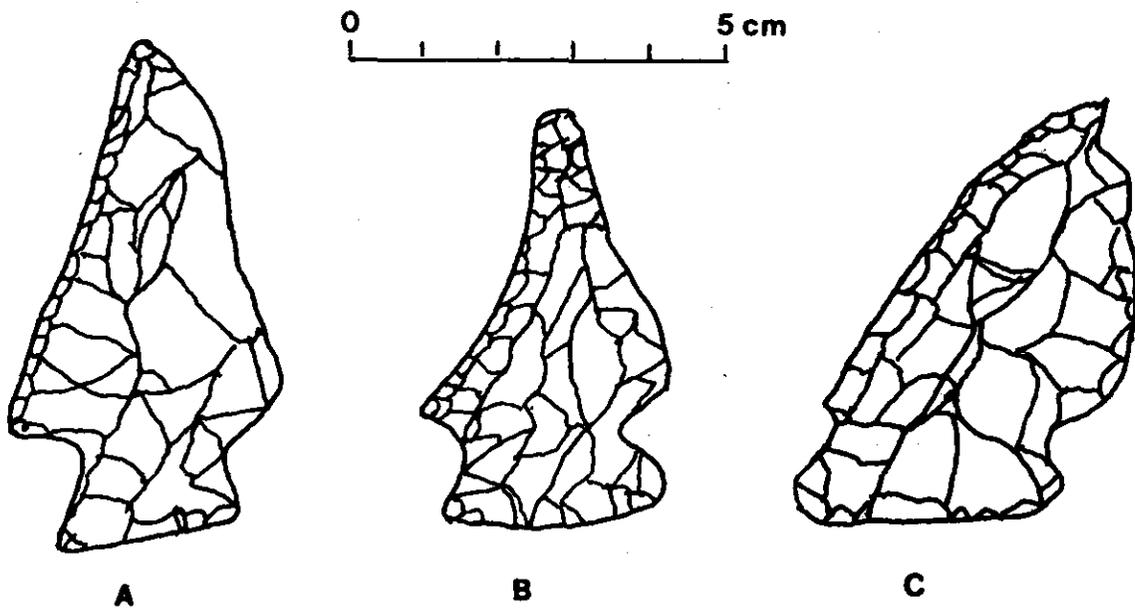
Table 2. Comparison of Early Notched Point Types

site 41WH19 type	Southeast Woodlands morphological correlate	
	type	reference
Side-Notched 1	unknown	
Side-Notched 2	unknown	
Side-Notched 3	unknown	
Side-Notched 4	Greenbriar Dalton	Justice 1987: Fig. 8
Side-Notched 5	Hardin-like	Justice 1987: Fig. 11
San Patrice	Hardaway	Justice 1987: Fig. 8
Big Sandy	Big Sandy	Justice 1987: Fig. 13
Corner-Notched 1	Decatur	Justice 1987: Fig. 14
Corner-Notched 2	Kirk Corner-Notched	Justice 1987: Fig. 14
Corner-Notched 3	Palmer	Justice 1987: Fig. 14
Corner-Notched 4	unknown	

Site 41WH19 references: Patterson and Hudgins 1985
Patterson et al. 1987

Table 3. Sites with Albany Scrapers in Southeast Texas

site	county	reference
41WH19	Wharton	Patterson and Hudgins 1981
41HR525	Harris	Patterson, Murk, and Murk 1984
41HR233	Harris	Patterson and Marshall 1989
41HR624	Harris	Patterson, Marriott, and Marriott 1990
41HR182	Harris	Patterson 1990b
41HR641	Harris	Patterson 1990c



A,B - site 41WII19; C - site 41HR182

Figure 1. Albany scrapers from Southeast Texas

Vertebrates of Site 41WH20

W. L. McClure

Introduction

Site 41WH20 is on a gently sloping terrace near a tributary of the San Bernard River in Wharton County, Texas. Occupation of the site started about A.D. 100 and continued through the ceramic time intervals, and there are historic intrusions as well. Test excavations at the site were conducted by the Houston Archeological Society in 1988. Soil from the test pits was passed through 1/4-inch mesh screens, with a representative sample from three pits being passed through a finer mesh (Patterson and Hudgins 1988).

The vertebrate and floral remains are reported here. Identification of the seeds and vertebrate remains was accomplished by direct comparison with known material in the comparative collections of the Houston Archeological Society and the author. The mollusks will be the subject of a separate report by Dr. Raymond Neck.

Results

Vertebrate remains from the five pits consist of more than 1300 bones and fragments that weigh 1.25 kilograms. Condition of the bones is fair. Many are eroded from soil chemicals. Several have cut marks as if from use of a thin knife. A few have gnaw marks from rodents. None of the larger bones are complete. Several have been subjected to intense heat. A few seeds were also recovered. Three plants, 2 kinds of fish, a frog, an alligator, 5 turtles, 4 snakes, and 9 mammals were identified.

The fine-screen materials include 1500 bone fragments, most of which had been burned, and 300 seeds which appear to be recent and were not identified. Within this group of fragments were identifiable bones of 1 fish, 4 amphibians, 2 lizards, 3 snakes, and 1 mammal that were not recognized in the material from the larger screens.

Species list

Plants:

<i>Celtis</i> sp.	hackberry
<i>Carya illinoensis</i>	pecan
<i>Vitis cinerea</i>	sweet winter grape

Vertebrates:

<i>Atractosteus</i> or <i>Lepisosteus</i> sp.	gar
<i>Aplodinotus grunniens</i>	freshwater drum
<i>Lepomis</i> sp.	sunfish
<i>Bufo</i> sp.	toad
<i>Hyla</i> sp.	treefrog
<i>Gastrophryne</i> sp.	narrowmouth toad
<i>Rana catesbeiana</i>	bullfrog
<i>Rana</i> cf. <i>sphenocephala</i>	leopard frog
<i>Alligator mississippiensis</i>	American alligator
<i>Chelydra serpentina</i>	common snapper
<i>Kinosternon</i> sp.	mud turtle

<i>Terrapene carolina</i>	three-toed box turtle
<i>Terrapene ornata</i>	ornate box turtle
<i>Trachemys scripta</i>	red-eared slider
<i>Trionyx</i> sp.	softshell
<i>Eumeces</i> sp.	skink
<i>Anolis carolinensis</i>	green anole
<i>Elaphe</i> sp.	rat snake
<i>Masticophis flagellum</i>	coachwhip snake
<i>Nerodia</i> sp.	water snake
<i>Storeria dekayi</i>	brown snake
<i>Thamnophis</i> sp.	garter snake
<i>Virginia striatula</i>	rough earth snake
<i>Agkistrodon piscivorus</i>	cottonmouth
genus unknown	unidentified bird
<i>Scalopus aquaticus</i>	eastern mole
<i>Sylvilagus aquaticus</i>	swamp rabbit
<i>Sylvilagus floridanus</i>	eastern cottontail
<i>Geomys attwateri</i>	Attwater's pocket gopher
<i>Baiomys taylori</i>	pigmy mouse
<i>Sigmodon hispidus</i>	hispid cotton rat
<i>Peromyscus</i> cf. <i>leucopus</i>	white-footed mouse
<i>Odocoileus virginianus</i>	white-tailed deer
<i>Bos taurus</i> or <i>Bison bison</i>	large bovid
<i>Homo sapiens</i>	human

Species accounts

Plants:

Twenty-four seeds of hackberry (*Celtis* sp.) and one grape (*Vitis cinerea*) seed were recovered in Pit A between 110 and 130 cm. A fragment of a shell of a pecan (*Carya illinoensis*) was at the surface in Pit D. In addition, nearly 300 seeds of unidentified plants were found on the fine screens from three pits at depths from surface to 230 cm.

Fishes:

Remains of gars (*Atractosteus spatula* or *Lepisosteus* sp.) are 43 scales, 1 vertebra, and 11 fragments of head bones. This material is not sufficient for separation of the alligator gar from other gars. Bones of the freshwater drum (*Aplodinotus grunniens*) are 2 pharyngeals, 2 teeth, 3 otoliths, an atlas, and another vertebra. Remains of sunfish (*Lepomis* sp.) are premaxilla, dentary, 2 otoliths, 11 spines, and 3 scales. In addition, 124 other vertebrae, 2 scales, and 45 spines and other bone fragments of Teleost fish were recovered. The unidentified fish are no longer than 10 cm.

Amphibians:

The amphibian bones that were found are a humerus of a leopard frog (*Rana* cf. *sphenocephala*) and one tibiofibula each of a toad (*Bufo* sp.), a narrowmouth toad (*Gastrophryne* sp.), a treefrog (*Hyla* sp.), and a bullfrog (*Rana catesbeiana*).

Reptiles:

The American alligator (*Alligator mississippiensis*) is represented in the assemblage by 2 dermal bones.

The remains of six varieties of turtles were recovered. The common snapper (*Chelydra serpentina*) is represented by 2 scapulae. The mud turtle (*Kinosternon* sp.) is represented by a pleural and 6 peripherals. Two kinds of box turtles are included. There are 3 nuchals of the three-toed box turtle (*Terrapene carolina*) and 2 nuchals of the ornate box turtle (*Terrapene ornata*). Other box turtle material that is of either of the two consists of 1 nuchal, 27 neurals, 94 pleurals, 68 peripherals, 20 plastron fragments, 2 humeri, 3 scapulae, 3 innominates, and a femur. The red-eared slider (*Trachemys scripta*) is represented by 4 pleurals. A large softshell turtle (*Trionyx* sp.) is represented by a plastron fragment. In addition there are more than 500 other fragments of turtle bones that were not identified.

Bones of two lizards were recovered. These are the scapula of a skink (*Eumeces* sp.) and 2 vertebrae of the green anole (*Anolis carolinensis*).

The snakes that were identified and the number of vertebrae of each are 4 ratsnake (*Elaphe* sp.), 1 coachwhip (*Masticophis flagellum*), 2 water snake (*Nerodia* sp.), 2 brown snake (*Storeria dekayi*), 3 garter snake (*Thamnophis* sp.), 3 rough earth snake (*Virginia striatula*), and 2 cottonmouth (*Agkistrodon piscivorus*). In addition, 34 unidentified snake vertebrae were recovered.

Birds:

A phalanx recovered at 150 cm matches the toe bone of the great egret (*Casmerodias albus*) and is the only bone that could be definitely from a bird.

Mammals:

An insectivore, the eastern mole (*Scalopus aquaticus*) is identified by its distinctive humerus. It was recovered below 230 cm. In 1983, Schmidly reviewed the available records and museum specimens of the mole. He found none from Fort Bend or Wharton Counties. The nearest records were one specimen from Colorado County and five from Lavaca County (Schmidly 1983, 330). Based on these records, he projected the range of the mole to include parts of Wharton and Fort Bend Counties (Schmidly 1983, 52). This record from Wharton County and two from archeological sites 41FB37 and 41FB32 in Fort Bend County (McClure 1987, 1989) extend the documented range of the species about 48 kilometers to the southeast.

Two leporids were among the identified mammals. The swamp rabbit (*Sylvilagus aquaticus*) is represented by a mandible, a tooth, 2 scapulae, 2 innominates, a metacarpal, a metatarsal, and a phalanx. The eastern cottontail (*Sylvilagus floridanus*) is represented by a mandible, an innominate, and a tibia.

Four kinds of rodents were recovered. Atwater's pocket gopher (*Geomys attwateri*) is represented by a frontal, 3 lt. mandibles, rt. mandible, 2 upper & 1 lower incisors, humerus, ulna, femur, tibia, and phalanx. A femur and a humerus of the pigmy mouse (*Baiomys taylori*) were recovered. The hispid cotton rat (*Sigmodon hispidus*) bones are lt. & rt. mandibles, 4 molars, humerus, vertebra, 2 calcanei, and phalanx. A femur is the only bone of the white-footed mouse (*Peromyscus* cf. *leucopus*). Other rodent bones in mouse and rat size are 5 teeth, 3 vertebrae, 2 caudal vertebrae, 2 ribs, 2 ulnae, 2 femora, a carpal, and 8 phalanges.

A small carnivore of the size of a skunk (*Mephitis* sp.) is represented by a fragmentary canine tooth.

At least two kinds of artiodactyls are in the assemblage. A large bovid that could be either domestic cow (*Bos taurus*) or bison (*Bison bison*) is represented by fragments of 2 teeth, 4 ribs, an innominate, and 5 long bones. White-tailed deer (*Odocoileus virginianus*) bones include 2 mandibles, 23 teeth, 4 petrous bones, scapula, 2 humeri, 2 metacarpals, vertebra, rib, femur, 3 tibiae, 5 metatarsals, 4 metapodial condyles, trapezoid magnum, centroquartal, 2 calcanei, scaphoid, cuneiform, unciform, sesamoid, and 4 phalanges.

Remains of humans (*Homo sapiens*) include 3 fragments of skulls from two pits.

Discussion

Plants

The pecan shell came from near the surface and is probably modern. The grape seed and the hackberry seeds were recovered from a depth of 120 cm. They appear to be charred. If they were associated with human consumption, occupation of the site would have included late summer or fall based on the season when the berries are ripe (Vines 1960). The numerous seeds of unidentified plants were more plentiful lower in the site and probably represent caches of food supplies of rodents.

Vertebrates

Fish, frogs, lizards, snakes, alligators, birds, and small mammals are included in the assemblage but they are in small numbers. The frequency was increased by including the material that had been passed through finer-mesh screens.

Turtles were the most frequent inclusion in the collection, with box turtles being the only genus with large numbers of bones. Other species are included in much fewer numbers.

Deer bones are from all parts of the animal and represent more consumable flesh than all the rest of the animals in the collection. It is uncertain whether bison were part of the assemblage or if bones of a modern cow became intruded into the deposits.

The human skull fragments probably are from two separate interments that were badly disturbed.

Conclusions

Postdepositional disturbance of the site prevents more than general conclusions. This site that dates from the ceramic period suggests that the occupants relied on plant and animal species that were available from the river, the wooded area along the river, and the adjoining prairie. Deer were the most productive food supply, as indicated by the bones, but clams, turtles, and many other small vertebrates were used to maintain the families between deer kills.

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Mathematics and Logic in Archeology: A Reply to Ellis

Leland W. Patterson

Think about it! — Jerry Lee Lewis

Ellis (1991) has made some rather sharp, but nonsubstantive, criticisms of an article of mine (Patterson 1990) that considered possible relationships between projectile point types in Southeast Texas. Criticism of archeological studies can perform a useful function in developing concepts, if there is a valid basis for the criticism. Disagreement without substantive reasons can be an empty gesture, however. In this specific case, the use of formal logic is an inappropriate mechanism for examination of the methodology under attack.

Ellis (1991) does not seem to understand the mathematical significance of a ratio, in his criticism that there is no technological content to the ratios used in my study (Patterson 1990). A ratio is a calculated function of the basic data, with the technological content in the basic data itself. In this specific case, the technological (morphological) content of the data is contained in the classification of projectile point types, then related to locational data.

My article does not "prove" anything from a basis of formal logic. Statistics have been used to show possible relationships. By definition, statistics cannot be used to definitely prove cause and effect (Kachigan 1982:4) for an uncontrolled sample. This does not invalidate the use of statistical methods to study possible relationships. The difference between statistical inference and formal logic should be recognized.

My previous classification (Patterson 1983:257) of Gary and Kent points as a related series was based on an overlap of morphological attributes of these similar straight and contracting stem point types. It was simply noted in the article under criticism (Patterson 1990) that the high proportion of sites with both Gary and Kent points would be expected. The main purpose of my article (Patterson 1990), however, was to study the possibility of identifying individual cultural groups from the occurrence of various projectile point types together or separately. It was concluded that individual cultural groups cannot be distinguished in Southeast Texas on the basis of projectile point types used. It was also concluded that several projectile point types of the Late Archaic and Early Ceramic time periods may be linked to a general technological tradition for Southeast Texas from the standpoint that single or interacting cultural groups appear to have been making and using more than one of these projectile point types.

Ellis' appeal to formal logic is rather anachronistic. In the 1970s, the "New Archeology" was preoccupied about whether studies were using inductive or deductive logic. In actual practice, a study with any degree of complexity will involve both inductive and deductive logic and a great amount of exploration of data patterns where methods of logic cannot even be defined. The "New Archeology" sought to redefine the scientific method according to its own concepts, but this idea is not currently held in high regard by most archeologists (Renfrew and Bahn 1991:416). In actual practice, there is no single "scientific method" (Medawar 1984:16). As Salmon (1982:181) has observed, an archeologist does not even need to be familiar with formal logic to do good work.

An objection was made by Ellis that my article did not present raw data. Space limitations do not permit publication of large amounts of raw data for short articles in the HAS Journal. As previously noted (Patterson 1990), raw data used in my study are readily available in the computerized data base for inland Southeast Texas (Patterson 1989). A summary of occurrences of various projectile points at individual sites was obtained by queries using the Paradox data base program for the IBM PC. This would be a tedious calculation if done manually.

Ellis could have criticized my article from a semantic viewpoint. The term "technological relationship" was used in a very broad sense. The term "stylistic relationship" would have been more precise. Style in projectile point manufacture and use can be affected by a number of factors, such as manufacturing methods, individual choice, general cultural preference, hafting method, and the range of product variation of an individual flintknapper.

In summary, it is difficult to consider Ellis' criticisms seriously. I would not have bothered to reply, except that his comments were so harsh and absolute. I would like to leave Ellis a thought that he can use in his archeological career. In the real world, scientific investigation seldom follows the ordered manner of formal logic, and Ellis might as well get used to this. As Cole (1985:29) notes, "One of the main differences between science and philosophy or religion is that scientific beliefs are tentative. By definition, they are incomplete." In considering the incomplete condition of archeological models, I would like to repeat Spaulding's (1973:352) comment on this subject, "I am unable to work up a serious fit of despondency as a result."

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The Seeds and Vertebrates of Site 41WH50

W. L. McClure

Introduction

Site 41WH50 is on a gently sloping terrace about 300 meters from the San Bernard River in Wharton County, Texas. Test excavations were conducted by the Houston Archeological Society in 1987 and 1988. Occupation of the site dates from the Archaic through the Late Prehistoric periods. An analysis of the artifacts of the site was published in the Houston Archeological Society Journal in 1988 (Patterson and Hudgins). The floral and vertebrate materials that were recovered are reported here.

Methods

All of the soil from the excavation of 11 one-meter test pits was passed through 1/4-inch mesh screens. In addition, some representative samples from three pits were passed through finer-mesh screens. The floral and faunal materials that were recovered were identified by direct comparison with known material in the comparative collections of the Houston Archeological Society and of the author. Bones of the vole and the uncertain mouse were sent to Dr. Walter W. Dalquest at Midwestern State University for identification and curation. The mollusks will be reported by Dr. Raymond W. Neck in a separate report.

Results

A spherical lead shot with a diameter of 4.5 mm was recovered at 120-130 cm in the fine screens from Pit I.

More than 380 seeds were recovered in the fine screens. Three varieties of plants were identified and at least four other varieties of seeds were included but were not identified. The prickly poppy and croton (dove weed) seeds all appear to be fresh. Some but not all of the hackberry seeds had been burned.

The vertebrate remains included nearly 1000 scales, bones, or fragments of bones, with a total weight of 0.75 kg. This number does not include the unidentified fragments retained on the fine screens. Only some of the smaller, more compact bones were complete. Condition of the bones was poor since nearly all had been badly eroded from soil chemicals.

Fish scales and bones total 250, and include at least nine varieties. Reptile bones total 100 and include the alligator, 5 kinds of turtles, 1 lizard, and 7 snakes. Two birds are included but only one could be identified, and it was a modern chicken. Mammal bones total 116 and include 3 rodents and 2 artiodactyls.

Species list

<i>Argemone albiflora</i>	prickly poppy
<i>Croton cf. capitatus</i>	croton
<i>Celtis laevigatus</i>	hackberry
<i>Atractosteus</i> or <i>Lepisosteus</i> sp.	gar
<i>Amia calva</i>	bowfin
<i>Aplodinotus grunniens</i>	freshwater drum

<i>Ictalurus</i> sp.	catfish
<i>Lepomis megalotis</i>	longear sunfish
<i>Lepomis macrochirus</i>	bluegill sunfish
<i>Lepomis</i> sp.	sunfish
<i>Pomoxis</i> sp.	crappie
<i>Micropterus salmoides</i>	largemouth bass
<i>Alligator mississippiensis</i>	American alligator
<i>Sternotherus odoratus</i>	stinkpot
<i>Kinosternon</i> sp.	mud turtle
<i>Terrapene</i> sp.	box turtle
<i>Trachemys scripta</i>	red-eared slider
<i>Trionyx</i> sp.	softshell
<i>Anolis carolinensis</i>	green anole
<i>Coluber constrictor</i>	racer
<i>Elaphe</i> sp.	rat snake
<i>Nerodia</i> sp.	water snake
<i>Storeria dekayi</i>	brown snake
<i>Thamnophis</i> sp.	garter snake
<i>Crotalus atrox</i>	diamondback rattlesnake
<i>Agkistrodon contortrix</i>	copperhead
genus unknown	unidentified bird
<i>Gallus domesticus</i>	domestic chicken
<i>Geomys attwateri</i>	Attwater's pocket gopher
<i>Sigmodon hispidus</i>	hispid cotton rat
<i>Microtus</i> sp.	vole
<i>Baiomys</i> or <i>Reithrodontomys</i>	uncertain mouse
<i>Odocoileus virginianus</i>	white-tailed deer
<i>Bos taurus</i> or <i>Bison bison</i>	large bovid

Species accounts

Plants:

Seeds of prickly poppy (*Argemone albiflora*) and croton (*Croton* cf. *capitatus*) were recovered in two pits on the fine screens. There were 236 poppy seeds and 51 croton seeds and they were at levels from the surface to 130 cm. Sixty-three seeds of hackberry (*Celtis* sp.) were found in three pits from the surface to 130 cm. In addition, 29 seeds of at least four unidentified plants were in three pits from the surface to 120 cm. A few of these seeds showed indications of exposure to fire, but most were unaltered and are probably modern.

Fishes:

Gar scales and bones were recovered between 20 and 130 cm in Pits I and J. The elements were 1 tooth, 6 head bone fragments, 2 vertebrae, and 28 scales. Both large and small individuals are included. The material is insufficient to separate alligator gar (*Atractosteus spatula*) from other gars (*Lepisosteus* sp.).

Bowfin (*Amia calva*) bones were recovered between 40 and 100 cm only in Pit I. The bones include a dentary fragment with teeth, 3 isolated teeth, and a vertebra.

Freshwater drum (*Aplodinotus grunniens*) bones were recovered in three pits between 10 and 110 cm. The items are 4 otoliths and an isolated tooth.

Catfish (*Ictalurus* sp.) are represented by 4 fragments of pectoral spines that were between 40 and 100 cm in three pits. The particular species can not be determined due to the fragmentary nature of the bones.

At least four varieties of the Sunfish Family (Centrarchidae) are in the assemblage. Four otoliths

of largemouth bass (*Micropterus salmoides*) were recovered in Pits G and I between 90 and 110 cm. Two otoliths of crappie (*Pomoxis* sp.) were in Pit I between 90 and 100 cm. An otolith of longear sunfish (*Lepomis megalotis*) was at 40 to 50 cm and an otolith of bluegill sunfish (*Lepomis macrochirus*) was at 120 to 130 cm in Pit I. In addition, sunfish (*Lepomis* sp.) are represented by 2 otoliths, an atlas, 22 dorsal spines, 12 anal spines, and 4 pelvic spines. These were recovered in Pits G, I, and J between 40 and 130 cm.

Unidentified fish remains are 135 elements which are mostly vertebrae with a few other bones. Most of the vertebrae are small with some centra as small as 1 mm in diameter. Most of these are comparable to sunfish bones and are probably of one or more of the above varieties.

Reptiles:

The only evidence of the alligator (*Alligator mississippiensis*) was a dermal bone which came from 80 to 90 cm in Pit C.

Turtle bones that were recovered consist of fragments of plastron and carapace.

Three bones of stinkpot (*Sternotherus odoratus*) were in Pit I between 70 and 100 cm. Five bones of mud turtle (*Kinosternon* sp.) were in Pit G between 70 and 80 cm and in Pit I from the surface to 120 cm.

There were 12 bones of box turtles (*Terrapene* sp.) in Pit B between 50 and 60 cm and in Pit I from 50 to 120 cm.

Six slider (*Trachemys scripta*) bones were in Pit I between 70 and 110 cm.

The only fragment of bone of softshell (*Trionyx* sp.) was found in Pit I between 80 and 90 cm.

Pits D, G, I, and J yielded 50 turtle bone fragments that were not identified, but they are not considered to be of any species other than the above.

The only lizard bone was a vertebra of a green anole (*Anolis carolinensis*) which was below 100 cm in Pit G.

Twenty vertebrae of snakes were recovered in Pit G from 100 to 110 cm and in Pits I and J from 40 to 100 cm. This includes one vertebra each from racer (*Coluber constrictor*), rat snake (*Elaphe* sp.), water snake (*Nerodia* sp.), garter snake (*Thamnophis* sp.), brown snake (*Storeria dekayi*), western diamondback rattlesnake (*Crotalus atrox*), and copperhead (*Agkistrodon contortrix*), as well as 16 from unidentified snakes.

Birds:

Only two bird bones were recognized. One from Pit E, between 40 and 50 cm, is a toe bone that matches a phalanx of the yellow-crowned night heron (*Nyctanassa violacea*) but could be of another similar bird. The other bird bone is a humerus of a domestic chicken (*Gallus domesticus*) near the surface in Pit A.

Mammals:

Four rodents are represented in the bones.

Attwater's pocket gopher (*Geomys attwateri*) bones are 2 skulls, 4 mandibles, 2 lower incisors, 1 upper incisor, 1 cheek tooth, 2 scapulae, 4 humeri, 3 radii, 2 ulnae, 11 vertebrae, 4 ribs, 1 innominate, 4 femora, 2 tibiae, and 2 phalanges. These were recovered from six pits from 20 to 120 cm. Most of the bones (32) are from a single individual in Pit D at 20 to 30 cm and are not eroded as are most of the bones in the assemblage.

Hispid cotton rat (*Sigmodon hispidus*) bones consist of a mandible, a lower incisor, 2 molars, 3 femora, a tibia, a caudal vertebra, and 2 phalanges. They came from Pits G, I, and J between 50 and 100 cm.

The vole (*Microtus ochrogaster* or *M. pinetorum*) bones are 2 molars from 80 to 110 cm in Pit I. The particular species of vole can not be determined from this material, but, based on the probable nature of the habitat at the time of the deposit and the requirements of the varieties, these teeth are probably of the extinct *Microtus ochrogaster ludovicianus*.

The uncertain mouse bones, which are from either the pigmy mouse (*Baiomys taylori*) or a harvest mouse (*Reithrodontomys* sp.), are from Pit I from 40 to 80 cm and consist of an edentulous mandible without the coronoid process, part of an innominate, and an incisor.

Two ungulates are included in the collection.

White-tailed deer (*Odocoileus virginianus*) bones were found in seven pits from 10 to 110 cm. The elements included are 2 teeth, petrous bone, humerus, 2 radii, 2 metacarpals, vertebra, 2 metatarsals, 3 metapodials, and 5 phalanges.

Two thoracic vertebrae and a phalanx are probably from bison (*Bison bison*) rather than domestic cow (*Bos taurus*) since they are badly eroded and probably have been in the ground longer than domestic cows have been in the area. These 3 bones came from near the surface down to 50 cm.

Nearly 250 fragments could not be identified but they are probably mostly from deer. They came from all pits at all levels which included bones.

Discussion

With the exception of the vole and the bison, all identified animals are known to exist in Wharton County today. The vole became extinct in the coastal prairies within recent times but apparently was not uncommon in prehistoric times (McClure 1989). The bison was present in the area during the Late Prehistoric period.

The information recovered from the finer-mesh screens added significant data for this site. Without the recovery of the lead shot at near the bottom of the excavation and the modern seeds at all depths, the extent of disturbance would not have been as evident. These items could have fallen into the depths of the pits from higher levels during the excavation process, but the quantity and distribution of the seeds suggests otherwise.

The recovery of many uneroded bones of a single pocket gopher at one level along with a few bones at other depths reveals the probable main disturbing agent. The chicken wing bone in an upper level reveals a visit to the site by people in recent times rather than during the prehistoric occupation.

In spite of the disturbance the material recovered is of such quantity that some conclusions relative to diet can be drawn.

Conclusions

The occupants of the site consumed clams, deer, turtles, snakes, and fish at all times during the Archaic through the Late Prehistoric periods. Bison were added to the diet when they were available during the latter part of the sequence. Small mammals and perhaps alligators and birds were added on occasion. Some of the fish and snakes were very small, which suggests that people were consuming anything that they could catch.

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