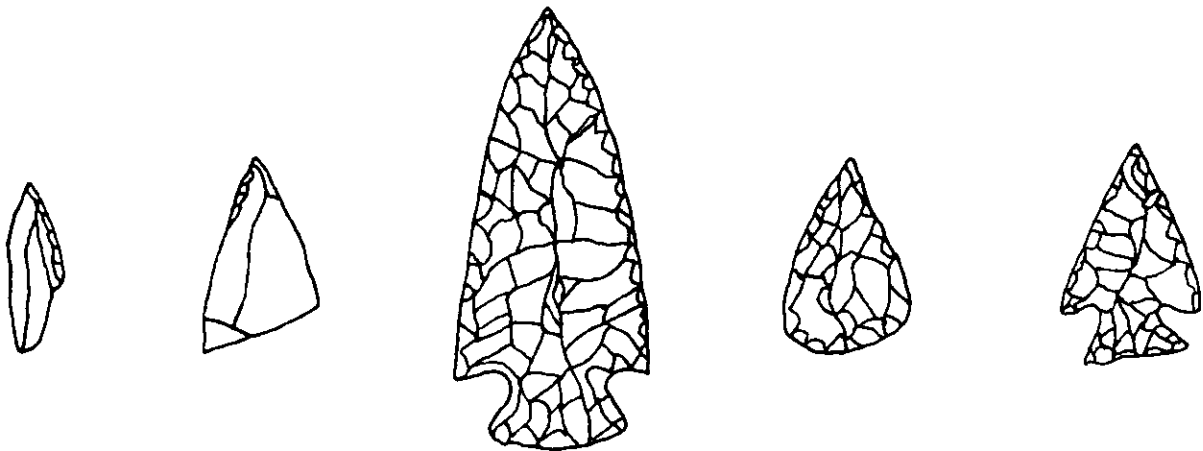




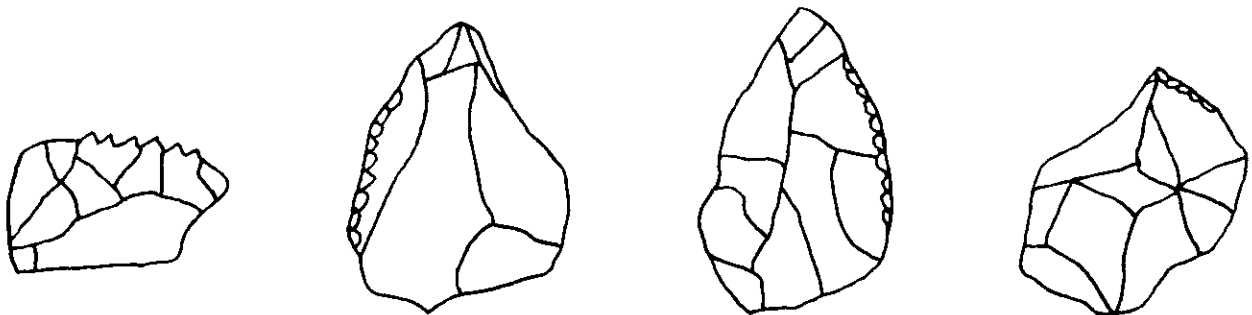
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Excavations at the Kolojaco Site, 41WH21, Wharton Co., Texas

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Introduction

This paper gives the results of excavations at site 41WH21 in eastern Wharton County, Texas. Excavations were done by the Houston Archeological Society in the fall of 1994 and the spring of 1995. The site was discovered and recorded for state records of the Texas Archeological Research Laboratory by Joe Hudgins. Work at this location was made possible through the courtesy of the landowner, Raymond Kolojaco.

Field work was directed by Joe Hudgins, the HAS Field Director. Individuals who participated in excavation work include Charles Boyle, Bill Csanyi, Richey Ebersole, Phil Endlick, Cheryl Faber, Dick Gregg, Sue Hamblin, Joe Hudgins, Bill Just, Sheldon Kindall, Ray McCausland, Don McReynolds, Bev Mendenhall, Bernard Naman, Allen Oravetz, Etta Palmer, Tom Palmer, Lee Patterson, Lenore Psencik, Gary Ryman, Jerry Sadler, Bob Shelby, Jeanette Siciliano, Muriel Walker, Jim Wells, Roy Whitney, and Gina Williamson. Site mapping and field records were handled by Sheldon Kindall.

Site 41WH21 is located on a terrace about 100 feet from a small lake in a wooded area. The general area is a mixture of woodlands and coastal prairie. A variety of faunal and floral food resources would have been available for the prehistoric occupants of this site. Results of excavations show that this site has an occupation sequence from the Middle Archaic through the Late Prehistoric time periods, a time interval of about 6500 years. This location was a seasonal campsite of nomadic hunter-gatherers. The large quantity of fired clayballs found here for all time periods may indicate processing of some seasonally available plant foods by roasting.

Excavation Details

A layout of excavations at site 41WH21 is shown in Figure 1. Seven one-meter-square pits were excavated in a rectangular area of 7 by 15 meters (105 square meters). The total site area may be larger, but possibly not to the south, where cultural stratigraphy was not deep. Excavation work was slow, due to the difficult nature of the soil. All soil was put through 1/4-inch (6 mm) mesh screens, except for soil samples reserved for fine screen processing. The top levels of Pits A to E were screened dry, which was very difficult because of the sticky nature of the "black gumbo" soil. Screening was then changed to water screening at the lake shoreline, using a small gasoline-powered water pump. This change in procedure greatly improved operations, and resulted in higher recovery of small chert flakes and bone pieces.

Little natural stratigraphy can be observed at this site. Soil in most excavated strata was a dense dark brown sandy loam, locally called "black gumbo." Soil color became somewhat lighter at a depth of about 90 cm, but the lighter colored soil was even more difficult to dig than the dark soil at higher levels.

Samples of soil from various levels were reserved for analyses using finer-mesh screens. The soil was allowed to dry. It was then immersed in water until the cohesiveness of the finer fraction of the soil was released. The soil was then passed through a 20-mesh screen so that the coarser fraction was retained. The residue was dried and then examined under a binocular microscope.

Other than a few quartz grains, all the soil passed through the screens. Thus the matrix is fine sand and silt with no clay. Inclusions within the soil were ash, tiny ferruginous nodules, small fired clayballs, plant parts, tiny chert chips, burned bone fragments, and small amorphous lumps

of soil particles. Many of these inclusions are coated with a substance that appears to be grease that has been oxidized, perhaps by exposure to fire. This substance has adhered to some of the inclusions along with soil particles so that some of the characteristics of the bone fragments are obscured. There are no unburned bone fragments but some of the bones that were calcined do not have the coating. Whether the bones were burned during food processing, when thrown into a fire, when a fire was lighted above the deposited bones, or when wildfire occurred can not be determined. It is probable that soil chemicals destroyed any unburned bones. The majority of the bone fragments have had the corners of the fracture rounded as though having been tumbled about. Whether this occurred as the bones were crushed in food preparation, during passage through an alimentary canal, by pedestrian impact, or just in the soil during centuries of bioturbation can not be determined. The coating happened after the rounding of corners. The coating also appears on some of the plant parts. The small lumps of soil appear to have been partially fused together due to heat or the unknown coating substance. The character of the inclusions within the soil are consistent through depth and across the site. Thus, there must have been a continual and relatively unchanging process at the site through time. If there were differences, they have been obscured by bioturbation as vertebrate and invertebrate organisms brought soil, with the small inclusions, to the surface through the centuries.

Projectile Points

A summary of projectile points and dart point preforms from site 41WH21 is given in Table 1, and some of these artifacts are illustrated in Figures 2 and 3. The Late Prehistoric period (A.D. 600-1500) is represented by two Scallorn bifacial arrow points and a stemless bifacial arrow point found in the 5-10 cm excavation stratum, a Scallorn point stem in the 15-20 cm stratum, and by a Scallorn arrow point in the 35-40 cm stratum. The arrow points from the 5-10 cm stratum are at the interface with modern materials, such as glass. This stratigraphic position again demonstrates the late use of the Scallorn point in the last part of the Late Prehistoric period, or perhaps even Protohistoric (A.D. 1500-1700), unlike the Scallorn-Perdiz arrow point time sequence in Central Texas (Patterson 1991a). A Scallorn point in the uppermost stratum of site 41WH19 is associated with a radiocarbon date of A.D. 1585 \pm 80 (Patterson et al. 1987:9). Major bifacial arrow point types do not have a demonstrated serial sequence in Southeast Texas, with Scallorn, Alba, Perdiz, and Catahoula points being used concurrently throughout the Late Prehistoric. The Scallorn arrow point found in the 35-40 cm stratum of Pit C was probably displaced downward by human burial fill disturbance. A straight-sided dart point stem (Kent?) and a dart point preform found in the 10-15 cm stratum represent the concurrent use of the spear and bow and arrow in the Late Prehistoric period in inland Southeast Texas (Aten 1983:306; Patterson 1980). It is estimated that the Late Prehistoric period at this site occupies a stratigraphic position of 5-30 cm depth.

An Ellis dart point (Figure 2E) found in Pit C (30-35 cm) represents the Early Ceramic period (A.D. 100-600) at this site. Ellis points are found in both the Late Archaic (1500 B.C.-A.D. 100) and Early Ceramic periods in Southeast Texas (Patterson 1991b). The Ellis point specimen at this site may have been disturbed by burials in Pit C, but in any event is likely to be from the Early Ceramic period, which is estimated to occupy a stratigraphic position of 30-45 cm. Exact temporal placement of each 5 cm stratum at this site is difficult because time-diagnostic projectile point types were not found in all strata. Two dart point fragments and a preform fragment found in the 35-40 cm stratum are also from the Early Ceramic time period.

It is estimated that the Late Archaic period (1500 B.C.-A.D. 100) occupies a stratigraphic position of roughly 45-65 cm. Dart point fragments were found at 45-50 and 60-65 cm, and two preform fragments were found at 45-50 cm. A large early stage dart point preform (Figure 3A) was

also found in the 45-50 cm stratum.

The Middle Archaic period (3000-1500 B.C.) is represented by a Bulverde dart point (Figure 2F) in the 70-75 cm stratum. Dart point fragments found at 65-70 cm and 85-90 cm may also be from the Middle Archaic period. Judged by the depth of stratigraphy containing cultural materials below the Bulverde point (75-105 cm), there is a possibility that occupation of this site started in the Early Archaic period (5000-3000 B.C.), but there are no time-diagnostic artifacts to demonstrate occupation before the Middle Archaic period.

Three unifacial arrow points (Figure 3) were found at site 41WH21, all in excavation strata earlier than the Late Prehistoric period. Unifacial arrow points at 30-35 cm and 40-45 cm are judged to be from the Early Ceramic period, and a unifacial arrow point at 60-65 cm appears to be from the Late Archaic period. Unifacial arrow points start earlier than standardized bifacial arrow point types in Southeast Texas, possibly as early as about 2000 B.C. (Patterson 1980, 1992).

Ceramics

A total of 449 potsherds were found at site 41WH21, including 11 (2.4%) Goose Creek Incised sherds, and 438 (97.6%) Goose Creek Plain sherds. Stratigraphic positions of excavated potsherds are summarized in Table 2. Details of incised sherds are given in Table 3, and some incised sherds are illustrated in Figure 4. Decorative patterns of incised sherds are all simple linear designs.

It is judged that a few potsherds found below 45 cm represent stratigraphic mixing, because only two of seven pits had pottery below 45 cm. This is especially true of Pit H, where intrusive burial disturbance is likely.

All pottery at this site has been classified as of the Goose Creek sandy paste type. Coarse sand particles in the pottery paste are like those in O'Neal Plain, variety Conway (Aten 1983:238), where coarse sand has been added as temper. However, at site 41WH21 the coarse sand appears to be a natural occurrence in the clay, rather than added temper. Fired clayballs at site 41WH21 also contain coarse sand particles. This situation is the same as for nearby site 41WH72 (Patterson et al. 1995), where coarse sand was also found in both potsherds and fired clayballs.

General Lithics

Lithic tools from this site are summarized in Table 4. As with most sites in Southeast Texas, few formal unifacial stone tools were found here. The unmodified utilized flake was the dominant tool type in this region. Formal types of unifacial tools at site 41WH21 include two graters, and a denticulate. The five specimens shown in Table 4 as scrapers have edge use-wear from scraping rather than purposeful edge retouch. The specimen classified as a cutter is also a utilized flake with a distinctive pattern of edge use-wear from cutting. An analysis for edge wear was not done for all of the lithic flakes from this site. Scraping and cutting edge use-wear patterns have been illustrated by Tringham et al. (1974).

A total of 1812 chert flakes were found at 41WH21, as summarized in Table 5. This shows only a modest amount of lithic manufacturing at this site. There is evidence of heat treatment on many flakes, in the form of waxy luster, reddish coloration, and small potlid surface fractures. Flake size distributions for each excavation stratum are given in Table 6. There is a significant increase in percentages of flakes under 15 mm square for excavation levels below 50 cm. This is because water screening of soil was not started until the 50 cm excavation level in Pits A to D. Therefore, only flake size distributions below 50 cm excavation levels are representative of actual lithic manufacturing patterns.

All of the flake size distributions of 5-cm strata between 50 cm and 90 cm are typical for bifacial reduction in the production of dart points from flake blanks. The main portion of each flake size distribution curve is linear or nearly linear when plotted with a logarithmic scale for percent of flakes versus a linear scale for flake size, as would be expected for bifacial reduction (Patterson 1990). A typical plot of this type is shown in Figure 5 for flake size distribution of the 70-75 cm stratum of 41WH21.

Most lithic manufacturing at this site was done using imported flake blanks to make bifacial projectile points. There is little evidence of any primary reduction of chert cobbles here. Primary reduction of chert cobbles to produce flake blanks was done at lithic sources, which permits testing of materials and reduces transport weight and volume. One indication that highly trimmed chert pieces were being brought to this site is the small percentage of flakes with remaining cortex. For flakes larger than 15 mm square, there are 4% primary flakes (covered with cortex), 13.1% secondary flakes (partially covered with cortex), and 82.9% interior flakes (no remaining cortex). Only three small chert cores were found, which is another indication of little primary reduction of chert cobbles at this location. One core specimen has a diameter of 30 mm, another core is 35 mm in diameter, and a third core has dimensions of 57 by 33 by 20 mm. Only four thick chert pieces were found, none of large size.

Chert cobbles can be found in the Colorado and Brazos Rivers, at about equal distances from site 41WH21. Chert cobbles from the Brazos River are small, generally under 60 mm in length, with a few up to 80 mm in length. Large chert cobbles can be found in the Colorado River drainage system at Eagle Lake and upstream, with many cobbles over 150 mm in length. A chert cobble found in Pit D (25-30 cm) has dimensions of 97 by 89 by 58 mm, and appears to be from a Colorado River source. Because cherts from the Colorado and Brazos Rivers have similar appearances, size of cobbles and flakes is the main indicator of chert source, unless trace element analysis is done. At present, there are no data for trace element analysis of cherts from various sources in Southeast Texas.

A second chert cobble was found in Pit D (95-100 cm) with dimensions of 67 by 31 by 30 mm. Perhaps chert cobbles were used at this site as hammers to break bone for marrow extraction. As noted above, chert cobbles are too heavy and bulky for efficient transport to a site for subsequent reduction in lithic manufacturing.

Fired Clayballs

A total of 7134 fired clayballs were recovered in excavations at site 41WH21, as summarized in Table 7. Clayball sizes ranged from 15 mm to 80 mm in diameter, with an average weight of 6.7 gm each. Clayballs were used as heating elements in earth ovens. Hudgins (1993) has cooked meat with clayballs, and has demonstrated experimentally that clayballs retain heat for a long period. Because clayballs occur at only a small fraction of inland sites in Southeast Texas, it has been proposed (Patterson 1989) that clayballs may have been used for seasonal processing of certain plant foods.

Modern Materials

Small pieces of modern materials were found in some pits at levels of 0-10 cm. Small pieces of glass were found in Pit C (0-5 cm and 5-10 cm), Pit A (5-10 cm), and Pit F (5-10 cm). Two small pieces of iron were found in Pit H (0-5 cm). Thus, the 5-10 cm stratum appears to be the interface between the Late Prehistoric or Protohistoric and modern time. Few Indian artifacts were found in the 0-5 cm stratum.

