TENNESSEE ARCHAEOLOGY

Volume 3 Spring 2008 Number 1

Tennessee Archaeology is published semi-annually in electronic print format by the Tennessee Council for Professional Archaeology.

Correspondence about manuscripts for the journal should be addressed to Michael C. Moore, Tennessee Division of Archaeology, Cole Building #3, 1216 Foster Avenue, Nashville TN 37243.

TENNESSEE ARCHAEOLOGY

VOLUME 3 Spring 2008 NUMBER 1

On the Cover: Human effigy bowl from Travellers' Rest, Courtesy, Aaron Deter-Wolf

EDITORS CORNER

Welcome to the fifth issue of *Tennessee Archaeology*. The editors are proud to report that over 6400 visitors have enjoyed the articles and research reports presented in the journal since the first issue was posted electronically on August 13, 2004. We should note this count only includes direct hits to the issue index pages. Individual hits on journal issues and articles using search engines are not counted. We look to be in relatively good shape for the upcoming Volume 3, Issue 2, and have a promised special issue for Volume 4. However, we are continually in need of submissions for future issues, and request that you consider sending us an article or research report.

The time since our last issue has been one of change and loss in the archaeological community. We should first report that George F. "Nick" Fielder stepped down as State Archaeologist and Director of the Tennessee Division of Archaeology on January 16, 2007 after 24 years of service in that position. Department of Environment and Conservation Commissioner James Fyke appointed Michael C. Moore as State Archaeologist on April 1, 2007.

Steve Spears (far right) and Nick Fielder (far left) in a crew photo from the Sam Davis Home Archaeological Project in 1975.

We must also note the loss of some important folks in the past year. One of the articles in this issue is co-authored by the editorial coordinators with lead author Walter Steven "Steve" Spears (posthumously). Steve passed away unexpectedly on June 15, 2007 at the age of 52. Steve graduated from the University of Tennessee and worked on numerous archaeological projects for the University of Tennessee and Tennessee Division of Archaeology. During his employment with the Division, Steve directed the SR-52 Celina Bridge, Spencer Youth Center, and SR-42 Algood field projects. He participated in many other Division investigations as well, including the SR-1 Woodbury, Fernvale, Special Needs Prison, Paleoindian site survey, Elk River survey, Cumberland Plateau rockshelter survey, and Coats-Hines Mastodon projects. Steve's incredible skills atop a backhoe remain legendary – he could tease the plowzone from the top of a feature without lifting the smallest flake from good context. Perhaps most importantly, we remember Steve's love of Tennessee archaeology, his good-natured personality, and his friendship. He will be sorely missed.

We are also sad to report the untimely passing of James V. Miller on April 11, 2008 at the age of 68. James was one of Middle Tennessee's most passionate and engaged avocational archaeologists. Born July 3, 1939 in Lebanon, James graduated from McClain School -- Lebanon's first public school – in 1953. He graduated from Castle

Heights Military Academy in 1957 and then continued his education at David Lipscomb University, where he graduated in 1961. His fascination with the history of his hometown also became his career as he was employed as a history teacher at Lebanon High School for 30 years where he shared his passion for the past with countless students. Whether giving a presentation on the Civil War or Mississippian mound sites, James always focused on the people and their stories rather than simply dates or objects.

James Miller (far right) at the McClung Museum ceremony unveiling the "Sandy" statue stamp (2004)

James is perhaps best known to the archaeological community for his devotion to the Sellars Farm State Archaeological Area and in developing the prehistory exhibits at the museum in Lebanon. His research on Mississippian stone statuary (mostly from Tennessee) is slated to be published by the University of Alabama Press later this year. James' legacy is his passion and dedication to the preservation of Middle Tennessee archaeological sites, and his devotion to publicizing their importance.

As a final note, we extend our sincere appreciation to the contributing authors, as well as the many scholars who provided professional assistance with timely and thorough reviews of submitted articles and research reports. This journal would not be possible without these individuals.

EARLY MISSISSIPPIAN SETTLEMENT OF THE NASHVILLE BASIN: ARCHAEOLOGICAL EXCAVATIONS AT THE SPENCER SITE, 40DV191

W. Steven Spears, Michael C. Moore, and Kevin E. Smith

Salvage excavations at the Spencer site in Nashville recorded evidence of an early (and possibly emergent) Mississippian period occupation. Radiocarbon assays from selected structures and features date the primary site occupation between A.D. 900 to 1150. The shell-tempered wares from Spencer favorably compare with ceramic assemblages from other early Mississippian sites in the Middle Cumberland River valley. A small percentage of chert and limestone-tempered ceramics, along with a feature date of cal A.D. 403-567 (one-sigma), denote the presence of a Middle Woodland component.

The Tennessee Division of Archaeology conducted an archaeological salvage program at the Spencer site during the fall of 1989. This site, located just west of downtown Nashville, is named after a correctional facility for juvenile offenders (Spencer Youth Center) positioned about 100 meters north of the site area. The Spencer site was initially recorded in June of 1984 during archaeological investigations of the proposed Briley Parkway extension in Davidson County. Limited backhoe testing at that time revealed a section of what was interpreted as a Mississippian wall trench structure, as well as a small number of lithic and ceramic artifacts (Tennessee Division of Archaeology 1984). No additional excavations were performed as construction was routed around the site area.

During the summer of 1989, an assessment of proposed expansion plans at the Spencer Youth Center determined that 40DV191 would be completely destroyed by construction activity. A salvage program implemented between September and November of 1989 uncovered the remains of (at least) four structures, a variety of refuse-filled pits, and other cultural features (Moore et al. 1993). Calibrated radiocarbon assays from selected structures and pit features indicate the primary site occupation likely dates between A.D. 900 and A.D. 1150. These results provide intriguing evidence for early (possibly emergent) Mississippian groups within the Middle Cumberland River valley. The goal of this article is to present the results of the 40DV191 salvage work and provide a database for comparison with other study area sites.

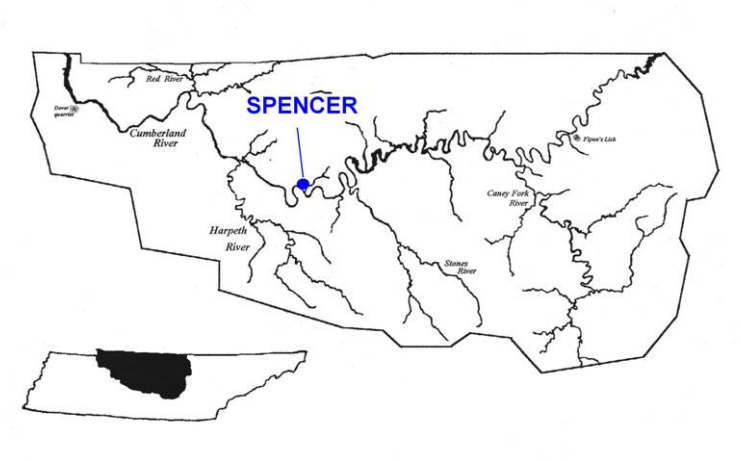

FIGURE 1. Location of the Spencer Site in the Middle Cumberland valley.

TABLE 1. Prehistoric Features (excluding postholes) from the 1989 Excavations.

Feature	Type	Comments
1	Trench?	Possible section of prehistoric trench? Roughly 30 cm in width.
7	Cremation	Middle Archaic. Circular basin with burned human bone fragments and Benton point.
12	Hearth	Shallow, basin-shaped with molded lip. Oval plan-view.
16	Pit	Shallow basin, oval in plan-view.
19	Pits	Cluster of overlapping basins. Lowe Cluster point and shell-temper ceramics in fill.
20	Pits	Small overlapping pits, initially defined as structure posts
21	Pit	Large oval with dense amount of daub.
26	Pit	Oval with round bottom.
28	Pit	Shallow, round-bottomed with circular plan view.
118	Pit	Shallow basin, round plan-view. Shell-temper ceramics (plain surface/cordmarked).
120	Pit	Basin-shaped with round plan view.
139	Pit	Large oval with basin-shaped profile.
140	Pit	Large oval with irregular profile.
158	Pit?	Small cylindrical feature that gradually tapers to flat bottom. Filled with mussel shell.
226	Hearth	Somewhat circular feature, moderate size, with burned limestone.
227	Midden	Localized area of dark soil with Lowe Cluster point and shell-temper ceramics.
245	Pit	Oval, tapers to pointed base, contained shell-temper ceramics.
246	Pit	Basin-shaped with circular to oval plan-view.
247	Pit	Round, shallow basin with burned limestone fragments. Shell-temper ceramics.
248	Trench?	Possible trench identified in Feature 1? Adena point in fill.
265	Pit	Round plan-view and basin-shaped profile.
270	Pit	Round to oval pit with basin-shaped profile.
271	Nut shells	Concentration of charred nutshell fragments.
301	Pit	Circular, basin-shaped with shell-temper and chert-temper ceramics.
302/303	Pits	Overlapping circular pits. Shell-temper plain and chert-temper cordmarked ceramics.
305	Vessel	Concentration of ceramic vessel fragments.
307	Hearth	Base of round, basin-shaped hearth.
308	Pit	Large, circular with basin-shaped profile. Shell-temper ceramics in fill.
309	Pit	Very large, circular, basin-shaped profile. Shell-temper ceramics and triangular arrow.

Investigation Results

Site 40DV191 was established on a gently sloping terrace roughly 1.0 km east of the Cumberland River (Figure 1). This terrace is part of a narrow, dissected ridge that runs between the Cumberland River and Whites Creek, a primary tributary that joins the Cumberland River about 2.0 km south of the site. The site elevation is 430 ft. AMSL, although the ridge system rises to a maximum elevation of 480 ft. AMSL roughly 800 meters to the southeast.

The 1989 investigations began with a series of backhoe trenches, followed by the excavation of mechanically stripped blocks and hand-excavated one meter square units in areas with evidence for intact cultural deposits. Most of the site area had been disturbed by previous earthmoving activities. However, the excavations did reveal the presence of prehistoric structures, refuse-filled pits, and postholes. Feature fill was screened through 1/4" wire mesh in the field, with soil samples from each feature collected for additional laboratory analysis. Charcoal samples for radiocarbon dating were procured when possible.

Three basic stratigraphic zones were defined during the Spencer excavations. A plow zone 0 to 40 cm deep was observed in all excavation units across the site area. This disturbed layer generally consisted of light brown to brown silty loam that contained a sparse amount of cultural material. The second stratum consisted of a more compact, reddish-brown clay loam roughly 40 to 60 cm below surface. This layer contained a sparse amount of cultural material and possibly represents a remnant of intact midden.

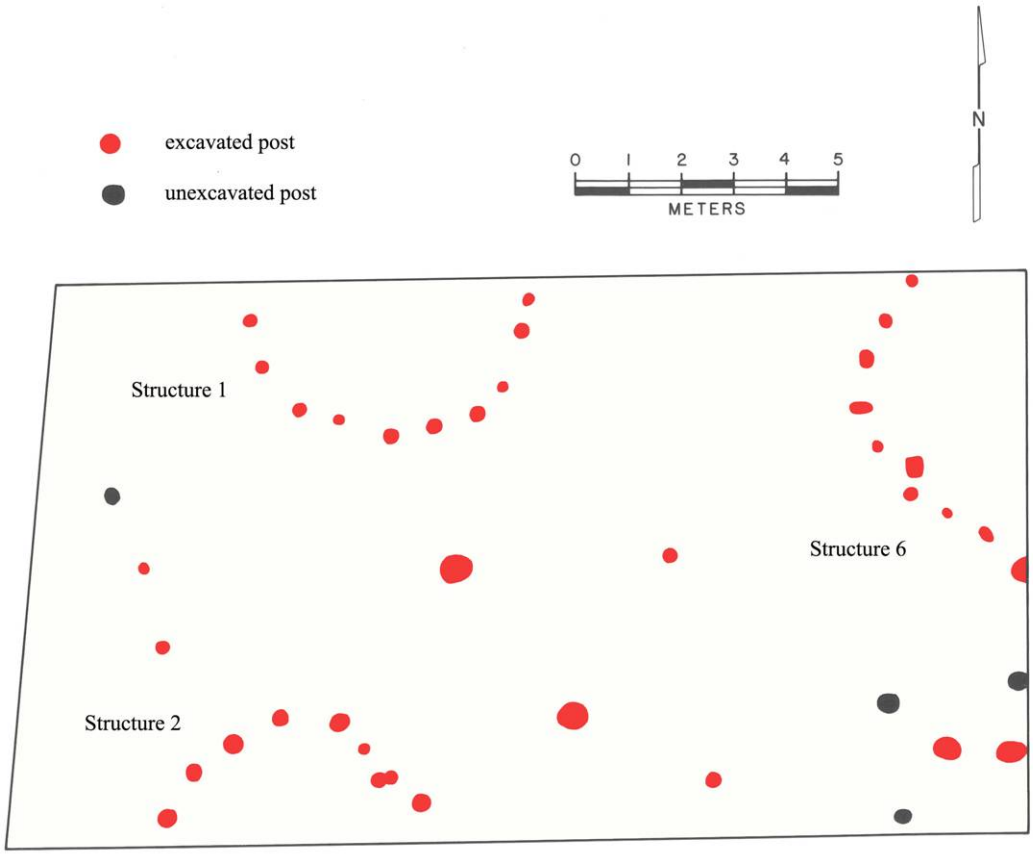

FIGURE 2. Structures 1, 2, and 6.

The third identified stratigraphic zone comprised a sterile, yellow clay subsoil at roughly 60 cm below ground surface.

Features

Over 300 (n=309) feature numbers were assigned in the field during the 1989 investigations. An additional 14 features (Features 1001-1014) were observed (but not excavated) during grading activity prior to facility construction. Features determined to be prehistoric or potentially prehistoric in origin (excluding postholes) have been summarized in Table 1.

Structures

Six structures were designated during the 1989 excavations. Structures 1, 2, 3, and 6 were identified by clearly visible post patterns. Structure 4 (initially denoted as Feature 5) was defined by a somewhat square, burned depression measuring roughly four meters on a side. A feature cluster in the southern site area was designated as Structure 5 in the field, but subsequent investigations did not support this initial interpretation.

Structure 1. Roughly one-half of Structure 1 was exposed during the site exploration (Figure 2). This probable circular

structure measured 5.0 meters in diameter. The ten exterior posts (Features 89-98) displayed a rather dispersed post interval of about one meter. The absence of a floor, interior pit features, and artifacts strongly suggests that the majority of the structure was removed during prior earthmoving activities. A wood charcoal sample from Feature 89 (Tx-6805) yielded a corrected radiocarbon date of cal A.D.

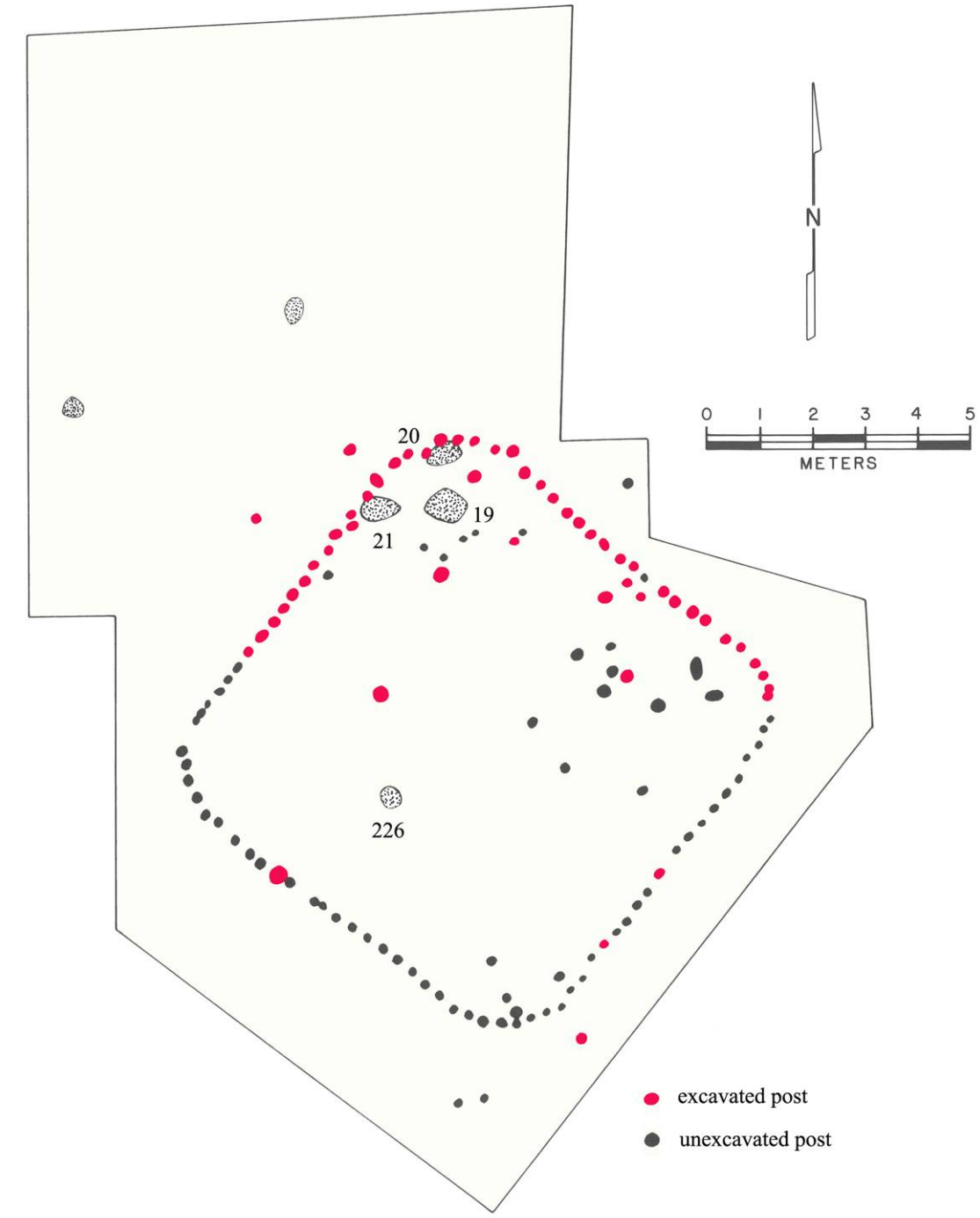

FIGURE 3. Structure 3.

865-1021 (one sigma) and cal A.D. 766-1049 (two sigma). No artifacts were recovered from this structure.

Structure 2. A partial section of Structure 2 was uncovered 5.5 meters south of Structure 1 (see Figure 2). This structure displayed a post framework measuring 2.5 meters north to south and 5.0 meters east to west. The post intervals (Features 109-117) were approximately one meter. The plan of this structure, originally thought to be circular to oval in the field, actually appears to be square. Similar to Structure 1, no living surface or cultural features were recorded within the structure interior. One posthole (Feature 112) yielded three Mississippi Plain sherds. Five other postholes (Features 109, 111, 113, 114, and 115) contained a small amount of lithic debris.

Structure 3. Structure 3 was completely exposed roughly 13 meters west of Structure 1 (Figure 3). This very large, square building was defined by a pattern of 93 posts (Features 35-39, 42-47, 50-58, 69-72, 84, 132-133, 144-145, and 160-223), with straight walls and rounded corners. Each wall measured about 8.5 meters long, with post intervals generally 20 cm apart. Wall trenches were not evident. Each exterior post was exposed and mapped, but only 50% were excavated due to time constraints. Additional postholes (Features 30-32, 40-41, 51, 59-60, 62-68, 71, 87, 250-259) and several pit features (Features 19-21) were also recorded within the structure interior.

As with Structures 1 and 2, previous earthmoving activities appear to have removed any evidence of a living surface from Structure 3. However, the base of a possible hearth (Feature 226) recorded just west of the structure center was identified by a roughly circular/oval stain measuring 100 cm by 80 cm. Lithic debris and several small fragments of burned limestone were among the artifacts recovered from this feature.

Three pit features (Features 19, 20, and 21) present near the northern corner of the structure probably pre-date Structure 3. Feature 19 comprised a series of refuse filled, basin-shaped pits which yielded a Woodland projectile point and several shell-tempered ceramic sherds. Two overlapping small pits within the extreme north corner of the structure defined Feature 20. A radiocarbon sample submitted from Feature 58 to date an exterior wall post actually yielded a Middle Woodland date for Feature 20. Feature 21 was a roughly oval, basin-shaped pit containing daub and a small amount of lithic debris.

The large size of Structure 3 remains an intriguing factor to ponder. The square with rounded corners plan-view defines this structure as Mississippian in age, although domestic structures from Middle Cumberland Mississippian sites generally do not exceed five to six meters in length (Barker 2005; Jones 2001; Klippel and Bass 1984; Moore 2005; Moore and Smith 2001; Moore et al. 2006; Smith and Moore 1994). The lack of interior features and general paucity of domestic artifacts support the idea that Structure 3 is a public building. A building of similar size and character was recently exposed at the Castalian Springs site (40SU14) in Sumner County (Smith and Beahm 2007).

Structure 4. A depressed area of dark, slightly reddish soil measuring 4.3 meters (north to south) by 4.0 meters (east to west) was initially designated Feature 5 but later redefined as Structure 4. Two postholes, one each near the northwest (Feature 272) and northeast (Feature 274) corners of the dark soil, may be associated with this probable building. A shallow, circular, basin-shaped hearth (Feature 307) was recorded in the de-

FIGURE 4. Shell temper cordmarked body sherd.

pression center. Two circular pit features (Features 265 and 270) occur immediately east of the hearth. Part of a Mississippi Plain jar with a flattened loop handle (Feature 305) was recovered near the southwest corner. Other cultural materials recovered from the general depression area include a variety of shell-tempered and chert-tempered wares, along with charred nutshell (hickory and acorn) and maize.

Structure 6. Structure 6, recorded 6.0 meters east of Structure 1, was defined by a partial pattern of ten posts (Features 99-108). The exposed portion of the structure long axis measured 4.0 meters northwest to southeast (see Figure 2). The southwest to northeast axis measured 3.5 meters in length. A post interval of about one meter favorably compares with that recorded for Structures 1 and 2. The excavations yielded no interior features, or any evidence of an intact living surface. A small amount of lithic debris was recovered from the postholes. Wood charcoal from one post (Feature 101) yielded corrected date ranges of cal A.D. 872-1171 (one sigma) and cal A.D. 765-1259 (two sigma).

Recovered Artifacts

Ceramics

An analysis of the modest ceramic samples obtained from the 1984 and 1989

TABLE 2. Ceramics from the 1984 and 1989 Excavations.

Provenience	Miss Plain	Bell Plain	Kimm FbrImp	Shell Incs	Shell Cord	Chert Plain	Chert Cord	Chert ChkStm	Lmstn Plain	Unid/No Tmpr	TOTAL
1984											
Gen Collection	6	1									7
Trench A	6										6
Trench B	1										1
Ms, Test A											
Level 1						1					1
Level 2	13										13
Ms. Test B											
Level 2	22	5									27
Level 4						1					1
Level 5						1					1
N300/E263/Lv2	1					4		1			6
N300/E264/Lv2	2					4					6
N300/E265/Lv1	1					1	1				3
N301/E264/Lv2										10	10
N301/E265/Lv2	7	2									9
N302/E264/Lv2	5	1						1			7
N302/E265/Lv2						1					1
1989											
Gen Collection	82	5			1	6			6		100
Test Unit 13	91	6	1		1	2		1			102
Feature 5	74	1			7	6		1			89
Feature 14	1					1					2
Feature 19	3										3
Feature 112	3										3
Feature 122	1										1
Feature 227	20	4									24
Feature 228						1					1
Feature 245	9	1									10
Feature 247	2										2
Feature 260	1										1
Feature 270	13					3					16
Feature 299	1										1
Feature 301	28				12						40
Feature 302	9		1	1							11
Feature 303	3					1		1			5
Feature 304	3					1					4
Feature 305	33	1									34
Feature 308	28	4	1		6						39
Feature 309	255	51		1	1					1	309
Feature 1004	4										4
Feature 1010	3	2									5
Feature 1011	2										2
Feature 1012	2										2
TOTAL	**735**	**84**	**3**	**2**	**28**	**34**	**1**	**5**	**6**	**11**	**909**

investigations identified Mississippian as well as Woodland pottery types (Table 2). Shell-tempered wares (plain, cordmarked, fabric-impressed, and incised) accounted for 93.7% (n=852) of the 40DV191 assemblage. Specimens tempered with chert and limestone comprised 5.1% (n=46) of the total assemblage. Just over 1% (1.2%; n=11) of the total assemblage consisted of sherds where a tempering agent was not present, or could not be identified.

Nearly 81% (n=735) of the recovered sherds were consistent with the (coarsely crushed shell-temper) type Mississippi Plain. This percentage increased to 86% when considering only the shell-tempered specimens. Small, rounded clay and grit particles observed within the clay matrix of roughly one-quarter of these sherds

were initially suggested to be additional temper additives. However, further review determined these particles to likely be natural components of the clay.

Bell Plain comprised 9.2% (n=84) of the total assemblage, increasing to 9.9% for the shell-temper sample. This result is higher than the percentage of fine-shell tempered sherds found at several early Mississippian sites within the study area, such as Sogom and Brandywine Pointe (Norton and Broster 2004; Smith and Moore 1994). It is important to mention, however, that this percentage is noticeably less than most of the later Middle Cumberland Mississippian occupations (Moore et al. 2006).

Shell-tempered cordmarked specimens represented 3.1% (n=28) of the total sherd assemblage and 3.3% of the shell-temper sample. These particular sherds derive from jars, and one specimen exhibits vertical cordmarking along the upper body and shoulder (Figure 4). Similar examples recovered from the Sogom site (Norton and Broster 2004) have been compared to McKee Island Cordmarked ware (Heimlich 1952).

The shell-tempered sample also includes three fabric-impressed pan sherds that favorably compare with the Kimmswick Fabric Impressed type. Completing the shell-temper sample are two sherds that exhibit a single broad, incised

FIGURE 5. Shell-tempered jar section with flattened loop handle (Feature 305).

FIGURE 6. Fabric-impressed sherds.

line. These particular specimens are somewhat comparable to Matthews Incised *var. Matthews*.

The Spencer Mississippian ceramic sample included 28 rim sherds representative of jar, pan, and bowl forms. Jars comprised the most represented form with 25 rims, followed by bowls (n=2), and pans (n=1). The vast majority of jar rims were direct (n=14) with slightly flattened to flattened lips. An additional direct rim displayed a folded lip. Excurvate (n=5), flared (n=3), and incurvate (n=1) specimens were also present. A single rim sherd with no visible temper from Feature 309 likely derived from a miniature jar. Loop (n=4), flattened loop (n=4), and single lug (n=1) handles are represented in the jar sample. All of the handles are simple forms without nodes, medial grooves, or other modifications. Figure 5 presents a shell-tempered jar section with a flattened loop handle retrieved from Feature 305.

The recovered bowl rim sherds denoted two different bowl forms. One sherd displayed a scalloped rim, whereas the other specimen derived from a standard bowl.

The fabric-impressed pan rim and two body sherds shown in Figure 6 exhibited the simple tight weaves previously defined in Middle Cumberland Mississippian assemblages (Moore 2005; Moore and Smith 2001; Smith and Moore 1996). No plain pan examples were present in the Spencer ceramic assemblage.

As mentioned above, chert and limestone-tempered sherds comprise a small

FIGURE 7. Clay pipe recovered during 1984 investigations.

percentage of the Spencer ceramic assemblage. The chert-tempered sample contained plain surface, cordmarked, and check-stamped specimens. Ceramics tempered with crushed chert comprise a poorly represented ware in the Middle Cumberland region, as previous investigations have recovered less than a handful of such sherds (Moore and Smith 1993; Moore et al. 1992).

Crushed limestone pottery generally represents the most common Woodland period ware from sites across the general study area (Anderson 1997; Moore 1999; Moore and Smith 1993; Moore et al. 1992). This is not the case at Spencer, as the six recovered sherds comprise less than 1.0% of the site ceramic assemblage, and only 13% of the ceramic sample not tempered with crushed mussel shell. The 40DV191 specimens displayed a compact paste with somewhat finely crushed limestone temper, and well-smoothed exterior and interior surfaces.

Three non-vessel artifacts were also present in the Spencer ceramic assemblage. Two specimens comprise trowel base fragments recovered from Features 301 and 309. The third artifact consists of an interesting elbow pipe found during the 1984 work (Figure 7). This rather large, yet squat specimen exhibits a smoothed exterior surface. No tempering agent could be discerned, but the paste does contain numerous grit particles that are likely a natural component of the clay. The pipe measures 67.4 mm long, 53.1 mm wide, and 63.6 mm high. The stem has an exterior orifice diameter of 38.4 mm and an interior orifice diameter of 23.9 mm in

FIGURE 8. Projectile Points.

diameter. Likewise, the bowl displays an exterior orifice diameter of 40.5 mm and an interior orifice diameter of 25.9 mm.

Lithics

The Spencer investigations retrieved a total of 4669 lithic artifacts. Most of these items represent by-products and debris created from the manufacture and/or maintenance of chipped stone artifacts (such as tested cobbles, cores, bifaces, flakes, and blocky debris). Also present in the assemblage was a modest inventory of tools (including projectile points, knives, drills, scrapers, and modified flakes). Site knappers were primarily using locally available resources from nearby streambeds, as shown by the smooth, waterworn cortex visible on many of the core fragments and flakes. Virtually all of the chipped stone assemblage from Spencer was made from Ft. Payne chert. This chert, usually opaque and fine-grain, can vary widely in texture and color. Much of the Ft. Payne material from Spencer displayed a blue color mottled with brown and/or tan.

Dover chert comprised the only identified non-local resource. This distinct material represents less than 1% (n=9) of the chipped stone sample. Most of these specimens were recovered from disturbed contexts. However, three flakes were retrieved from a Mississippian pit feature (Feature 309). Dover chert is often defined as a trade material originating from Stewart County, but additional outcrops have been observed in nearby Houston, Humphreys, and Hickman Counties (Smith and Broster 1993).

Identified projectile points cover virtu-

ally the entire prehistoric sequence (Table 3; Figure 8). These points include Harpeth River, Lost Lake, Big Sandy, Benton, Little Bear Creek, Adena Narrow Stemmed, Motley, Lowe Cluster, Hamilton, and Madison (Cambron and Hulse 1983; Justice 1987). Feature 7 contained a Benton point with cremated human remains and attests to Middle Archaic use of the site area. Most of the remaining identified projectile points derived from disturbed contexts and have little value for assessing intrasite settlement patterns. Also, several of the earlier points may be objects brought to the site as curiosities by later residents.

TABLE 3. Identified Projectile Points

Provenience	Point Type
General Surface	Big Sandy; Motley (2); Lowe Cluster; Bradley Spike; Hamilton (2)
Backhoe Trench B	Copena(?)
Backhoe Trench D	Madison
Backhoe Trench I	Little Bear Creek
Strip Block 6A	Harpeth River; Kirk Corner-Notched; Big Sandy
Strip Block 9	Madison
Strip Block 10	Little Bear Creek
Test Unit 12	Lowe Cluster; Benton(?)
Test Unit 13	Lowe Cluster
Feature 7	Benton
Feature 19	Lowe Cluster
Feature 227	Lowe Cluster
Feature 248	Adena Narrow Stemmed
Feature 309	Hamilton
Feature 1011	Swan Lake; Lowe Cluster

Faunal Remains

The Spencer site faunal assemblage consisted of 237 identified elements. Eleven mammal, eight bird, four reptile, one amphibian, and three fish species were represented in the sample (Table 4). A minimum of 39 individuals were defined, including human, white-tailed deer, raccoon, gray fox, vole, fox squirrel, gray squirrel, cottontail rabbit, chipmunk, common mole, opossum, sandhill crane, turkey, quail, duck, mallard, teal, hawk, poisonous and non-poisonous snakes, box turtle, bullfrog, bass, catfish, and redhorse fish. These species are representative of fauna previously identified from other sites across the study area (Moore et al. 2006).

Several elements had been culturally modified. One turkey ulna was worked into an awl. Interestingly, two separate fragments of this awl were found in two different pit features (Features 308 and 309). Also, a bird bone (unidentified) fragment was modified into a needle.

Over 85% of the identified faunal remains derived from Feature 309, a very large pit containing substantial amounts of Mississippian period ceramics. Virtually every species identified from the Spencer assemblage was represented in this particular feature. Aquatic waterfowl remains from Feature 309 provided important information regarding seasonal residence, as their presence supports a fall site occupation.

Botanical Remains

A variety of charred floral remains were recovered from the Spencer excavations (Table 5). Nine distinct species of tree were defined in the sample, including such bottomland and upland species as maple, persimmon, ash, honey locust, osage orange, mulberry, oak, and elm. One large grass species (cane) was also defined. Hickory, black walnut, and acorn comprise the nutshell species, with hickory by far the predominate species (nearly 75% of the sample). A persimmon seed fragment from Feature 309 represents the only wild fruit from the site.

TABLE 4. Identifiable vertebrate fauna.

		Features										
Species	**Gen Surf**	**7**	**270**	**302**	**303**	**308**	**309**	**Total**	**MNI**	**Burn**	**Cut**	**Mod**
Homo sapiens, Human		1*						1*	1	1*		
Odocoileus virginianus, Whitetailed deer			1	14		2	51	68	2	3	4	
Procyon lotor, Raccoon							1	1	1			
Urocyon cinereoargenteus Gray fox				1			8	9	2			
Microtus sp., Vole							4	4	3			
Sciurus niger, Fox squirrel				3			6	9	1	1		
Sciurus carolinensis, Gray squirrel				2			22	24	3	2		
Sylvilagus floridanus, Cottontail rabbit							19	19	1			
Tamais striatus, Chipmunk							2	2	1			
Scalopus aquaticus, Common mole							2	2	1			
Didelphis marsupialis, Opossum							3	3	1			
Passerine, Perching birds						1	5	6	1			
Grus canadensis, Sandhill crane							1	1	1			
Meleagris gallopavo, Wild turkey						1	6	7	1			
Colinus virginianus, Quail							2	2	1			
Anas sp., Duck							4	4	1			
Anas platyrhynchos, Mallard							1	1	1			
Anas cf. *crecca*, Teal							1	1	1			
Hawk spp.							4	4	1			
Unidentified bird	1						2	3	1			1
Colubridae, Nonpoisonous snake							3	3	1			
Viperidae, Poisonous snake				1			23	24	1			
Snake, unidentified							1	1	1			
Terrapene carolina, Box turtle				2		1	5	8	2			
Graptemys/Chrysemys sp., Pond terrapin					1			1	1			
Sternotherus odoratus, Stinkpot							1	1	1			
Rana catesbeiana, Bullfrog							5	5	1			
Centrarchidae, Bass family							1	1	1			
Ictalurus sp., Catfish							4	4	1			
Aplodinotus grunniens, Drumfish							1	1	1			
Moxostoma sp., Redhorse fish							1	1	1			
Fish, unidentified							16	16	1			
TOTAL	**1**	**1**	**1**	**23**	**1**	**5**	**205**	**237**	**39**	**7**	**4**	**2**

TABLE 5. Identified botanical species.

	Features									
Species	**5**	**58**	**109**	**122**	**247***	**301**	**302**	**303**	**304**	**309**
WOOD/CANE CHARCOAL (7.3g)										
Acer sp, Maple								1f		
Arundinaria sp, Cane	2f					1f	3f	1f		
Carya sp, Hickory	2f	1f			3f	4f	4f		4f	14f
Diospyros virginiana, Persimmon				1f		2f	1f			1f
Fraxinus sp, Ash	4f					1f	1f		2f	
Gleditsia triacanthos, Honey Locust									1f	
Maclura pomifera, Osage Orange					1f					3f
Morus rubra, Mulberry				1f						
Quercus sp, Oak	4f			3f	10f	3f	2f	3f	6f	10f
Ulmus sp, Elm							1f			1f
Bark	1f						4f			
Shrub								3f		
NUTSHELL										
Carya sp, Hickory	0.8g	<0.1g	0.1g	0.5g	<0.1g	0.5g	1.1g	0.1g	0.5g	11.0g
Juglans nigra, Black Walnut				0.1g			0.7g	<0.1g	<0.1g	3.0g
Quercus sp, Acorn	<0.1g					0.3g	0.2g		0.4g	0.1g
SEEDS/FRUITS										
Diospyros virginiana, Persimmon (<0.1g)										1f
Phaseolus vulgaris, Bean (<0.1g)						2f				
Zea mays, Maize (16.2g)										
cobs					1w			1f		
kernels	23f			5f	3f	2f	1w,47f	1w,18f	7f	100+f
Cupules	3f			3f	1w, 100+f		3w,3f	1f		5f

* 10% sample by weight (10.5g); w = whole; f = fragments; g = grams

TABLE 6. Measurements of Analyzed Maize.*

Provenience	Sample Type	Cupule Width	Cupule Length	Rachis Height	Glume Width	Wing Width	Estimated Row No.	Kernel Width	Kernel Thick	Kernel Height
Feature 247**	Cob frag	11.0	3.0	3.5	5.0	1.0	10			
		11.0	3.0	3.5	5.0	1.0	10			
	Cob frag	9.0	3.0	4.0	4.0	1.0	10			
		9.0	3.0	4.0	4.0	1.0	10			
	Cob frag	9.0	2.5	5.0	4.5	1.0	10			
		9.0	2.5	5.0	4.5	1.0	10			
	Cupule	8.0	3.5	4.0	3.5	0.5	10			
	Cupule	9.0	3.5	4.0	5.0	0.5	10			
	Cupule	8.0	1.0	4.0		1.0	10			
	Cupule	7.5	1.0	3.0	3.5	1.0	10			
	Cupule	8.0	2.5	4.0		1.5	10			
	Cupule	10.0	2.0	5.0		0.5	8			
	Cupule	8.8	1.5	4.5		1.0	10			
	Cupule	7.0	2.0	2.5	3.5	0.5	10			
	Cupule	8.0	1.5	4.0	3.0	0.5	10			
	Cupule	5.0	1.0	3.5	3.0	0.5	14			
	Cupule	6.0	1.0	4.0		1.0	12			
	Cupule	7.0	2.0	5.0		1.0	10			
	Cupule	7.0	2.0	2.0		0.5	12			
	Cupule	7.0	2.0	4.0		0.5	12			
	Cupule	6.5	1.0	3.5		0.5	12			
	Cupule	8.2	1.5	5.0		0.5	12			
	Cupule	9.0	1.5	4.0	4.0	0.5	10			
	Cupule	6.0	1.0	5.0	3.5	0.5	12			
	Cupule	7.0	1.0	5.0		0.5	12			
	Cupule	7.5	3.0	4.0	4.0	0.5	10			
	Cupule	9.0	1.5	5.5	4.0	1.0	10			
	Cupule	6.5	1.5	3.0		1.0	12			
	Cupule	7.0	2.0	4.0		0.5	10			
	Cupule	7.5	1.5	4.5		0.5	10			
	Cupule	7.0	1.0	3.0		0.5	10			
	Cupule	8.5	2.0	4.0		0.5	8			
	Cupule	9.0	2.0	5.0		0.5	12			
	Cupule	6.0	1.0	4.0		0.5	10			
	Cupule	10.0	2.0	5.0		0.5	10			
	Cupule	5.0	2.0	3.0	2.5	0.5	14			
	Cupule	8.0	2.0	4.5		1.0	10			
	Cupule	8.0	2.0	4.0		0.5	10			
	Cupule	7.5	1.0	4.0		1.0	10			
	Cupule	7.5	1.0	2.0		1.0	8			
	Cupule	8.0	2.0	4.5		1.0	10			
	Cupule	9.5	1.0	4.5		1.0	8			
	Cupule	7.0	1.0	3.0		1.0	10			
	Cupule	7.5	1.5	3.5		1.0	10			
	Cupule	6.5	3.0	4.5		0.5	12			
	Cupule	7.0	1.5	3.0		0.5	10			
	Cupule	7.0	1.5	4.0		0.5	12			
	Cupule	6.5	1.5	2.0		0.5	12			
	Cupule	8.0	2.0	3.0		1.0	10			
	Cupule	6.0	1.0	3.0		0.5	10			
	Cupule	6.0	1.5	3.0		0.5	12			
	Cupule	5.5	2.0	4.5		0.5	12			
	Cupule	7.5	1.5	4.0		0.5	10			
	Cupule	7.0	1.5	3.5		0.5	10			
	Cupule	6.0	1.5	5.0		0.5	12			
	Cupule	8.5	2.0	5.0		0.5	12			
	Cupule	4.8	1.0	3.5	3.0	0.5	14			
	Cupule	8.0	1.5	4.0		1.0	10			
	Cupule	7.5	2.0	3.0		0.5	10			
	Cupule	6.5	1.5	3.0		1.0	12			
	Cupule	7.0	3.0	3.0		1.0	10			
	Cupule	6.0	2.0	3.5		0.5	12			
	Cupule	6.5	1.0	3.5		1.0	10			
	Cupule	6.0	1.0	3.0		0.5	10			

Contnued….

* measurements in mm; ** 10% sample by weight

TABLE 6 (continued).

Provenience	Sample Type	Cupule Width	Cupule Length	Rachis Height	Glume Width	Wing Width	Estimated Row No.	Kernel Width	Kernel Thick	Kernel Height
Feature 247 (continued)**	Cupule	7.0	1.0	4.0		1.0	10			
	Cupule	6.0	1.5	3.5		1.0	10			
	Cupule	6.0	1.0	3.0		0.5	12			
	Cupule	8.0	1.5	3.0		0.5	10			
	Cupule	6.0	1.0	4.0		1.0	12			
	Cupule	5.0	1.5	2.5		0.5	14			
	Cupule	7.0	1.0	3.0		1.0	10			
	Cupule	5.0	2.0	2.0		0.5	12			
	Cupule	7.0	2.0	2.5		1.0	10			
	Cupule	6.5	1.5	3.0		0.5	10			
	Cupule	5.5	1.0	2.5		1.0	10			
	Cupule	6.8	2.0	2.5		0.5	10			
	Cupule	6.5	1.5	3.5		1.0	10			
	Cupule	7.0	1.5	2.0		0.5	12			
	Cupule	5.5	3.0	3.0		1.0	12			
	Cupule	6.5	1.5	3.5		0.5	12			
	Cupule	7.3	1.0	2.5		0.5	10			
	Cupule	5.5	1.5	3.0		0.5	12			
	Cupule	4.5	1.0	2.0		0.5	12			
	Cupule	7.0	1.0	2.5		0.5	8			
	Cupule	6.5	1.0	3.0		0.5	12			
	Cupule	6.0	1.5	3.0		0.5	12			
	Cupule	7.0	1.0	2.5		1.0	8			
	Cupule	5.5	1.5	4.0		0.5	12			
	Cupule	6.0	1.5	3.0		0.5	12			
	Cupule	6.0	1.0	2.5		0.5	10			
	Cupule	6.0	2.0	2.0		0.5	10			
	Cupule	6.0	2.0	2.5	3.0	0.5	10			
	Cupule	6.5	2.0	3.5		0.5	12			
	Cupule	5.5	1.5	3.0		0.5	12			
	Cupule	6.3	1.0	2.5		0.5	12			
	Cupule	4.8	1.0	2.0		0.5	14			
	Cupule	7.5	1.5	4.0	3.5	1.0	12			
	Cupule	5.3	1.0	2.5		0.5	14			
	Cupule	5.0	2.0	3.0		0.5	14			
Feature 302	Cupule	6.0	3.0	2.0		0.5	8			
	Cupule	6.0	1.0	3.5	4.0	0.5	12			
	Cupule	5.5	1.5	3.0		0.5	12			
	Kernel							5.7	3.0	4.0
Feature 303	Cob frag	4.8	0.5	2.0	3.0	0.5	14			
		4.5	1.0	2.0	3.0	0.5	14			
		4.0	0.5	2.0	3.0	0.5	14			
		4.8	1.0	2.0	3.0	0.5	14			
		4.5	1.0	2.5	3.0	0.5	14			
		4.5	1.0	2.5	3.0	0.5	14			
		4.3	1.0	2.5	2.5	0.5	14			
		4.2	1.0	2.5	2.5	0.5	14			
		4.0	1.0	2.5	3.0	0.5	14			
	Kernel							8.0	5.0	6.0
	Kernel							7.5	5.5	6.0
	Kernel							6.6	4.0	3.5
	Kernel							9.0	5.5	6.0
	Kernel							8.0	4.5	5.5
	Kernel							8.5	4.0	6.5
TOTAL		778.2	187.5	389.5	117.0	83.5	1264	53.5	31.5	37.5
RANGE		4.811	0.54	25.5	2.55	0.51.5	814	5.78.5	4.05.5	3.56.5
MEAN		6.8	1.6	3.4	3.5	0.7	11.1	7.6	4.5	5.4
% ROW 6.1% 8ROW 47.4% 10ROW 32.5% 12ROW 14.0% 14ROW										

* measurements in mm; ** 10% sample by weight

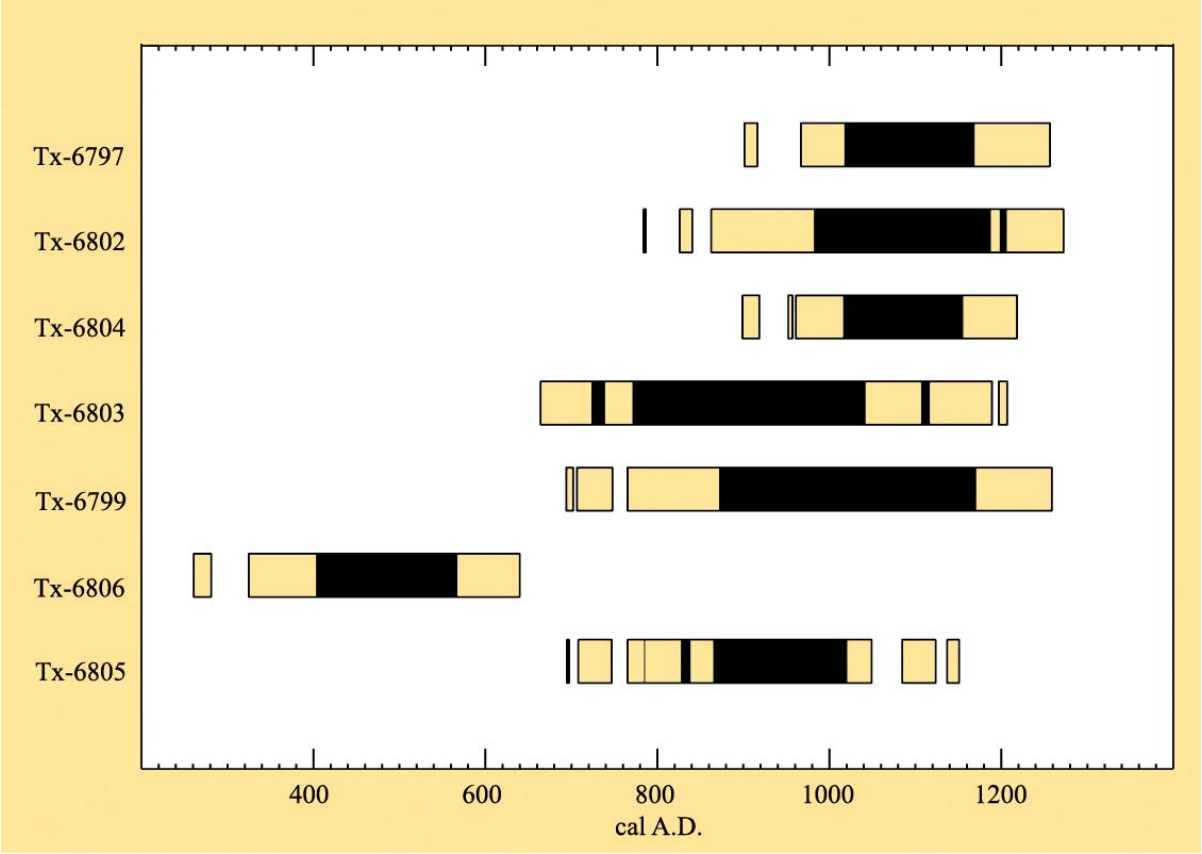

FIGURE 9. Radiocarbon determinations for 40DV191.

Maize (*Zea mays*) comprised one of the two identified domesticated plants from Spencer. An especially large number of maize cobs and cupules were present in Feature 247. Maize measurements from this feature, as well as Features 302 and 303, are presented in Table 6. Eight, ten, twelve, and fourteen-row specimens were identified from these three features. Cob fragments from Feature 247 consisted exclusively of ten-row specimens, whereas the cob fragment from Feature 303 was fourteen-row.

Two bean fragments (*Phaseolus vulgaris*) were also recovered from 40DV191. Beans occur at other study area Mississippian sites, but usually in limited amounts (Benthall 1983; Broster 1972; Crites 1984; Jones 2001; Moore 2005; Moore and Smith 2001).

Radiocarbon Dates

Ten charred organic samples were submitted for radiocarbon assays (Table 7). Nine samples consisted of wood charcoal, with the tenth (Tx-6802) comprised of charred corn cob fragments.

Structures 1 and 6 were dated by wood charcoal samples from exterior posts. The Structure 1 (Tx-6805) sample yielded corrected radiocarbon date ranges of cal A.D. 865-1021 (one sigma) and cal A.D. 766-1049 (two sigma). Structure 6 (Tx-6799) produced somewhat similar corrected date ranges of cal A.D. 872-1171 (one sigma) and cal A.D. 765-1259 (two sigma). The comparable dates from these two structures were expected given their close proximity and similar architecture.

TABLE 7. Radiocarbon Dates from the 1989 Spencer Site Excavations (CALIB Rev 5.0.2, Reimer et al. 2004).

	% area enclosed	cal AD age ranges	relative area under probability distribution
Tx-6805	68.3 (1 sigma)	784- 786	0.004
Structure 1 post, Feature 89		827- 839	0.041
Radiocarbon Age BP 1100 +/- 80		**865- 1021**	**0.955**
	95.4 (2 sigma)	695- 697	0.002
		708- 747	0.029
		766- 1049	**0.933**
		1085- 1124	0.028
		1137- 1151	0.009
Tx-6800	68.3 (1 sigma)	1530- 1539	0.028
Structure 3 post, Feature 60		1635- 1690	0.343
Radiocarbon Age BP 220 +/- 60		**1729- 1810**	**0.482**
		1925- 1952	0.147
	95.4 (2 sigma)	1515- 1597	0.119
		1617- 1710	0.288
		1717- 1891	**0.461**
		1909- 1953	0.131
Tx-6798	68.3 (1 sigma)	**645- 1176**	**1.000**
Structure 3 post, Feature 145			
Radiocarbon Age BP 1140 +/- 290	95.4 (2 sigma)	**336- 1404**	**1.000**
Tx-6806	68.3 (1 sigma)	403- 567	1.000
Structure 3 (post?), Feature 58			
Radiocarbon Age BP 1580 +/- 80	95.4 (2 sigma)	261- 281	0.020
		325- 640	0.980
Tx-6799	68.3 (1 sigma)	**872- 1171**	1.000
Structure 6 post, Feature 101			
Radiocarbon Age BP 1030 +/- 140	95.4 (2 sigma)	694- 702	0.005
		707- 748	0.032
		765- 1259	**0.962**
Tx-6801	68.3 (1 sigma)	**775- 1327**	**0.930**
Structure 4 (hearth?), Feature 307		1342- 1395	0.070
Radiocarbon Age BP 910 +/- 340			
	95.4 (2 sigma)	**416- 1669**	**0.996**
		1780- 1798	0.003
		1944- 1950	0.001
Tx-6803	68.3 (1 sigma)	723- 739	0.036
Structure 4, Feature 5		**770- 1042**	**0.939**
Radiocarbon Age BP 1100 +/- 140		1107- 1117	0.025
	95.4 (2 sigma)	**664- 1189**	**0.994**
		1197- 1207	0.006
Tx-6804	68.3 (1 sigma)	**1016- 1156**	**1.000**
Feature 301, refuse-filled pit			
Radiocarbon Age BP 970 +/- 70	95.4 (2 sigma)	899- 919	0.020
		952- 957	0.003
		961- 1218	**0.977**
Tx-6802	68.3 (1 sigma)	**982- 1188**	**0.973**
Feature 247, refuse-filled pit		1198- 1206	0.027
Radiocarbon Age BP 970 +/- 110			
	95.4 (2 sigma)	784- 786	0.002
		826- 840	0.008
		863- 1272	**0.991**
Tx-6797	68.3 (1 sigma)	**1017- 1169**	**1.000**
Feature 245, refuse-filled pit			
Radiocarbon Age BP 950 +/- 80	95.4 (2 sigma)	901- 916	0.014
		967- 1257	**0.986**

The three samples submitted for Structure 3 yielded admittedly disappointing results. One wood charcoal sample (Tx-6800) from an isolated interior post produced a modern date. This particular sample may have been associated with a historic fenceline that cross-cut the prehistoric structure. A second wood charcoal sample (Tx-6806) from a presumed exterior wall post (Feature 58) yielded corrected date ranges of cal. A.D. 403-567 (one sigma) and cal A.D. 325-640 (two sigma). Based upon this result, the post obviously intruded into a Middle Wood-

land feature (Feature 20, a series of overlapping small pits) located in the structure corner. Feature 20 may be associated with the adjacent Feature 19 that also yielded Middle Woodland material. The third wood charcoal sample from a Structure 3 post (Tx-6798) came closer to the original anticipated date range, but the very large standard deviation (290) precludes any meaningful interpretation.

Two radiocarbon dates with sizeable standard deviations were obtained from wood charcoal samples that originated from the depression identified as Structure 4. One sample from the depression surface (Tx-6803) yielded calibrated date ranges of cal A.D. 770-1042 (one sigma) and cal A.D. 664-1189 (two sigma). A second sample taken from the suspected structure hearth (Tx-6801) produced an extremely large standard deviation (340) that deserves no further consideration.

Three pit features yielded dates that favorably compare with the structure results. Charred corn cobs from Feature 247 (possible roasting or smudge pit) and wood charcoal from Feature 301 (refuse-filled pit) produced similar corrected date ranges at one sigma of cal A.D. 982-1188 (Tx-6802) and cal A.D. 1016-1156 (Tx-6804), respectively. Wood charcoal from Feature 245 (Tx-6797) yielded calibrated date ranges of cal A.D. 1017-1169 (one sigma) and cal A.D. 967-1257 (two sigma).

Figure 9 presents the radiocarbon date results. The two assays with extremely high standard deviations (Tx-6798 and Tx-6801) and the modern date (Tx-6800) have been omitted from this graph. This figure clearly illustrates date results that cluster between about A.D. 900-1150.

Concluding Remarks

Since the discovery of the Spencer site in 1984, archaeological explorations across the Middle Cumberland River valley have fine-tuned our understanding of Mississippian native life after about A.D. 1200 (Barker 2005; Jones 2001; Moore 2005; Moore and Smith 2001, 2007; Moore et al. 2006; Smith 1992; Smith and Beahm 2007; Smith and Moore 1994, 1996, 2005; Walling et al. 2000). Unfortunately, few projects of the last two decades have yielded substantial new insights into the the pre-A.D. 1200 emergence and development of Mississippian chiefdoms in the region. The definition of an emergent Mississippian regional period or phase remains almost as elusive today as it was in the early 1990s.

A review of the preceding Late Woodland period lends some insight to understanding the emergence and (apparent) rapid development of Mississippian groups throughout the Nashville Basin. Late Woodland occupations within this region appear to be small, dispersed, and relatively ephemeral in nature. For example, the archaeological site files for Davidson County contain only nine sites with reported Late Woodland components. Only the Mansker Creek site (40DV53) yielded substantive evidence of a long-term Late Woodland occupation (Autry 1977). Late Woodland components defined at six sites are not considered reliable as these were based solely on the presence of a single limestone-tempered sherd or triangular projectile point. The remaining two sites consist of a rock overhang and an open habitation site, both with evidence of limited multi-component occupations.

The emergence of small Mississippian chiefdoms in the Middle Cumberland region represents the end result of a period

Figure 10. Spencer site (40DV191) field crew for 1989 investigations. From far left: Steve Spears, Bess Manning, Stuart Smith, Ben Nance, Amy Hitchcock, Mark Norton, and Fred Prouty.

of relatively rapid changes in many local social, political, cultural, and material patterns. The near absence of large and extensive Late Woodland sites in the Central Basin and the broad distribution of small single-mound Mississippian centers at a later date argue strongly for interpretations involving rapid local population growth, emigration of peoples from outside the local region, or both. Any interpretation must also attempt to address the social and political pressures sponsoring the growth and centralization of these dispersed populations. Although the Spencer site offers few definitive answers to the multiplicity of questions raised, it does provide a documented glimpse of some of these processes in action within the Nashville Basin.

Acknowledgments: Tennessee Division of Archaeology personnel performed the Spencer site salvage excavation under the technical direction of Nick Fielder and John Broster. Steve Spears directed the field operations and handled the backhoe duties (Figure 10). Steve also directed the laboratory processing of the recovered artifacts and soil samples. The field crew included Rick Anderson, Amy Hitchcock, Bess Manning, Ben Nance, Mark Norton, Fred Prouty, Stuart Smith, and Tim Wallace.

A summary report of the Spencer project results was completed for the Tennessee Division of Archaeology report files (Moore et al. 1993). This manuscript included descriptions of the recovered artifacts by Emanuel Breitburg (faunal remains), Andrea Shea (floral remains), Kevin Smith (ceramics), and Michael Moore (lithics). Parris Stripling and Kevin Smith drafted the figures used in the manuscript.

In honor of the late Steve Spears, Michael Moore and Kevin Smith revised the 1993 unpublished manuscript for this volume of Tennessee Archaeology. This updated work includes a complete reanalysis of the 1989 ceramic assemblage (as well as specimens recovered during the 1984 work). All radiocarbon dates were corrected using CALIB 5.0.2 (Reimer et al. 2004). Michael Moore and Aaron Deter-Wolf prepared revisions of the original manuscript figures for this work. Aaron Deter-Wolf conducted the artifact photography.

References

Anderson, Patricia K.
1997 Phase III Data Recovery, Site 40JK147: State Route 53, Bridge and Approaches over Martin Creek, Log Mile 1.23, Jackson County, Tennessee. Draft report submitted to Tennessee Department of Transportation, Environmental Planning Office. Copy on file, Tennessee Department of Environment and Conservation, Division of Archaeology, Nashville.

Autry, William O.
1977 A Proposal for the Mitigation of the Mansker Creek Site (40DV53), Davidson County, Tennessee. Manuscript on file, Tennessee Department of Environment and Conservation, Division of Archaeology, Nashville.

Barker, Gary
2005 Archaeological Investigations at the Kelly Site (40Wm10): A Fortified Late Prehistoric Town in Davidson and Williamson Counties, Tennessee. Manuscript on file, Tennessee Department of Transportation, Office of Environmental Planning and Permits, Nashville.

Benthall, Joseph L.
1983 Archaeological Investigation at the Noel Cemetery Site. Manuscript on file, Tennessee Department of Environment and Conservation, Division of Archaeology, Nashville.

Broster, John B.
1972 The Ganier Site, A Later Mississippian Village on the Cumberland River. In *The Middle Cumberland Culture*, edited by Robert B. Ferguson, pp. 52-78. Vanderbilt University Publications in Anthropology No. 3. Nashville.

Cambron, James W. and David C. Hulse
1983 *Handbook of Alabama Archaeology: Part I, Point Types*. Alabama Archaeological Society, Huntsville.

Crites, Gary D.
1984 Averbuch Botanical Data. In, Averbuch: A Mississippian Manifestation in the Nashville Basin, Volume II, edited by W.E. Klippel and W.M. Bass. Department of Anthropology, University of Tennessee, Knoxville. Copy on file, Tennessee Department of Environment and Conservation, Division of Archaeology, Nashville.

Heimlich, Marion Dunlevy
1952 Guntersville Basin Pottery. *Museum Paper No. 32*, Geological Survey of Alabama.

Jones, Scott
2001 Draft, The Kelly's Battery Site, 40Dv392: Archaeological Investigations at a Middle Cumberland Mississippian Village. Manuscript on file, Tennessee Department of Environment and Conservation, Division of Archaeology, Nashville.

Justice, Noel D.
1987 *Stone Age Spear and Arrow Points of the Midcontinental and Eastern United States*. Indiana University Press.

Klippel, Walter E. and William M. Bass (editors)
1984 Averbuch: A Mississippian Manifestation in the Nashville Basin: Volumes I and II. Department of Anthropology, University of Tennessee, Knoxville. Copy on file, Tennessee Department of Environment and Conservation, Division of Archaeology, Nashville.

Moore, Michael C.
1999 Middle Woodland Settlement in the Upper Cumberland River Valley: An Example from Jackson County, Tennessee. *Tennessee Anthropologist* 24(1&2):60-77.
2005 *The Brentwood Library Site: A Mississippian Town on the Little Harpeth River, Williamson County, Tennessee*. Research Series No. 15. Tennessee

Department of Environment and Conservation, Division of Archaeology, Nashville.

Moore, Michael C. and Kevin E. Smith
1993 *A Report on the 1992 Archaeological Investigations at the Brandywine Pointe Site (40Dv247), Davidson County, Tennessee*. Report of Investigations No. 9. Tennessee Department of Environment and Conservation, Division of Archaeology, Nashville.
2001 *Archaeological Excavations at the Rutherford-Kizer Site: A Mississippian Mound Center in Sumner County, Tennessee*. Research Series No. 13, Tennessee Department of Environment and Conservation, Division of Archaeology, Nashville.
2007 Mississippian Mortuary Pottery from the Nashville Basin: A Reanalysis of the Averbuch Site Ceramic Assemblage. Paper presented at the 64th Annual Meeting of the Southeastern Archaeological Conference, Knoxville, Tennessee.

Moore, Michael C., Emanuel Breitburg, John T. Dowd, C. Parris Stripling, and John B. Broster
1992 Archaeological Investigations at 40Dv35: A Multicomponent Site in the Cumberland River Valley, Davidson County, Tennessee. *Tennessee Anthropologist* 17(1):54-78.

Moore, Michael C., Emanuel Breitburg, Kevin E. Smith, and Mary Beth Trubitt
2006 One Hundred Years of Archaeology at Gordontown: A Fortified Mississippian Town in Middle Tennessee. *Southeastern Archaeology* 25(1):89-109.

Moore, Michael C., Kevin E. Smith, and W. Steven Spears
1993 A Descriptive Report Archaeological Salvage Excavations at the Spencer Youth Center Site (40DV191), Davidson County, Tennessee. Unpublished Manuscript Series No. 93-5, Tennessee Department of Environment and Conservation, Division of Archaeology, Nashville.

Norton, Mark R. and John B. Broster
2004 The Sogom Site (40DV68): A Mississippian Farmstead on Cockrill Bend, Davidson County, Tennessee. *Tennessee Archaeology* 1(1): 2-17.

Reimer, P.J., M.G.L. Baillie, E. Bard, A. Bayliss, J.W. Beck, C. Bertrand, P.G. Blackwell, C.E. Buck, G. Burr, K.B. Cutler, P.E. Damon, R.L. Edwards, R.G. Fairbanks, M. Friedrich, T.P. Guilderson, K.A. Hughen, B. Kromer, F.G. McCormac, S. Manning, C. Bronk Ramsey, R.W. Reimer, S. Remmele, J.R. Southon, M. Stuiver, S. Talamo, F.W. Taylor, J. Van der Plicht, and C.E. Weyhenmeyer
2004 *Radiocarbon* 46:1029-1058.

Smith, Kevin E.
1992 The Middle Cumberland Region: Mississippian Archaeology in North Central Tennessee. Unpublished Ph.D. dissertation, Department of Anthropology, Vanderbilt University, Nashville.

Smith, Kevin E. and Emily L. Beahm
2007 Placing the Castalian Springs Chiefdom in Time and Space: Sociopolitical Centers in the Eastern Nashville Basin of Tennessee. Paper presented at the 64th Annual Meeting of the Southeastern Archaeological Conference, Knoxville, Tennessee.

Smith, Kevin E. and John B. Broster
1993 The Distribution of Dover Chert: A Reexamination of the Single Source Theory. Manuscript on file, Middle Tennessee State University, Department of Anthropology, Murfreesboro.

Smith, Kevin E. and Michael C. Moore
1994 The Brandywine Pointe Site (40Dv247): A Mississippian Farmstead in North Central Tennessee. *Midcontinental Journal of Archaeology*

19(2):198-222.

1996 Mississippian Settlement and Community Patterns on the Cumberland River, Tennessee: Recent Investigations of Small Mississippian Settlements. In *Proceedings of the 14th Annual Midsouth Archaeological Conference*, edited by Richard Walling, Camille Wharey, and Camille Stanley, pp. 49-68. Special Publications in Anthropology No. 1. Panamerican Consultants, Inc., Memphis.

2005 Archaeological Explorations of the Peabody Museum in Middle Tennessee, 1877-1882. Manuscript on file, Tennessee Division of Archaeology, Nashville.

Tennessee Division of Archaeology

1984 Test Excavations at 40DV179/DV191. Original unpublished notes and manuscript on file, Tennessee Department of Environment and Conservation, Division of Archaeology, Nashville.

Walling, Richard, Lawrence Alexander, and Evan Peacock

2000 *The Jefferson Street Bridge Project: Archaeological Investigations at the East Nashville Mounds Site (40Dv4) and the French Lick/Sulphur Dell Site (40Dv5) in Nashville, Davidson County, Tennessee*. Publications in Archaeology No. 7. Tennessee Department of Transportation, Office of Environmental Planning and Permits, Nashville.

W. Steven Spears

Michael C. Moore
Tennessee Division of Archaeology
1216 Foster Ave., Cole Bldg 3
Nashville, Tennessee 37243

Kevin E. Smith
Department of Sociology and Anthropology
Middle Tennessee State University
Murfreesboro, Tennessee 37132-0001

A SURFACE COLLECTION FROM THE KIRK POINT SITE (40HS174), HUMPHREYS COUNTY, TENNESSEE

Charles H. McNutt, John B. Broster, and Mark R. Norton

This report provides a description of Paleo-Indian and Early Archaic material from a surface collection made near the Eva site in the Western Tennessee River Valley. This material adds to our understanding of early occupations in this section of the interior Middle South.

A surface collection made by Mr. E. J. Sims in Humphreys County between 1960 and 1978 contains a series of lithic material ranging from Early Paleo-Indian into at least the Middle Woodland period. The site is located ca. seven miles upstream from the Eva site and contains material that apparently represents much of the pre-Eva (or pre-Middle Archaic) occupation of the Western Tennessee River Valley (Lewis and Lewis 1961). This material, particularly the projectile points, is the subject of this report.

The site was originally given the number 40HS63 in the Tennessee site files. The original site and a down-river extension (now islands in Kentucky Lake) were subsequently renumbered 40HS174 (Figure 1). Locally it is known, somewhat unfortunately, as the Kirk Point site.

Mr. Sims graciously loaned his entire collection to the senior author for analysis. During the course of this study it soon became apparent that material previously donated to the Tennessee Division of Archaeology by Mr. Harlan "Kit" Carson was from this site as well. Also during this period Mr. J. Scott Jones presented a paper at the 64th Southeastern Archaeological Conference on the Tennessee-Duck River Paleoindian Complex (Jones 2007), and site 40HS174 proved to be his major exhibit! Mr. Jones kindly made his data available to the authors for this study.

In developing this report, the senior author undertook classification, made photographs, measurements, and descriptions. The junior authors examined all specimens for raw materials, assembled Mr. Carson's material, and provided assistance to the senior author as the latter wrestled with classifications. They also reviewed and improved the commentary accompanying the type descriptions. The senior author attempted to separate most examples of major early types from the vast amount of material in the collection. Although he is fairly happy with some type assignments, the gradations between Greenbrier and Pine Tree and various corner-notched forms were made quite

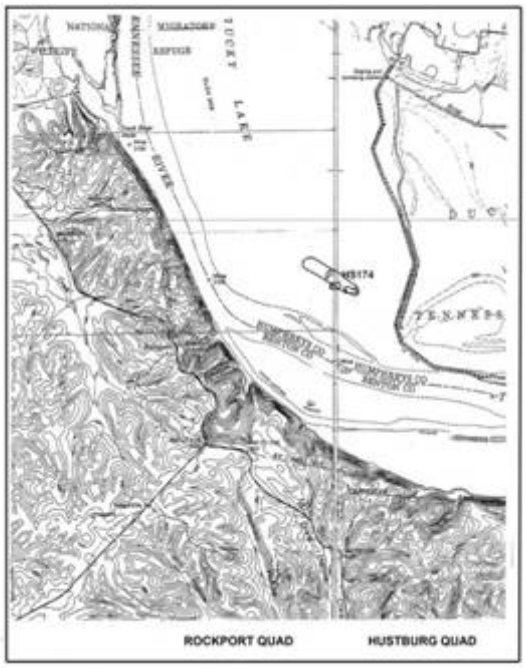

FIGURE 1. Location of 40HS174.

arbitrarily, if at all. Other problems are noted in the "type" descriptions.

Artifact Descriptions

Paleo-Indian Material (Figures 2 and 3)

This category requires special treatment because our information comes from several sources. Jones (2007) provides the most intensive discussion of this period in the immediate vicinity of our site. For site 40HS174 he lists a total of 166 finished artifacts and preforms comprised of Clovis (28), Redstone (2), Cumberland (19), Beaver Lake (25), Quad (22), Dalton (17), Greenbrier (48), Harpeth River (4), and Agate Basin (1). This is by far his most prolific site.

The material donated to the Division of Archaeology by Mr. Carson is shown in Figure 2, with Clovis, Quad, and varieties of Dalton and Greenbrier represented.

Material from the Sims collection is shown in Figure 3. All points appear to be made from local cherts, including primarily

FIGURE 2. Paleoindian Artifacts donated to the Division of Archaeology by Harlan Carson (Top Row: Clovis and Quad; Middle and bottom row: Greenbrier and Dalton varieties).

TABLE 1. Paleoindian Material.

Object*	Length	Blade Width	Thick	Stem Length	Min Stem Width	Base Width	Light grinding	Material type
a		35.57	9.01			32.15		Dover
b		34.69	6.87			34.87	x	Ft. Payne
c	55.65	28.16	7.85			22.85	moderate	Dover
d	88.24	33.01	10.64		23.56	25.98	x	Ft. Payne
e	46.18	28.09	7.8	14.96	26.35	28.88	moderate	Dover
f	66.06	25.81	5.03			24.2	x	Ft. Payne
g	56.05	21.71	8.17	14.25	18.53	24.32	x	Ft. Payne?
h	43.07	21.78	7.22	18.11	19.54	25.48	x	Dover
i		20.44	5.54	17.39	18.58	23.05	x	Buffalo Riv.
j	59.05	24.15	6.92	19.14	23.2	26.51	j	Dover
k	53.47	19.81	5.82	10.64	18.95	23.3		White Dover
l	72.99	21.72	7.01	17.51	20.27		x	Dover
m	29.16	24.45	6.56	12.12	24.45	25.94	moderate	(heated)
n	27.34	24.72	6.47	16.14	23.91	27.63		Dover
o	29.54	22.56	5.76	17.86	20.51	25.52	x	Dover

*Letters are keyed to Figure 3.

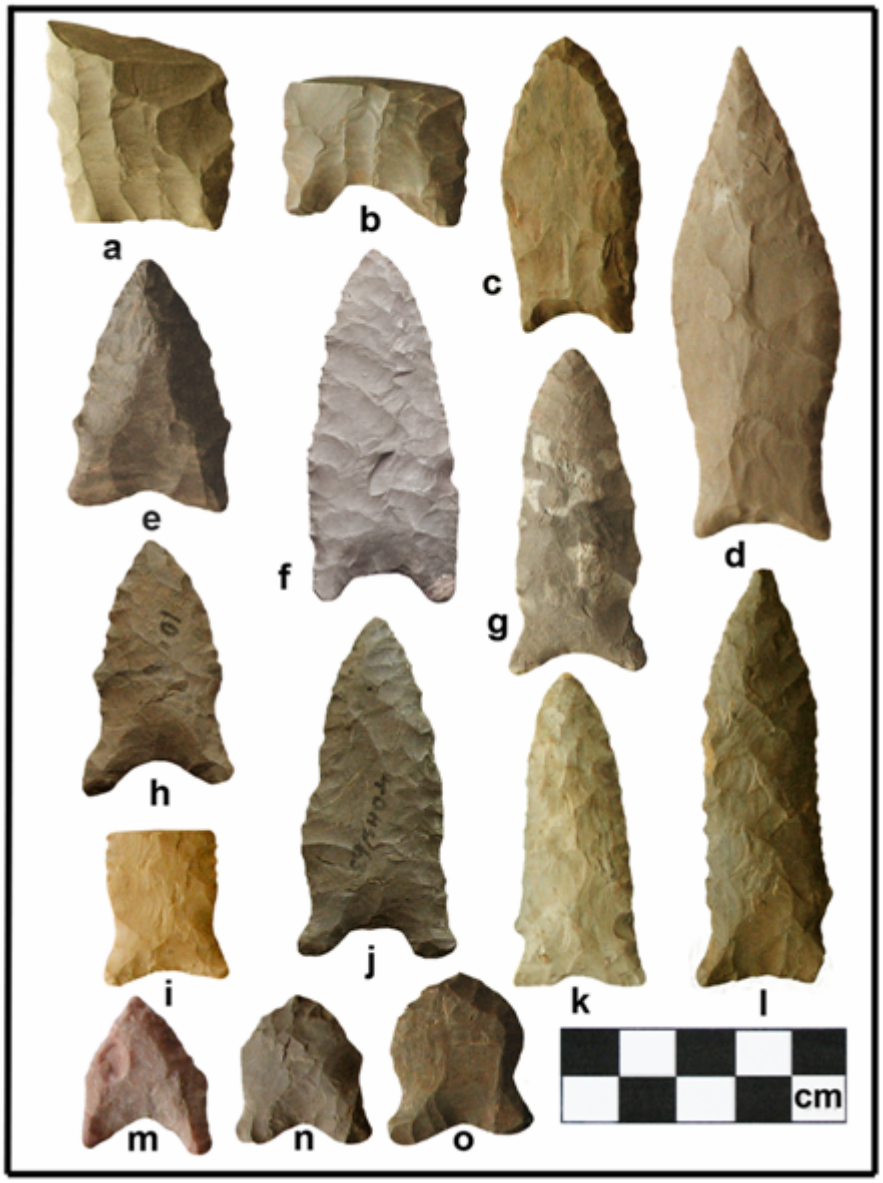

FIGURE 3. Paleo-Indian Material from the Sims Collection.

Dover and Ft. Payne. Comments and measurements on this collection are presented below and in Table 1. No formal descriptions are offered because of their variability. Two basal fragments (Figure 3a and b) appear to be broken Clovis blanks, a third (Figure 3c) has rather steep blade edge retouch and may be an unfluted Clovis. The specimen presented in Figure 3d is a Beaver Lake, carefully retouched on all edges. The other items (Figure 3e-o) all appear to be some form of Dalton. Items in Figure 3m-o are obviously broken; they have been retouched from both faces to form rather blunt points. The item in Figure 3f appears noteworthy for its parallel oblique flaking and thinness. Although this specimen bears some similarities to Plainview, it is safest to refer it to Dalton.

Harpeth River (Figure 4; Table 2)

Summary Description: Medium to long blade with flat face, beveled edges, and wide stem.

Sample size: 18

Form

Blade: Excurvate, triangular, or parallel-angular shape. Faces flattened by removal of wide, shallow flakes, edges retouched from both sides, frequently producing shallow serrations.
Notches: Shallow notches producing narrow horizontal or oblique shoulders and slightly expanding stem.
Base: Usually straight, some slightly incurvate or excurvate. Bases thinned, some appear very lightly ground.
Stem: Sides straight or slightly incurvate. Concave bases are usually associated with incurvate stem edges and are auriculate.

Dimensions (in mm)

Length:	80.92-52.27, mean 63.91, s.d. 8.78
Width:	29.03-18.38, mean 24.71, s.d. 9.67
Thickness:	9.88-5.64, mean 7.62, s.d. 1.24
Maximum stem length:	17.76-13.65, mean 14.73, s.d. 1.03
Minimum stem length:	12.81-8.18, mean 10.09, s.d. 1.20
Minimum stem width:	22.34-17.63, mean 20.71
Base width:	26.24-22.03, mean 24.26, s.d.1.29

Material

Primarily Fort Payne and Dover chert. Buffalo River and Camden represented.

Technique of manufacture

Blade roughed out from blank with broad facial flakes removed from both sides. Secondary retouch along blade edges from both sides produce shallow serrations on blade and narrow shoulders above the stem.

Comments

These are local varieties of Harpeth River points (Cambron 1970). A Rockport variety of this point was defined by Adair and Sims (1970) on the basis of a sample of 48 points and distinguished primarily by a slightly shorter hafting area length (Adair and Sims 1970:28). Original dimensions (in mm) given by Cambron are: range 25-11, average 16 (n=17). The Adair-Sims dimensions are: range 14-9, average 13. As luck would have it, the present specimens appear to be intermediate, although a bit closer overall to the Rockport dimensions. Two of the present specimens (Figure 4o and q) have unusually large stem lengths and are responsible for the mean stem length being greater than 14 mm.

In order to evaluate the significance of differences in median hafting area length the standard deviations of the original samples are necessary. Unfortunately, the Adair-Sims sample cannot be located. Given the sample sizes and ranges, one suspects that the differences are significant at the p=.05 level.

These points would seem to have much in common with the somewhat shorter Russell Cave points (Griffin 1974:36-37).

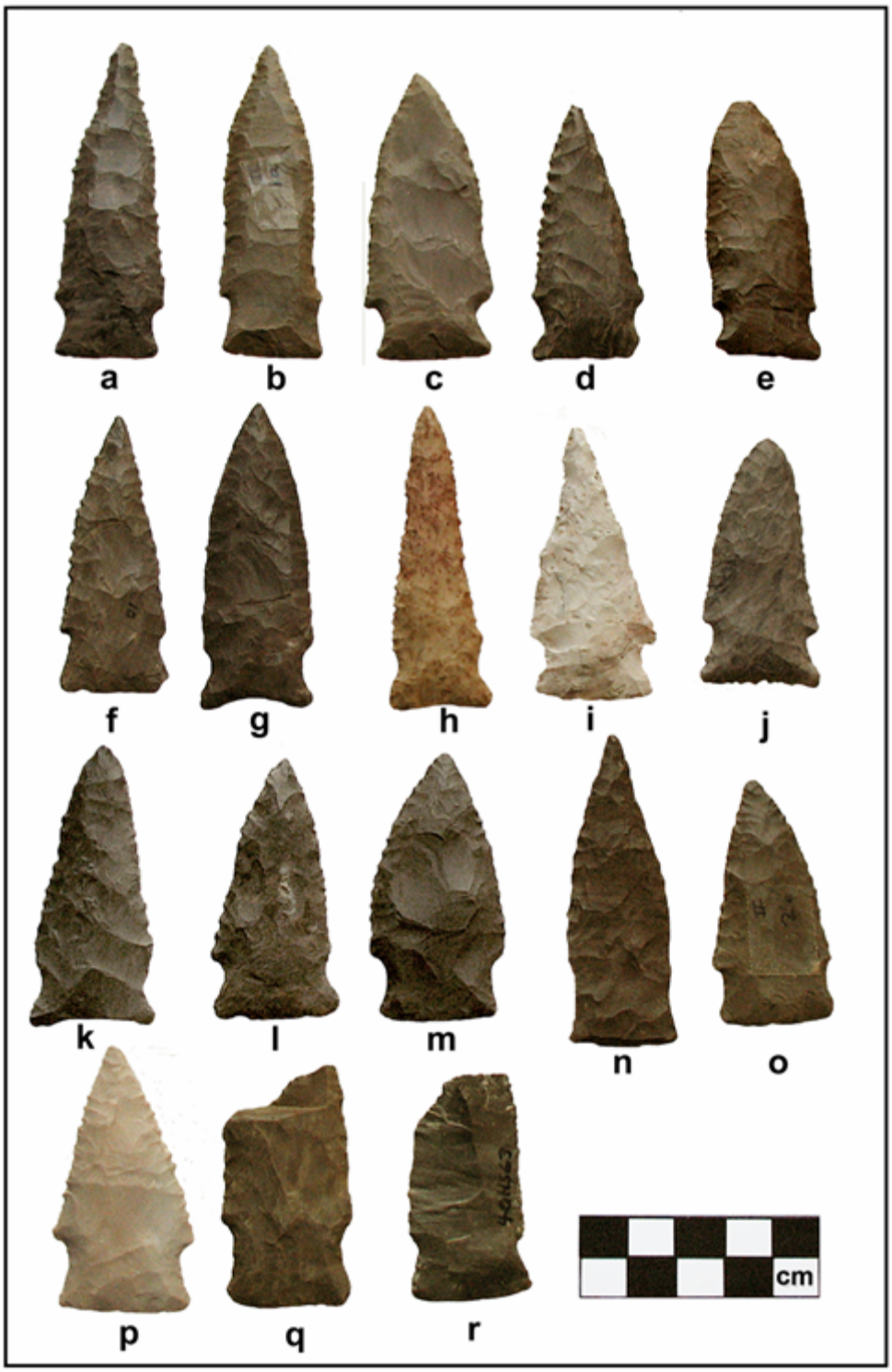

FIGURE 4. Harpeth River.

TABLE 2. Harpeth River.

Object*	Length	Width	Thick	Max stem length	Min stem length	Min stem width	Base	Grinding	Material
a	80.92	24.58	9.69	14.44	9.27	19.46	22.78	none	Dover
b	78.95	23.17	7.65	14.84	9.43	20.27	22.39	base light	Ft. Payne
c	71.67	29.03	7.4	14.38	12.81	21.63	25.76	base light	Ft. Payne
d	62.45	22.37	6.99	14.6	10.71	19.18	22.69	none	Dover
e	69.46	25.11	9.88	13.84	8.86	21.1	24.33	none	Dover
f	63.73	25.49	7.41	15.4	9.71	20.13	25.1	notch ?	Ft. Payne
g	68.52	23.71	6.71	13.65	8.49	19.4	23.54	v light	Ft. Payne
h	68.65	18.38	5.64	14.26	10.27	17.63	22.03		Buffalo Riv.
i	62.16	27.5	7.96	14.26	10.69	22.02	25.13		Camden
j	57.18	25.26	7.98	13.96	10.25	20.58	26.24		Dover
k	57.96	23.91	6.09	15.25	8.18	21.16	25.61		Ft. Payne
l	55.73	27.8	8.22	14.05	10.08	21.71	24.07		Dover
m	54.36	24.17	7.56	14.04	9.89	21.37	25.57		Ft. Payne
n	52.27	26.17	6.47	14.26	9.36	22.34	24.56		Dover
o	65.75	21.38	6.3	16.65	9.72	20.26	22.99	base ?	Dover
p	52.83	27.39	7.86	14.76	10.1	22.02	25.44		Camden
q	~	26.03	9.91	17.76	11.85	21.72	24.52	base	Dover
r	~	23.31	7.49	14.69	11.94	20.79	24.01		Dover
mean	63.91	24.71	7.62	14.73	10.09	20.71	24.26		
s.dev	8.78	2.56	1.24	1.03	1.20	1.23	1.29		
range	80.92-52.27	29.03-18.38	9.91-5.64	17.76-13.65	12.81-8.18	22.02-17.63	26.24-22.03		
Harp definition	67	23	8	16		21	25		
v. Rock-port	59	25	8	13		20	24		
Definition range	90-53	26-20	9-7	11-25		24-16	28-20		

*Keyed to Figure 4

Greenbrier (Figure 5; Table 3)

Summary Description: Medium to large point with shallow side notches producing expanding stem with concave auriculate base. Light grinding of haft area, particularly auricles.

Sample Size: 13.

Form

Blade: Triangular with convex to straight sides. Edges finely retouched.
Base: Concave with auricles. Frequently lightly ground, all auricles ground.
Notches: Shallow, some lightly ground.
Stem: Expanding.

Dimensions (in mm)

Length:	79.76-39.03, mean 48.06, s.d. 24.96; (N=11)
Width:	W: 36.45-17.90, mean 25.60, s.d. 5.15
Thickness:	9.68-5.83, mean 7.44, s.d. 1.24
Maximum stem length:	18.31-11.55, mean 16.02, s.d. 1.82
Minimum stem width:	29.71-17.39, mean 21.05, s.d. 3.46
Base width:	32.64-21.46, mean 26.67, s.d. 4.12; (N=9)

Material

Fort Payne and Dover chert with Camden also represented.

Technique of Manufacture

Blade evidently roughed out with percussion, edges, notches and base carefully trimmed, frequently resulting in fine serrations of blade.

Comments

These are Greenbrier points (Cambron and Hulse 1969:66; Lewis and Kneberg 1958:67-68). One point (Figure 5f) has been retouched around a broken tip, another (Figure 5g) is heavily beveled. Several points (Figure 5e, f, h, j, and k) appear to be made from exotic cherts.

Figure 5n and o appear to represent intermediaries between Greenbrier and Harpeth River points. Bases are comparable to Greenbriers, but the blades have the flattened aspects of Harpeth River. These points were measured but not tabulated in the dimensional analysis.

TABLE 3. Greenbrier.

Object*	Length	Max blade width	Thick	Stem Length	Min Stem Width	Max Stem Width	Auricles ground	Material
a	79.76	36.45	9.33	18.05	29.71	32.64	x	?
b	63.02	31.64	6.52	16.47	24.41	29.99	x	Ft. Payne
c	52.82	27.84	7.95	17.21	23.22	30.5	x	?
d	61.6	26.09	8.78	13.76	17.43	21.46	?	Ft. Payne
e	59.63	19.07	7.13	15.93	17.69	0	x	Ft. Payne
f	46.73	17.9	9.68	17.52	17.39	21.53	x	Camden
g	44.55	20.41	7.23	16.13	18.07	24.7	x	Dover
h	43.49	25.72	7.87	15.1	19.8	0	x	White Do-ver
i	55.05	23.7	6.07	11.55	21.69	23.04	x	Ft. Payne
j	39.03	23.77	6.67	15.62	21.16	0	x	Dover
k	46.05	23.23	7.43	16.52	19.49	0	x	Ft. Payne
l	0	27.97	6.24	18.31	21.4	28.27	x	Dover
m	0	28.97	5.83	16.13	22.25	27.91	x	Ft. Payne
mean	48.06	25.60	7.44	16.02	21.05	26.67		
s dev	24.96	5.15	1.24	1.82	3.46	4.12		
range	79.76-39.03	36.45-17.90	9.68-5.83	18.31-11.55	29.71-17.39	32.64-21.46		
quantity	11	13	13	13	13	9		
n	72.08	20.79	8.76	13.4	19.87	22.67		Ft. Payne
o	61.16	23.99	7.6	14.05	19.39	21.3		Dover

*Keyed to Figure 5

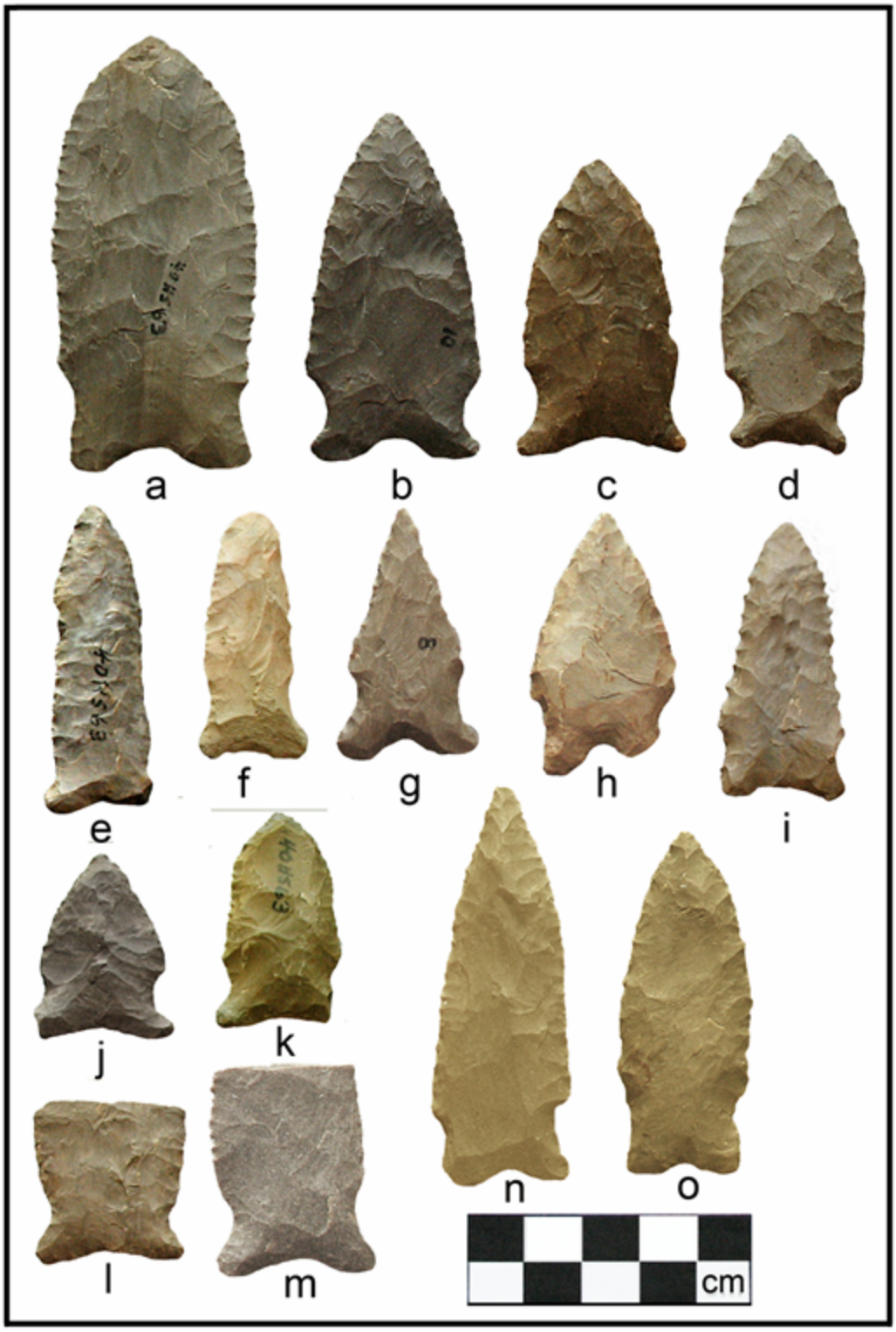

FIGURE 5. Greenbrier.

Kirk Corner-Notched (Figure 6; Table 4)

Summary Description: Medium to large triangular blade with round corner-notches, producing an expanded stem with straight to slightly concave base. These examples all have careful retouch on blades producing serrations.

Sample Size: 13.

Form

Blade: Triangular blade with straight to slightly convex sides; some examples retouched at proximal end, producing recurved blade. Blade edges carefully retouched, serrated.
Base: Straight to slightly concave. Most (N=8) show light grinding.
Notches: Circular (relatively wide) corner notches, frequently (N=9) ground.
Stem: Expanding stem with straight to concave sides.

Dimensions (in mm)

Length:	93.70-51.49, mean 66.22, s.d. 12.98
Width:	38.42-24.75, mean 30.10, s.d. 4.36
Thickness:	9.47-6.86, mean 8.22, s.d. 0.83
Stem length:	15.08-11.05, mean 13.20, s.d. 1.44
Minimum stem width:	22.46-17.78, mean 20.29, s.d. 1.94
Base width:	34.23-23.24, mean 27.62, s.d. 2.90

Material

Fort Payne and Dover chert with one Tuscaloosa present.

Technique of Manufacture

Blanks appear roughed out by percussion, blade edges trimmed from both sides then carefully retouched from both sides, producing fine to very fine serrations. Notches made with single blow from both sides, occasionally retouched. Stems thinned by flakes removed perpendicularly from base. Notches and base sometimes show light grinding.

Comments

These points are distinguished from local Cypress Creeks (q.v.) primarily by the shape of their notches. Kirk Corner-Notched points were sorted on the basis of relatively wide, essentially circular notches, as opposed to the deep narrow notches ascribed to Cypress Creek. This distinction seems in keeping with earlier definitions of the two types (Broyles 1971; Coe 1964; Lewis and Lewis 1961).

A very large number of corner-notched points were recovered from this site but are not included in this type definition (see Figures 22, 23, 24). Several varieties of Kirk Corner-Notched are probably represented, and many of these points could easily be included in the basic type. The significant observation is simply that there are a large number of (presumably early) corner-notched points at the site.

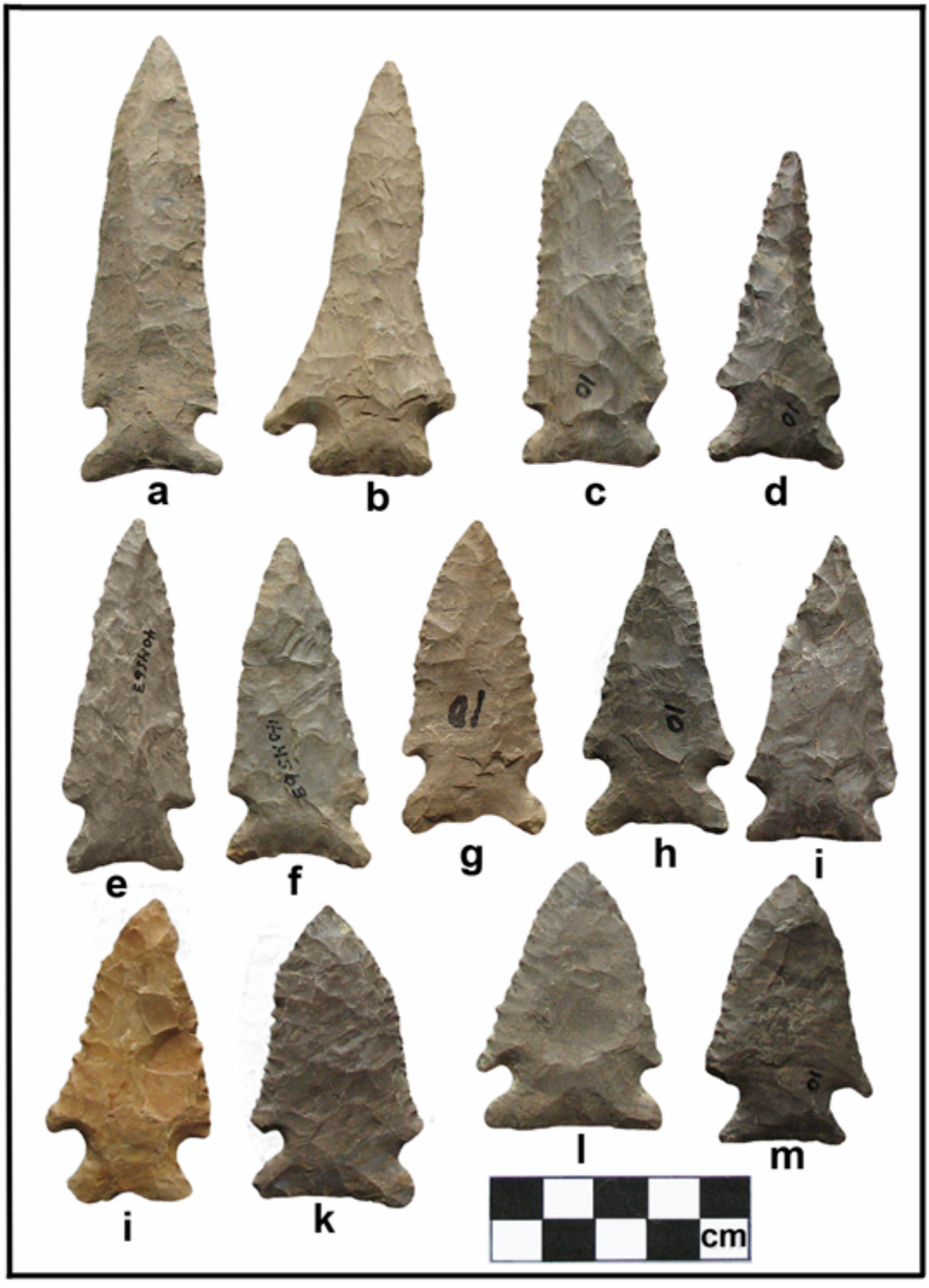

FIGURE 6. Kirk Corner-Notched.

TABLE 4. Kirk Corner-Notched (all serrated).

Object	Length	Max Blade Width	Thick	Stem Length	Min Stem Width	Max Stem Width	Light grinding in notches, base	Material
a	93.7	26.1	9.13	13.15	17.87	28.11	light	?
b	88.34	38.42	8.88	11.51	21.5	24.77		Ft. Payne
c	76.6	28.61	8.23	12.68	20.93	27.9	light	Ft. Payne
d	65.76	24.75	9.17	15.08	18.72	28.41	light	Dover
e	70.71	25.23	6.86	14.34	17.78	23.24	light	Dover
f	64.62	27.71	8.02	13.01	20.26	27.77		Dover
g	61.22	26.66	7.86	15.56	20.04	28.31	light	Dover
h	59.27	29.79	7.38	13.98	19.87	27.88	light	Ft. Payne
i	60.76	28.63	9.47	11.41	21.74	26.37	light	Dover
j	58.86	31.9	7.68	12.8	18.38	24.45		Tuscaloosa
k	57.03	32.7	8.71	14.61	22.46	31.48	light	Dover
l	51.49	36.5	7.08	12.37	24.5	34.23	light	Ft. Payne
m	52.54	34.33	8.4	11.05	19.66	26.13		Dover
mean	66.22	30.10	8.22	13.20	20.29	27.62		
s.d.	12.98	4.36	0.83	1.44	1.94	2.90		
range	93.70-51.49	38.42-24.75	9.47-6.86	15.56-11.05	24.50-17.78	34.23-23.24		

*Keyed to Figure 6

Camden Stemmed, variety A (Figures 7 and 8; Table 5)

Summary Description: Medium to large triangular blade with corner notches producing acute to oblique shoulders and wide expanding stem; bases concave and thinned from both sides by single blow.

Sample size: 24.

Form

Blade: Typically triangular or recurvate, occasionally convex. Edges retouched, usually forming fine serrations.
Base: Concave base, shaped by single blow from each side of point. Base, particularly auricles, usually shows light grinding.
Notches: Wide notches formed by single blow (occasionally two) from each side (indirect percussion?) producing shoulders varying about the horizontal, and a wide, expanding stem.
Stem: Wide stem, frequently expanding beyond maximum blade width, terminating in auricles.

Dimensions (in mm)

Length: 70.71-32.27, mean 50.32, s.d. 8.48
Blade width: 34.79-22.07, mean 28.36, s.d. 3.09
Thickness: 9.12-5.71, mean 7.77, s.d. 0.90
Maximum stem length: 16.59-10.50, mean 13.61, s.d. 1.49
Minimum stem width: 26.35-17.21, mean 21.46, s.d. 1.99
Base width: 31.64-23.17, mean 27.32, s.d. 2.03

Material

Predominantly Dover, with some Fort Payne and St. Louis.

Technique of Manufacture

Triangular blank evidently roughed out with percussion. Notches formed by single blow from both sides and base thinned in same manner, producing concave base. Blade pressure retouched, usually forming fine serrations. Basal corner retouched if necessary to form auricles.

Comments

These points originally sorted on basis of wide auricular stems that had concave bases rather than bifurcate bases. This type of stem is shown for MacCorkle Stemmed points by Broyles (1971:70-71). Three specimens from the St. Albans site were recovered from Zone 14, above Kirk Corner-Notched points and below St. Albans Side-Notched. The bases of MacCorkle points are described as “thinned from one side by many small flakes and on the other by only one large flake. Basal grinding occurs on most specimens from shoulder to shoulder” (Broyles 1971:71).

Examination of the Tennessee River specimens found that this distinctive type of basal thinning was absent. Rather, bases were usually thinned by large flakes from both sides, or not at all. Although light grinding occurs on the bases (primarily the auricles) of the Tennessee specimens, the “shoulder to shoulder” grinding described by Broyles is not found.

It is here suggested that the Tennessee River points with auricular, concave bases be given the type name “Camden Stemmed” to avoid conflict with the tightly defined MacCorkles from West Virginia. The specimens described in this category, with bases thinned by single blows from each side and light auricular grinding, are designated “Camden Stemmed, variety A”. Comparable points, with bases retouched from both sides, are here designated “Camden Stemmed, variety B.” Other investigators may feel this distinction is too fine, and regard the Camden forms simply as local varieties of MacCorkle Stemmed.

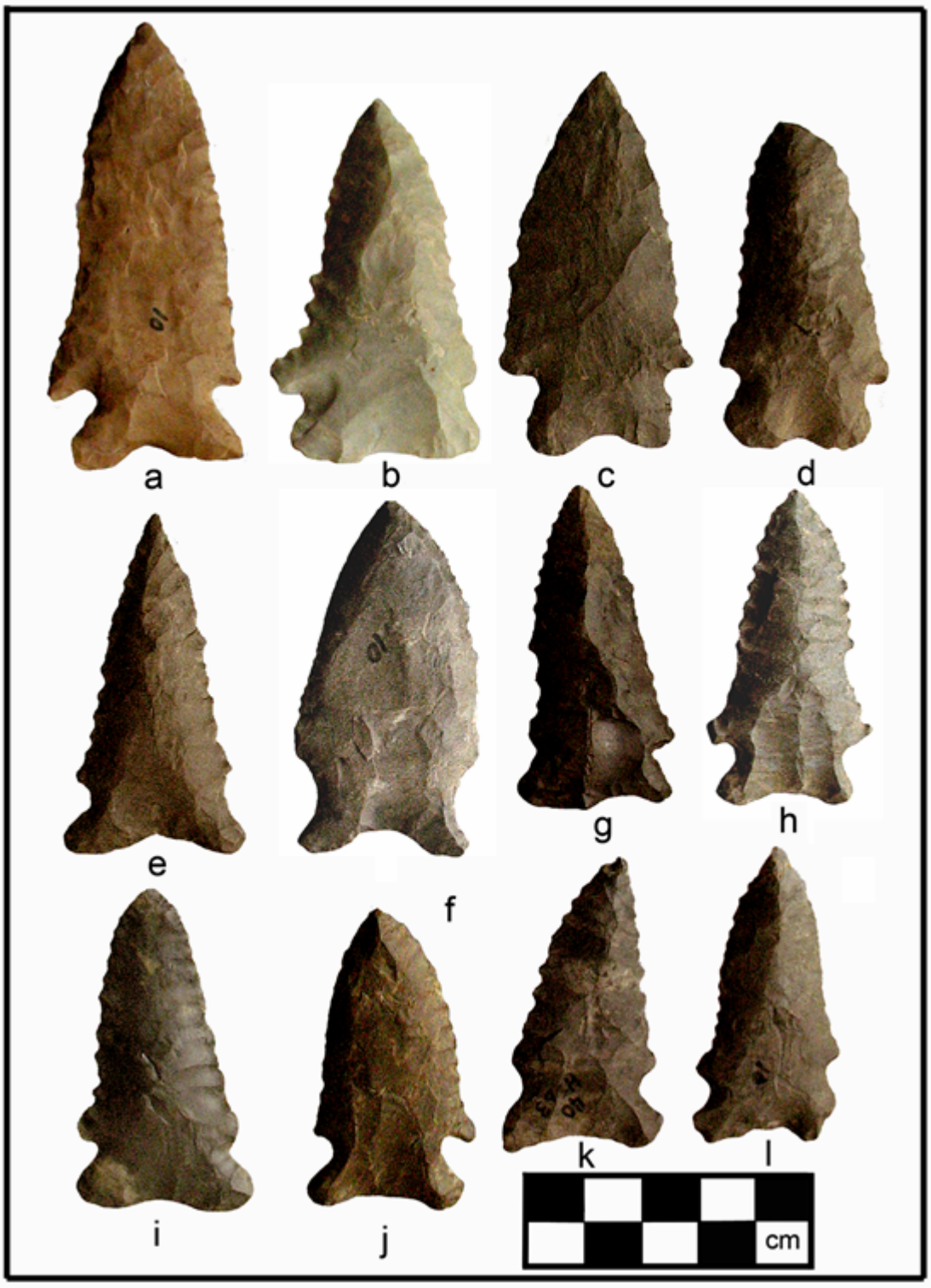

FIGURE 7. Camden Stemmed, variety A.

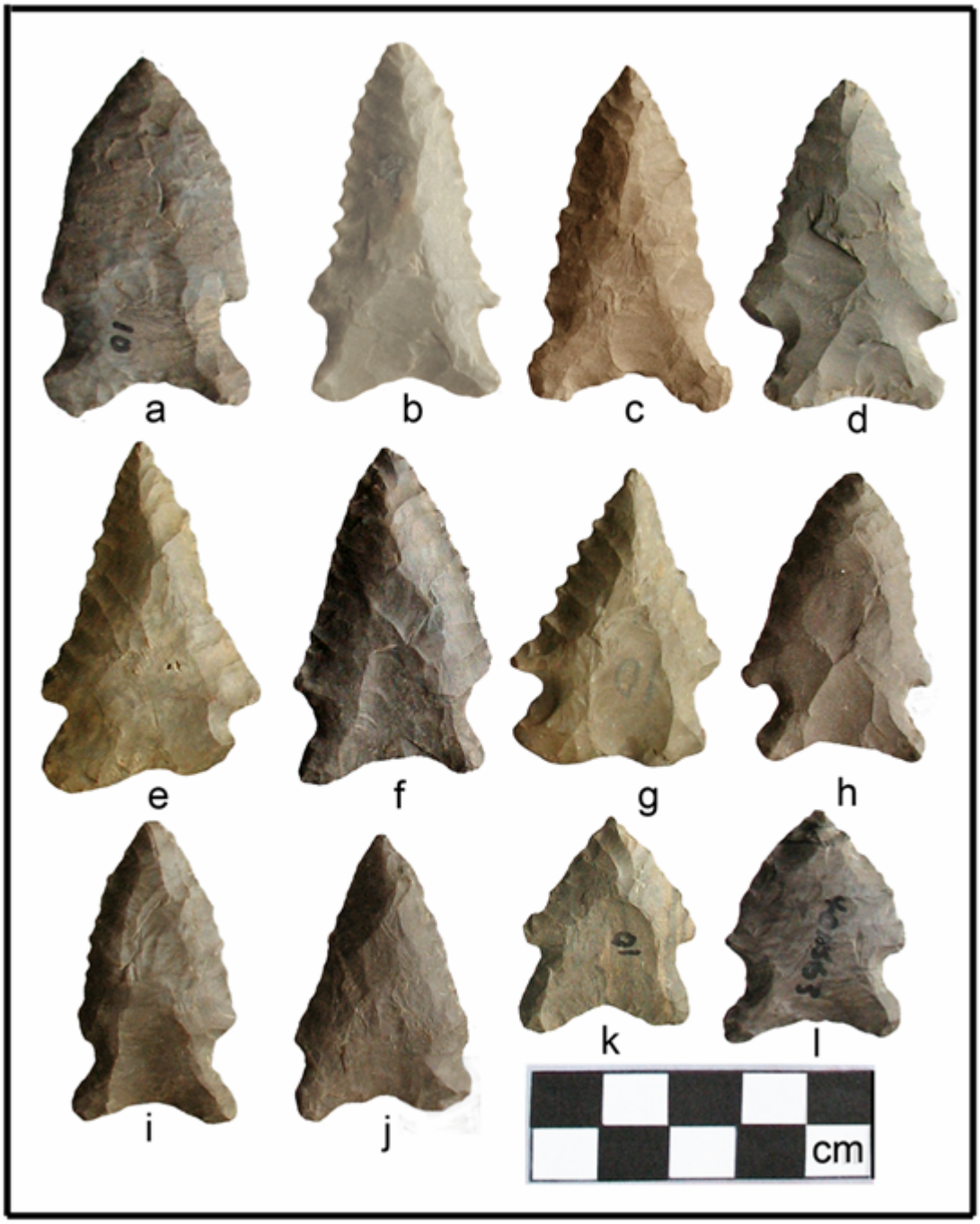

Figure 8. Camden Stemmed, variety A.

TABLE 5. Camden Stemmed, variety A

Object*	Max L	blade W	Max Th	stem L	min St W	max St W	ears/st grd	material
a	70.71	31.03	7.53	12.34	18.27	27.28	x	Dover
b	59.49	34.79	8.47	11.26	26.35	31.64	x	St. Louis
c	61.26	31.51	5.82	13.66	20.66	24.29		Dover
d	54.89	29.52	8.83	11.16	21.76	25.66	x	Dover
e	54.97	25.42	9.12	13.8	21.46	29.42	x	Dover
f	57.98	30.11	6.72	14.21	22.9	28.04	x	Ft. Payne
g	54.16	26.26	7.9	13.16	20.72	26.98	x	Dover
h	54.44	30.89	8.08	10.5	19.43	24.92	x	Dover
i	54.94	26.15	9.03	14.07	21.78	29.26	x	Ft. Payne
j	52.72	28.18	8.97	13.97	18.62	26.53	x	Dover
k	51.81	25.45	7.08	14.69	20.8	28.19	x	Dover
l	52.56	26	7.83	14.33	22.54	25.65	x	Dover
Object**								
a	48.81	28.69	7.62	16.59	21.83	28.49	x	Dover
b	50.71	26.91	8.21	13.9	21.33	26.75	x	St. Louis
c	49.14	25.11	8.62	15.34	24.33	30.76	x	Dover
d	48.59	33.72	7.16	13.73	22.14	28.44	x	Dover
e	48.13	30.54	7.55	13.23	22.32	27.15	x broke ear	Dover
f	46.92	29.36	7.97	15.47	22.19	27.24	x	Dover
g	43.2	32.07	8.12	13.74	23.88	30.02	x	Ft. Payne
h	42.51	28.81	7.56	11.4	19.94	26.17	x	Ft. Payne
i	42.49	22.07	7.01	14.75	17.21	23.17	x	Dover
j	40.16	25.35	7.67	12.19	23.05	25.82	x	Dover
k	32.27	25.89	5.71	14.13	20.36	25.9		Dover
l	34.82	26.87	7.9	14.96	21.12	27.95	x	Dover
mean	50.32	28.36	7.77	13.61	21.46	27.32		
s.d	8.48	3.09	0.90	1.49	1.99	2.03		
N	24	24	24	24	24	24		
range	70.71-32.27	34.79-22.07	9.12-5.71	16.59-10.50	26.35-17.21	31.64-23.17	lightly	

*Keyed to Figure 7

** Keyed to Figure 8

Camden Stemmed, variety B (Figure 9; Table 6)

Summary Description: Medium to large triangular blade with corner notches producing acute to oblique shoulders and wide expanding stem; bases concave and thinned by steep retouch from both sides.

Sample size: 11.

Form

Blade: Typically triangular or recurvate, occasionally convex. Edges retouched, usually forming fine serrations.
Base: Concave base, shaped by steep retouch each side of point. Base, particularly auricles, usually shows light grinding.
Notches: Wide notches formed by single blow (occasionally two) from each side (indirect percussion?) producing shoulders varying about the horizontal, and a wide, expanding stem.
Stem: Wide stem, frequently expanding beyond maximum blade width, terminating in auricles.

Dimensions (in mm)

Length: 55.34-35.47, mean 46.16, s.d 7.74
Blade width: 32.75-21.20, mean 26.57, s.d. 3.57
Thickness: 8.52-6.13, mean 7.41, s.d. 0.81
Maximum stem length: 15.44-11.41, mean 13.91, s.d. 1.26
Minimum stem width: 26.10-16.90, mean 21.32, s.d. 2.77
Base width: 32.97-22.81, mean 27.49, s.d.3.29

Material

Predominantly Dover, some Ft. Payne.

Technique of Manufacture

Triangular blank evidently roughed out with percussion. Notches formed by single blow from both sides and base thinned in same manner, producing concave base. Blade pressure retouched, usually forming fine serrations. Basal corner retouched if necessary to form auricles.

Comments

See under Camden Stemmed, variety A.

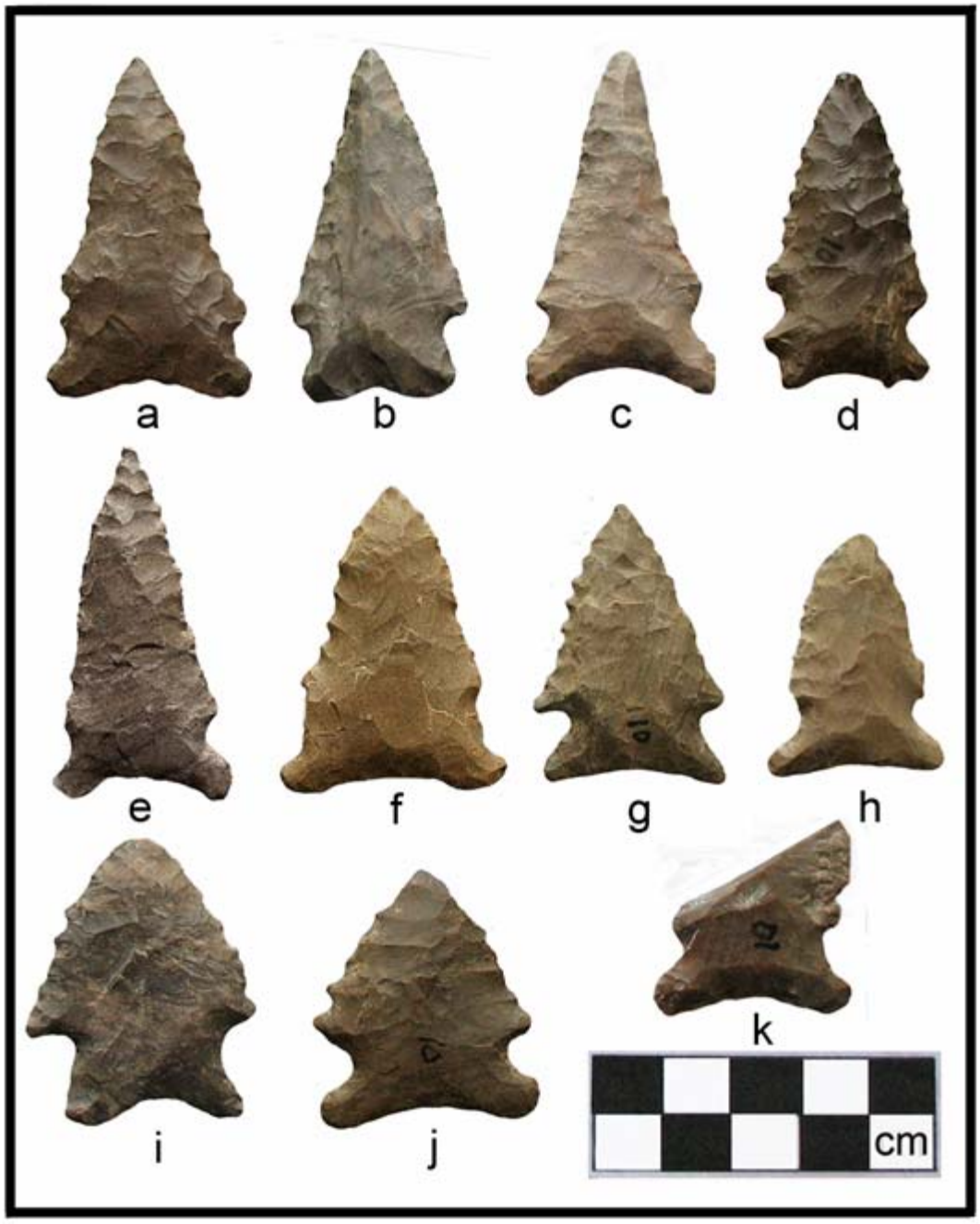

FIGURE 9. Camden Stemmed, variety B.

TABLE 6. Camden Stemmed, variety B

Object*	Max Length	Blade width	Max thick	Stem length	Min Stem width	Max Stem width	Ears/stem grd	Material
a	53.33	26.6	7.82	15.44	25.25	30.54	x	Dover
b	55.34	26.18	7.31	14.73	21.65	22.81	x	Dover
c	54.18	24.5	7.75	14.64	23.04	28.15	x	Dover
d	49.53	25.14	8.5	13.95	18.73	23.73	x	Dover
e	52.32	22.81	8.52	12.96	20.04	25.19	x	Dover
f	44.49	26.42	7.73	14.49	26.1	32.97	x	Ft. Payne
g	41.37	28.8	6.13	12.55	18.8	26.44	x	Dover
h	35.47	21.2	6.6	11.41	16.9	26.45	x	Ft. Payne
i	40.11	32.75	6.58	15.25	20.86	25.13	x	Dover
j	35.5	31.25	7.16	13.03	22.17	31.33	x	Dover
k				14.56	21.03	29.65		Dover
mean	46.16	26.57	7.41	13.91	21.32	27.49		
s.d.	7.74	3.57	0.81	1.26	2.77	3.29		
range	55.34-35.47	32.75-21.2	8.52-6.13	15.44-11.41	26.1-16.9	32.97-22.81		
N	10	10	10	11	11	11		

*Keyed to Figure 9

St. Albans Side Notched, variety Lake
(Figure 10; Table 7)

Summary Description: Wide diagonal corner notches produce horizontal shoulder and expanding stem. Bases bifurcated by single blow from both sides, producing basal auricles.

Sample size: 14.

Form

Blade: Relatively thin. Triangular to excurvate, with widest part at shoulder. Edges retouched from both sides, frequently producing pronounced serrations
Notches: Wide corner notches producing horizontal shoulders and expanding stems.
Base: Bifurcate, with basal auricles. Bifurcation produced by single blow from both sides, margins not ground. Approximately half (N=8) of the bases have lightly ground auricles.
Stem: Expanding, usually approaching maximum blade width. Edges not ground.

Dimensions (mm)

Length: 34.23-60.65, mean 44.47, s.d.7.27
Width: 38.73-23.93, mean 28.42, s.d. 4.16
Thickness: 7.95-5.44, mean 6.71, s.d. 0.83
Maximum stem length: 17.25-8.01, mean 13.79, s.d. 2.56
Minimum stem width: 23.62-16.44, mean 21.44, s.d. 1.92
Base width: 26.95-16.46, mean 24.16, s.d. 2.68
Bifurcate depth: 2.03-7.19, mean 4.42, s.d. 1.33

Material

Predominantly Dover, some Ft. Payne.

Technique of Manufacture

Apparently made from percussion shaped blank, finished with pressure flaking or indirect percussion. Bifurcation usually made with one blow from both sides. Blade retouch produces serrations in most cases, sometimes reminiscent of Kirk style. No heat treatment observed.

Comments

These appear to be local varieties of St. Albans Side Notched. Broyles (1971) defined two variants: A (ground bases, serrations) and B (somewhat larger, few ground bases, no serrations). Chapman (1975) does not maintain this distinction at Rose Island, noting only that some points have grinding and some have serrations.

The shoulders on the Tennessee River specimens are more pronounced than those at St. Albans and Rose Island, resembling more closely Chapman's Bifurcate variants 1 and 5. The Tennessee River specimens are also larger than those from St. Albans and Rose Island, and appear to show less grinding of the stem and base. These differences, plus the distinctive method of producing the bifurcations, suggest that these points be given the status of St. Albans Side Notched, variety Lake.

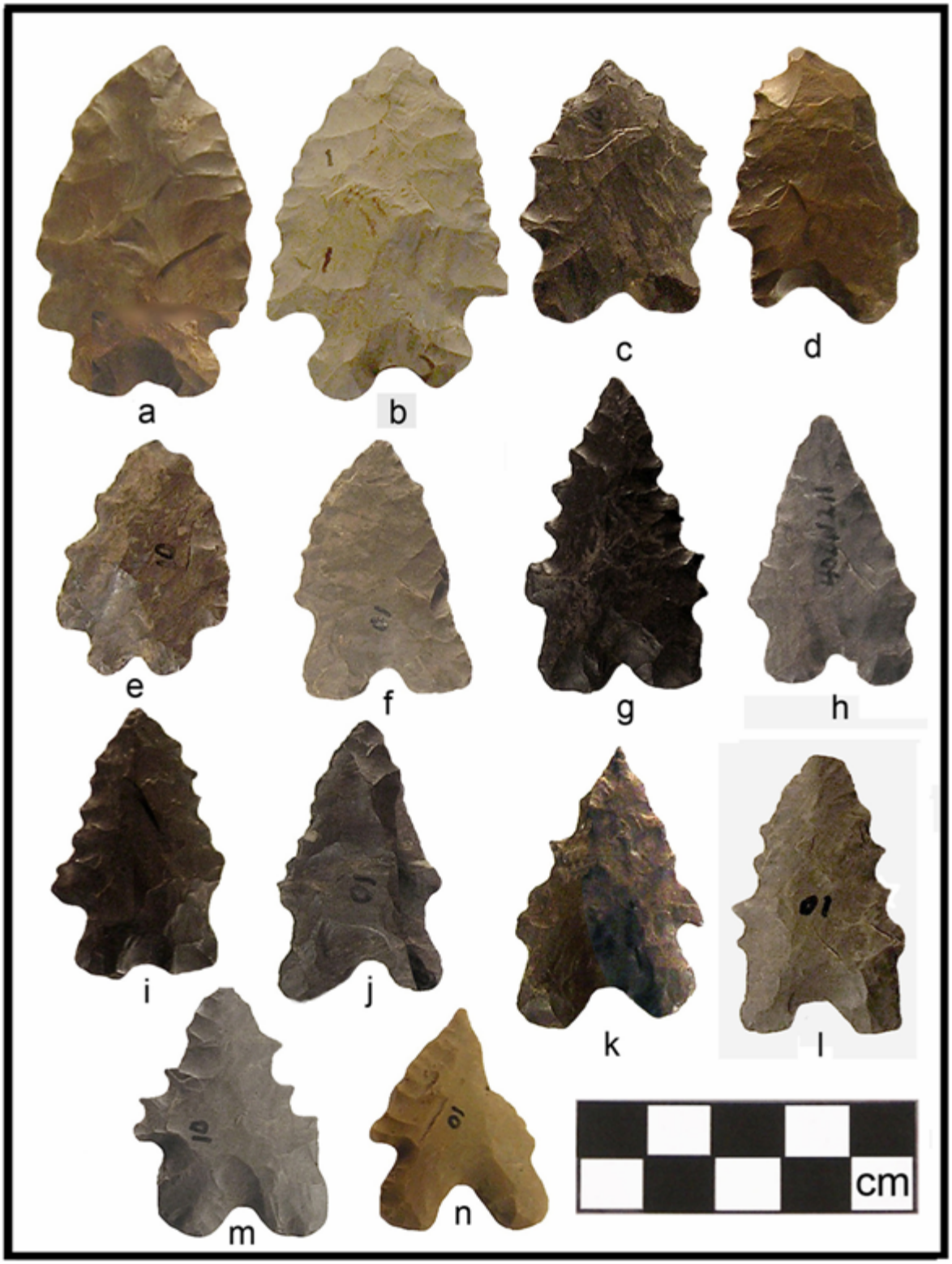

FIGURE 10. St. Albans Side Notched, variety Lake.

TABLE 7. St. Albans Side Notched, variety Lake.

Object*	Length	Max Blade width	Thick	Stem length	Max stem width	Min stem width	Bifurcate depth	Auricles ground	Material
a	60.65	34.2	7.95	12.01	22.97	21.32	2.03		Ft. Payne
b	57.68	38.73	7.01	16.2	25.49	21.62	4.35		Ft. Payne
c	43.11	31.52	5.75	13.11	26.27	23.62	4.08	x	Dover
d	44.66	30.63	7.65	12.31	23.19	23.12	4.08	x	Ft. Payne
e	37.68	26.97	7.51	8.01	16.46	16.44	3.21		Dover
f	41.45	24.39	6.56	17.25	26.52	21.36	4.63	x	Dover
g	50.86	28.1	5.94	17.08	24.79	22.73	4.64	x	Dover
h	42.84	25.4	6.44	13.26	22.69	20.87	5.11		Ft. Payne
i	42.24	25.9	6.69	11.27	22.19	19.18	2.14	x	Dover
j	42.9	23.93	7.4	15.73	25.48	20.47	5.22		Dover
k	42.21	28.4	5.44	13.95	26.95	22.37	5.41	x	Dover
l	43.18	25.43	6.81	14.68	24.35	22.78	5.08		Dover
m	38.92	28.53	7.41	15.88	25.88	23.44	4.71	x	Dover
n	34.23	25.7	5.44	12.33	25	20.79	7.19	x	Ft. Payne
mean	44.472	28.416	6.714	13.791	24.159	21.436	4.420		
s.d.	7.268	4.157	0.830	2.565	2.676	1.916	1.330		
range	60.65-34.23	38.73-23.93	7.95-5.44	17.25-11.27	26.95-16.46	23.62-16.44	7.19-2.03		

*Keyed to Figure 10

Category 15 (Figure 11; Table 8)

Summary Description: Medium to large elongate blade with horizontal to oblique shoulders and a moderately narrow expanding bifurcated stem.

Sample size: 7.

Form

Blade: Elongate triangular with slightly excurvate sides, usually serrated
Base: Bifurcated, with rounded auricles
Notches: Wide corner notches producing slightly expanding stem.
Stem: Expanding, relatively long for its width.

Dimensions (in mm)

Length: 82.39-45.91, mean 63.77, s.d. 13.72; (N=6)
Blade width: 30.60-24.25, mean 26.69, s.d. 2.41
Thickness: 9.05-7.67, mean 8.27, s.d. 0.56
Maximum stem length: 15-74-12.22, mean 13.99, s.d. 1.44
Minimum stem width: 20.74-16.92, mean 16.92, s.d. 2.04
Base width: 22.00-16.98, mean 19.68, s.d. 1.73
Bifurcate depth: 3.94-1.83, mean 2.99, s.d. 0.77

Material

Fort Payne, Dover, and Tuscaloosa.

Technique of Manufacture

Blade roughed out with random percussion, trimmed with pressure flaking oriented toward stem, occasionally producing serrations. Most specimens are heat treated.

Comments

These points have much in common with Chapman's Category 15 from Icehouse Bottom (1977:35), which he suggests may be slightly earlier than Stanleys. They are also quite similar to one of Broyles' MacCorkle Stemmed points (1971, Fig. 9, upper left) from Zone 14 at St. Albans, but lack the heavy grinding she notes. These similarities are particularly true of the specimens shown in Figure 11a-d.

These points also have much in common with Buzzard Roost Creek points, considered by many to be a variant of Benton. The specimens shown in Figure 11 e-g have roughly beveled stems and may belong to this type. In view of this, a second set of measurements (in mm) that excludes the items in Figure 11e-g is given below.

Length: 82.39-45.91, mean 65.53, s.d. 18.40; (N=3)
Blade width: 30.60-24.25, mean 26.23, s.d. 2.97
Thickness: 8.94-7.80. mean 8.35, s.d. 0.47
Maximum stem length: 15.74-12.65, mean 14.68, s.d. 1.42
Minimum stem width: 17.47-14.49, mean 15.80, s.d. 1.25
Base width: 21.68-18.63, mean 19.88, s.d. 1.29
Bifurcate depth: 3.94-3.15, mean 3.54, s.d. 0.39

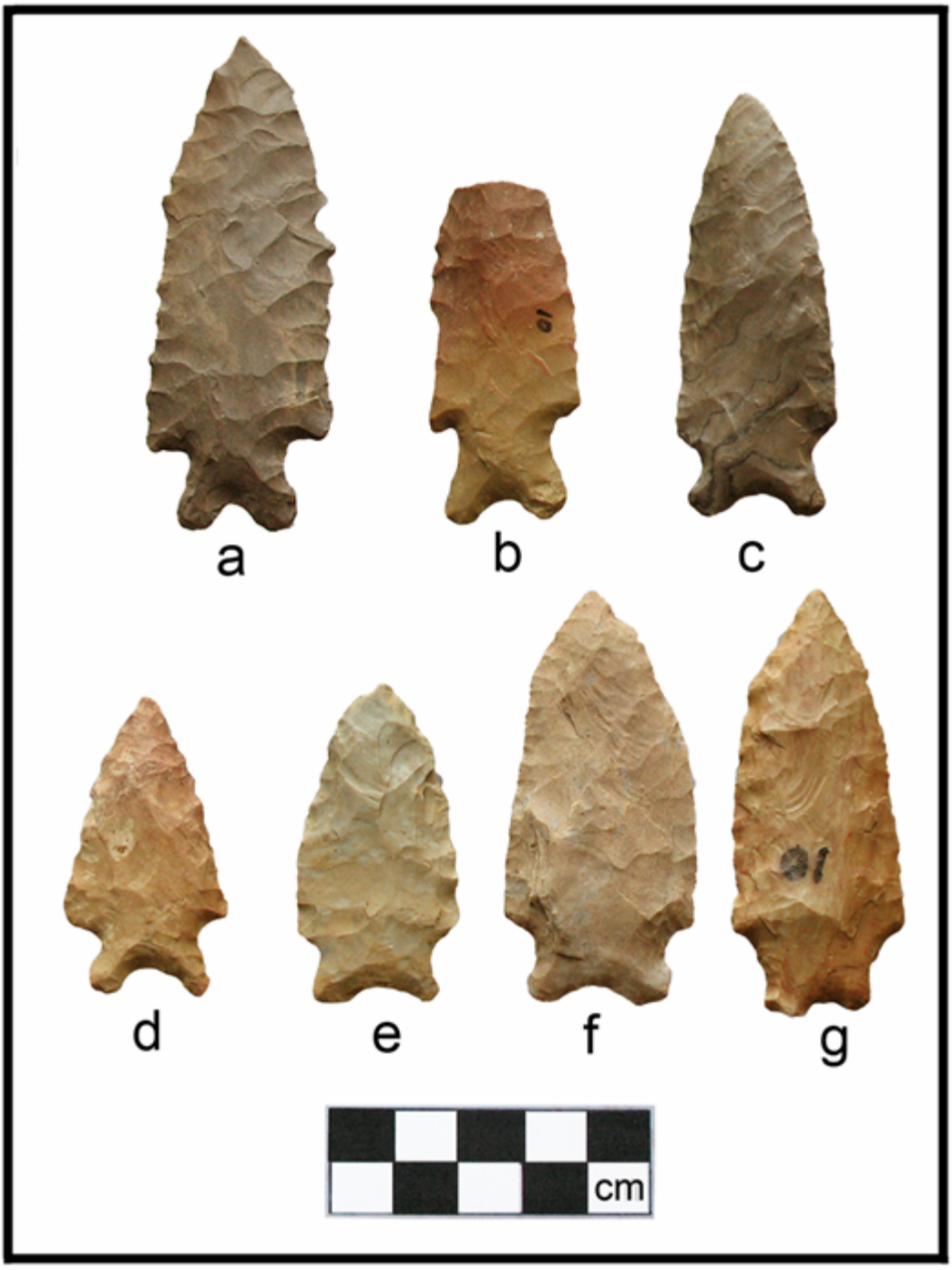

FIGURE 11. Category 15.

TABLE 8. Category 15.

Object*	Length	Max blade width	Thick	Stem length	Max stem width	Min stem width	Bifurcate depth	Auricles ground	Material
a	82.39	30.6	8.25	15.55	19.68	15.88	3.8	x	Dover
b		24.53	8.4	15.74	19.53	14.49	3.26	x	heated Camden
c	68.28	25.54	8.94	14.78	21.68	17.47	3.15	x	Ft. Payne
d	45.91	24.25	7.8	12.65	18.63	15.34	3.94	?	heated Camden
e	49.28	25.41	7.79	12.22	19.23	17.64	2.31	x	Ft. Payne
f	67.27	29	7.67	12.79	22	20.74	2.64	x	Ft. Payne
g	69.46	27.49	9.05	14.18	16.98	16.87	1.83	?	Buffalo River
mean	63.77	26.69	8.27	13.99	19.68	16.92	2.99		
s.d.	13.72	2.41	0.56	1.44	1.73	2.04	0.77		
range	82.39-45.91	30.6-24.25	9.05-7.67	15.74-12.22	22.00-16.98	20.74-16.92	3.94-1.83		
N	6	7	7	7	7	7	7		
excl e,f,g									
mean	65.53	26.23	8.35	14.68	19.88	15.80	3.54		
s.d.	18.40	2.97	0.47	1.42	1.29	1.25	0.39		
range	82.39-45-91	24.25-30.60	8.94-7.8	15.74-12.65	21.68-18.63	17.47-14.49	3.94-3.15		
N	3	4	4	4	4	4	4		

*Keyed to Figure 11

Lost Lake (Figure 12; Table 9)

Summary Description: Medium to large point with blade beveled from each side, with deep corner notches producing expanding stem with straight to slightly curved base. Base and stem corners ground.

Sample size: 6.

Form

Blade: Triangular with straight to excurvate sides. Edges strongly beveled from each side. Frequently carefully retouched, producing fine serrations.
Base: Generally straight varies from slightly incurvate to slightly excurvate, ground.
Notches: Deep corner notches.
Stem: Expanding stem with straight to incurved sides.

Dimensions (in mm)

Length: 81.16-67.28, mean 74.22, s.d. 9.81; N=2
Blade width: 41.36-30.20, mean 34.98, s.d. 4.20; N=5
Thickness: 10.10-7.38, mean 8.69, s.d. 1.01
Stem length: 15.31-10.16, mean 12.28, s.d. 2.09
Minimum stem width: 21.20-16.19, mean 18.38, s.d. 1.65
Base width: 28.80-23.14, mean 26.73, s.d. 2.02; N=5

Material

Dover and black Buffalo River represented.

Technique of Manufacture

Blade roughed out with percussion, then carefully beveled from each side. Blade edges frequently retouched with fine pressure flaking. Notches made by strong blow from each face, sometimes retouched on margins. Bases and stem corners ground.

Comments

These are classic Lost Lake points (Cambron and Hulse 1969:46). The specimen in Figure 12c shows major impact fracture, and the points in Figure 12 e-f have been retouched from one face about the tip to form scrapers.

TABLE 9. Lost Lake.

Object*	Length	Max Blade Width	Thick	Stem Length	Min Stem Width	Max Stem Width	Base or auricles ground	Material
a	81.16	34.23	9.69	10.16	16.19	24.14	x	Dover
b	67.28	32.82	8.19	11.41	18.2	0	x	White Dover
c	0	36.28	7.38	10.25	21.2	28.8	x	Buffalo Riv.
d	0	0	8.34	14.1	18.4	28.56	x	Dover
e	0	30.2	10.1	12.47	18.71	26.85	x	Dover
f	0	41.36	8.45	15.31	17.55	25.3	x	Dover
mean	74.22	34.98	8.69	12.28	18.38	26.73		
s.d	9.81	4.20	1.01	2.09	1.65	2.02		
range	81.16-67.28	41.36-30.20	10.10-7.38	15.31-10.16	21.20-16.19	28.80-23.14		
N meas	2	5	6	6	6	5		
range	81.16-67.28	41.36-30.20	10.10-7.38	15.31-10.16	21.20-16.19	28.80-23.14		

*Keyed to Figure 12

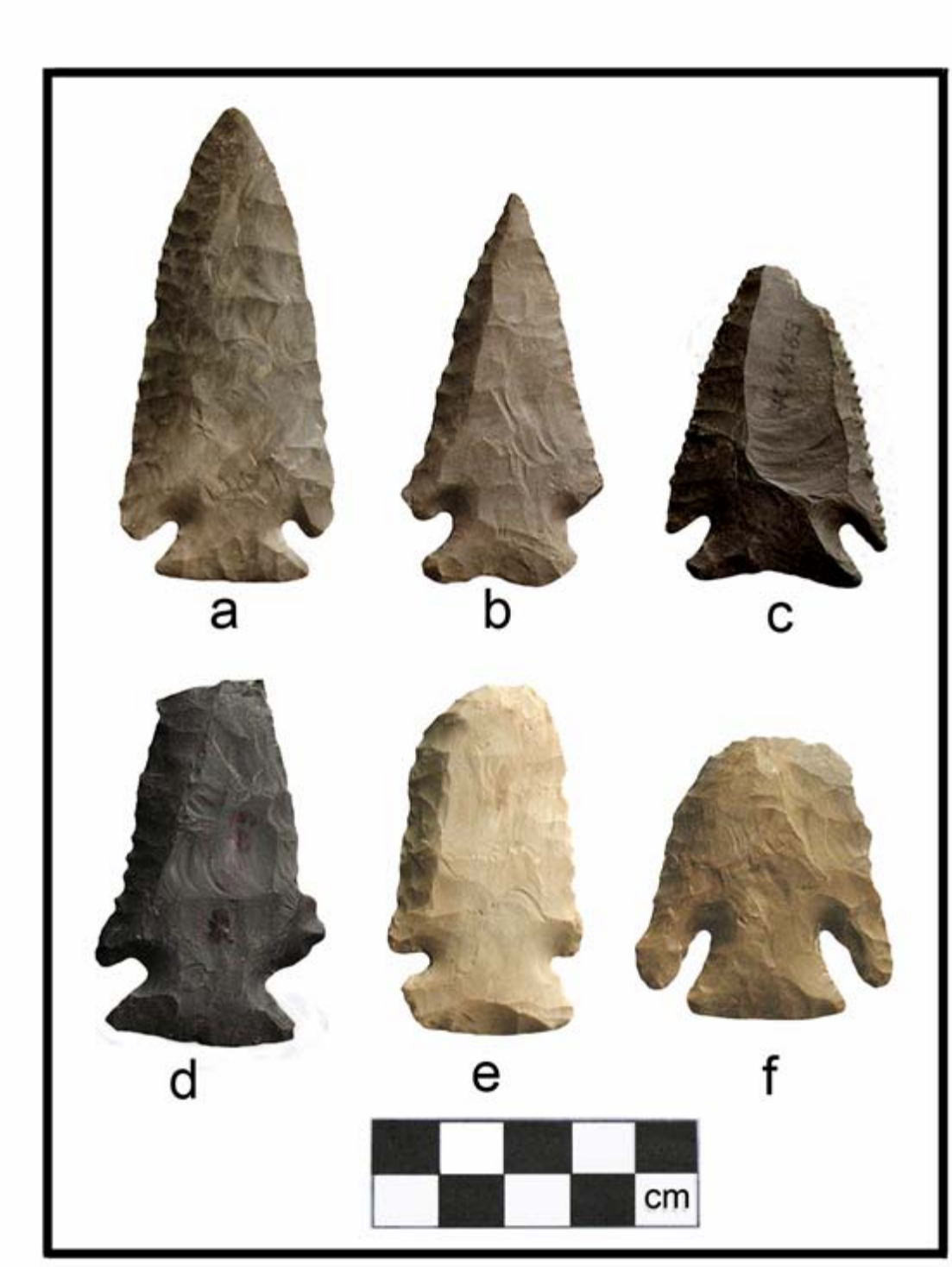

FIGURE 12. Lost Lake.

Plevna (Figure 13; Table 10)

Summary Description: Medium to long point with blade with single edge strongly beveled from opposing faces, deep corner notches producing an expanding stem with a prominent circular convex base.

Sample size: 6.

Form

Blade: Triangular with straight sides and a fairly flat face. Opposing edges of the blade are beveled from opposing sides of the blade, producing a rhomboid cross-section.
Base: Convex circular base, carefully shaped and ground.
Notches: Moderately deep elongate corner notches.
Stem: Expanding stem with straight sides.

Dimensions (in mm)

Length: 87.00-60.00, mean 76.48, s.d. 13.30; N=4
Width: 36.82-29.27, mean 34.36, s.d. 3.32
Thickness: 10.50-8.29, mean 9.33, s.d. 0.87
Stem length: 17.9-13.48, mean 15.69, s.d. 1.47
Minimum stem width: 20.38-18.32, mean 19.03, s.d. 0.73
Base width: 27.93-24.83, mean 26.97, s.d. 1.13

Material

Dover, St. Louis, and Camden represented.

Technique of Manufacture

The two complete specimens indicate roughing out a flat faced triangular blank that was first trimmed about the base (assuming the broken, unbeveled specimen is not St. Charles) and subsequently beveled along one side of the blade from each face, producing a rhomboid cross-section. If the beveling took place with the tip away from the artisan, the left edge was beveled in all cases. The base was then carefully finished with pressure retouch and grinding.

Comments

Two specimens (Figure 13c-d) have been retouched to produce an acute end. There is some wear on the distal edges. Another specimen (Figure 13e) has been retouched about the tip from one side to form a scraper.

TABLE 10. Plevna.

Object*	Length	Max blade width	Thick	Stem length	Min stem width	Max stem width	Grinding on base	Material
A	87	36.57	9.03	15.54	20.38	27.93	x	Dover
B	87.54	35.06	8.29	15.99	18.64	27.75	x	Dover
C	71.36	36.82	10.5	13.48	18.97	26.83	x	Dover
D	60	29.27	8.91	16.28	19.21	27.42	x	St. Louis
E	0	31.24	8.93	14.92	18.32	24.83	x ret 1side	Dover
F	0	37.22	10.29	17.9	18.68	27.04		Camden
Mean	76.48	34.36	9.33	15.69	19.03	26.97		
s.d.	13.30	3.32	0.87	1.47	0.73	1.13		
Range	87.54-60.00	37.22-29.27	10.29-8.29	17.90-13.48	20.38-18.32	27.93-24.83		

*Keyed to Figure 13

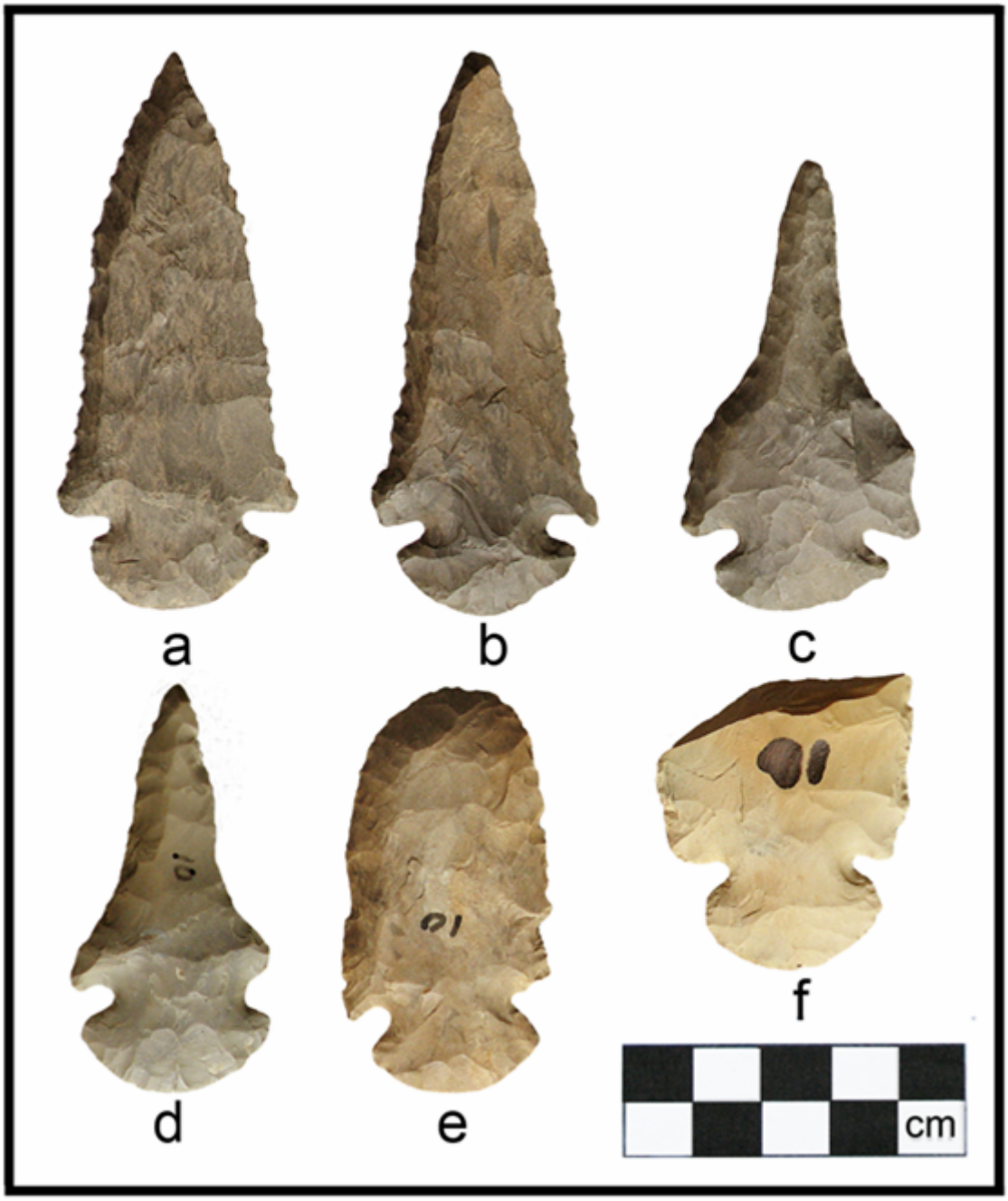

FIGURE 13. Plevna.

Kirk Serrated (Figures 14-16; Table 11)

Summary Description: Large to medium points with serrated triangular blades, wide corner notches producing horizontal to oblique shoulders and straight to slightly contracting stem with flat to slightly curved bases. Some serrations quite vigorous.

Sample size: 43.

Form

Blade: Generally elongate triangular with well defined serrations.
Base: Usually straight; some slightly incurvate or excurvate. Base margins frequently beveled (trimmed) by multiple pressure flakes, some lightly ground.
Notches: Right angular notches producing horizontal shoulders and straight to slightly contracting stem.
Stem: Typically straight to slightly contracting; expanding stems exist but are rare.

Dimensions (in mm)

Length: 86.99-44.73, mean 61.05, s.d.8.59
Blade width: 38.75-15.62, mean 28.20, s.d. 4.06
Thickness: 12.21-6.12, mean 8.08, s.d. 1.34
Maximum stem length: 16.88-8.16, mean 12.71, s.d.2.28
Distal stem width: 24.10-12.92, mean 18.67, s.d. 2.53
Base width: 26.41-12.41, mean 18.97, s.d. 3.14

Material

Dover and Ft. Payne. Buffalo River and Camden also represented.

Technique of Manufacture

Apparently elongate triangular blank roughed out with percussion, blades pressure retouched from both sides producing fine to very pronounced serration. Corners notched to form shoulders and stem, base thinned or retouched (beveled) from both sides.

Comments

This is a widely spread Early/Middle Archaic form (Broyles 1971:66-67, Coe 1964:70-71, Justice 1995:82-85). Oddly enough, only two examples were recovered from Rose Island (Chapman 1975:145) and the type is not common in the lower Little Tennessee River valley (Chapman 1977:37).

Coe (1964:69-70) lists three types of Kirk points: Corner-Notched, Stemmed, and Serrated. Coe's distinction between Kirk Stemmed and Kirk Serrated rests almost entirely on the conformity of the notches and the shoulders they produce; both forms have long narrow blades with deep serrations. Kirk Stemmed is described as having broad corner notches that produce a stem that expands slightly toward the base and shoulders that projected slightly backward (1964:70; my emphasis). In the terminology used here, Kirk Stemmed points have acute shoulders or tangs. For Kirk Serrated, there is no discussion of corner notches, but simply the comment that they have narrow shoulders squared with the stem. Coe is here suggesting that Kirk Stemmed is transitional between Kirk Corner-Notched and Kirk Serrated (cf. 1964:70).

Broyles, in describing her material from St Albans, states that she has the Corner-Notched (Zones 20, 18, and 16) and Stemmed (Zones 16 and 4) varieties but "Coe's third type of Kirk point, Kirk Serrated, has not been found thus far in or near the St. Albans site" (1971:29). Examination of Broyles' material indicates but a single shoulder that might be regarded as acute. Her material appears to conform most closely to Coe's Kirk Serrated.

This overly long discussion is offered in hopes of returning to original definitions (Coe's in this case), and to avoid compounding the confusion noted quite some time ago with regard to Kirk Corner-Notched, Charleston Corner-Notched, and Cypress Creek

types (McNutt and Weaver 1983:79). The west Tennessee specimens described herein are Kirk Serrated.

The relationship of Kirk Corner-Notched and Kirk Stemmed/Serrated merits some comment. Kirk Corner-Notched points as defined by Coe in North Carolina and documented by Broyles in West Virginia have moderate, circular-shaped notches. It is easy to envision the development from Kirk Corner-Notched (large variety at St. Albans) to Kirk Stemmed and Kirk Serrated on the basis of figures from Broyles and Coe, and there is at least a suggestion that this may have occurred at the Hardaway site (Coe 1964:70).

Points described as Kirk Corner-Notched for the Tennessee Valley in Alabama and central Tennessee (Cambron and Hulse 1969:70) have diagonal notches that are deep and very narrow, presenting the possibility of confusion with Cypress Creek points (Lewis and Lewis 1961). Oddly, Cambron and Hulse do not describe a Cypress Creek point. It is not easy to envision the development from these southern Kirk Corner-Notched points to Kirk Serrated points—indeed they represent very different traditions.

Kirk Serrated points are not particularly well dated in the senior author's opinion, but they post-date the bifurcate horizons in Tennessee and Alabama (cf. Griffin 1974, Sherwood et al. 2004) and appear to represent the earliest component at Eva (Lewis and Lewis 1961).

TABLE 11. Kirk Serrated.

Object*	Length	Width	Thick	Stem Length	Dist Stem Width	Base width	Ser-rate d	Flat side	Bev base	Material
a	86.99	38.75	12.21	12.22	24.1	26.41	x	x		Dover
b	76.89	31.3	7.91	13.88	21.99	22.66	x	x		Dover
c	69.69	29.42	8.14	16.42	19.26	18.11	x	x		Ft. Payne
d	72.28	29.82	6.3	8.96	18.26	16.38	x			Ft. Payne
e	71.97	29.32	9.17	12.74	21.11	22.03	x	x	x	Dover
f	67.69	27.54	7.98	12.28	18.95	18.17	x		x	Dover
g	68.92	30.8	8.31	14.6	20	20.33	x			Ft. Payne
h	68.46	27.93	7.88	8.28	14.84	14.89	x	x	x	Dover
i	66.61	26.78	9.2	16.88	19.62	26.08	x	x		Dover
j	69.27	27.22	7.94	9.99	20.14	19.04	x		x	Dover
k	62.19	29.35	6.49	10.18	20.57	17.78	x	x		Dover
l	61.36	32.44	7.42	10.59	22.18	20.92	x	x		Buffalo Riv.
m	61.72	32.31	9.91	15.58	22.18	25.6	x	x	x	Dover
n	64.45	28.66	8.73	11.66	17.05	17.21	x		x	Dover
o	64.44	31.71	6.39	10.07	20.72	20.49	x			Dover
Continued….										

*Keyed to Figure 14

TABLE 11 (continued). Kirk Serrated.

Object**	Length	Width	Thick	Stem Length	Dist Stem Width	Base width	Serrated	Flat side	Bev base	Ground base?	Material
a	64.41	28.85	7.65	12.06	17.86	13.98	x			x	Dover
b	63.24	24.32	8.91	16.42	16	17.82	x	x		x	Dover
c	59.24	36.22	7.02	10.26	19.3	18.88	x			x	Dover
d	59.83	30.53	7.57	12.58	18.72	17.74	x			x	Dover
e	58.97	29.23	7.53	14.93	15.77	17.12	x		x		Dover
f	58.61	26.87	9.72	15.58	19.43	18.07	x		x	x	Dover
g	53.62	24.68	6.67	13.59	21.25	26.03	x			x	Ft. Payne?
h	58	27.19	9.92	13.53	19.94	20.29	x			x	Dover
i	60.07	28.55	7.27	14.09	16.7	17.13	x			x	Dover
j	58.48	25.36	7.56	12.51	16.36	16	x			x	Dover
k	54.72	23.6	7.75	16.88	16.27	18.91	x				Dover
l	55.14	24.11	7.74	10.24	16.49	18.69	x			x	Dover
m	53.82	24.01	7.06	13.49	14.56	16.18	x				Dover
n	51.34	15.62	6.22	12.7	13.57	15.52	beveled				Dover
o	47.51	25.47	6.66	13.8	16.92	18.9	x			x	Dover
p	44.73	25.57	6.12	13.89	17.62	16.88	x				Dover
Object***											
a	69.85	34.99	8.23	12.13	21.62	19.59	x		x		heated
b	64.78	25.69	8.69	11.74	15.93	15.58	x				Camden ?
c	64.1	23.13	9.63	8.16	12.92	12.41	burined				White Dover
d	58.75	26.55	8.01	13.76	17.3	19.9	x			x	Ft. Payne
e	52.96	28.4	7.04	13.01	19.54	17.5	x			x	Dover
f	52.89	28.98	7.74	12.59	21.35	22.38	x			x	Ft. Payne
g	53.53	26.77	8.19	14.09	20.28	21	x				Dover
h	54.13	25.58	8.76	14.69	18.28	19.06	x				Dover ?
k	48.82	30.72	8.25	10.33	18.61	17.82	x			x	Camden
l	48.61	23.22	6.68	10.17	17.5	16.38	x			x	White Dover
i		30.11	11.69	10.37	21.89	19.02	x				Camden
j		34.94	9.31	14.78	19.96	20.82	x				Dover ?
mean	61.051	28.2	8.083	12.714	18.67233	18.97					
s.d.	8.5867	4.0637	1.3412	2.2842	2.531278	3.1438					
range	44.73-86.99	15.62-38.75	6.12-12.21	8.16-16.88	12.92-24.10	12.41-26.41					
N	41	43	43	43	43	43					

**Keyed to Figure 15
***Keyed to Figure 16

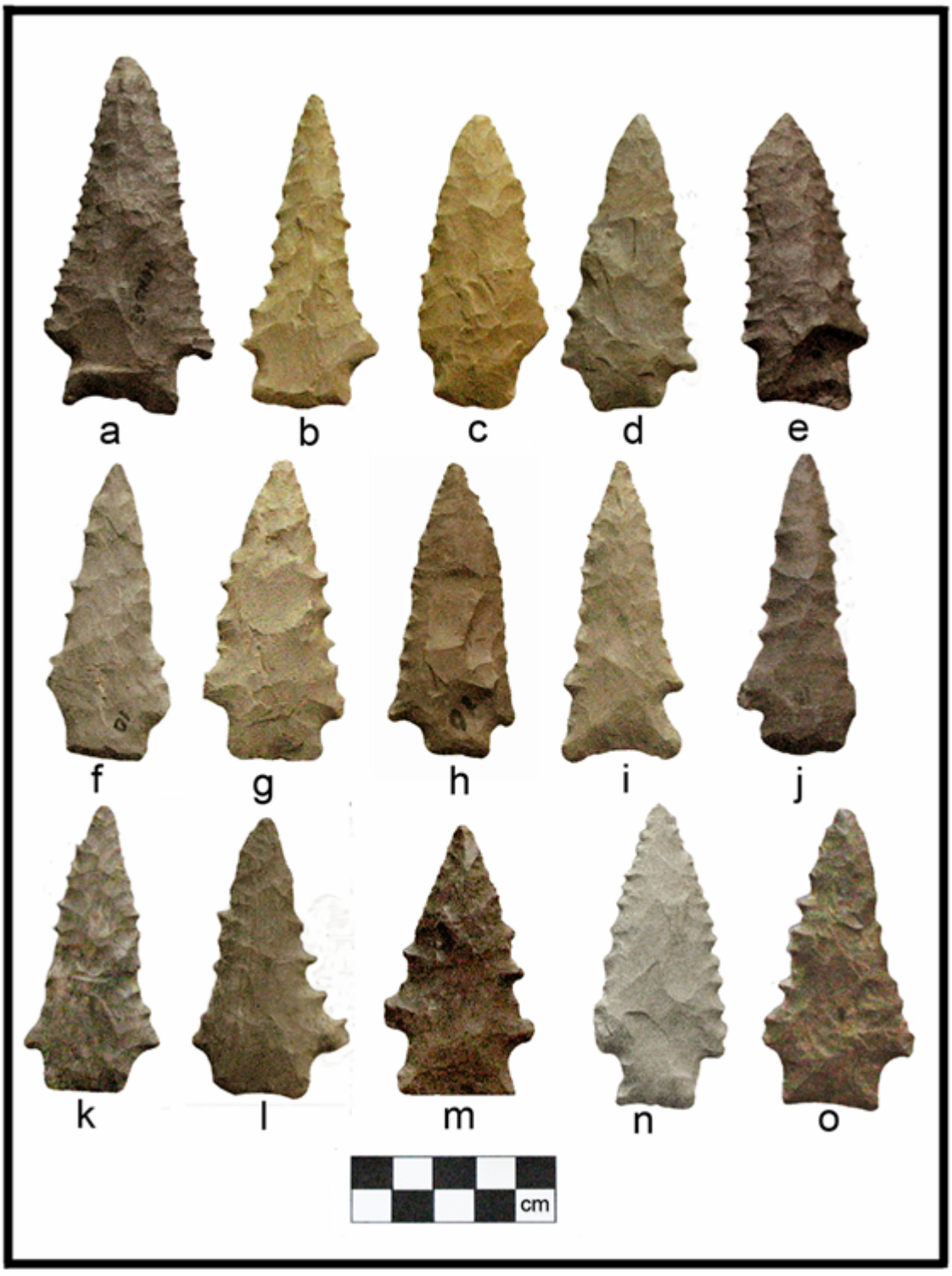

FIGURE 14. Kirk Serrated.

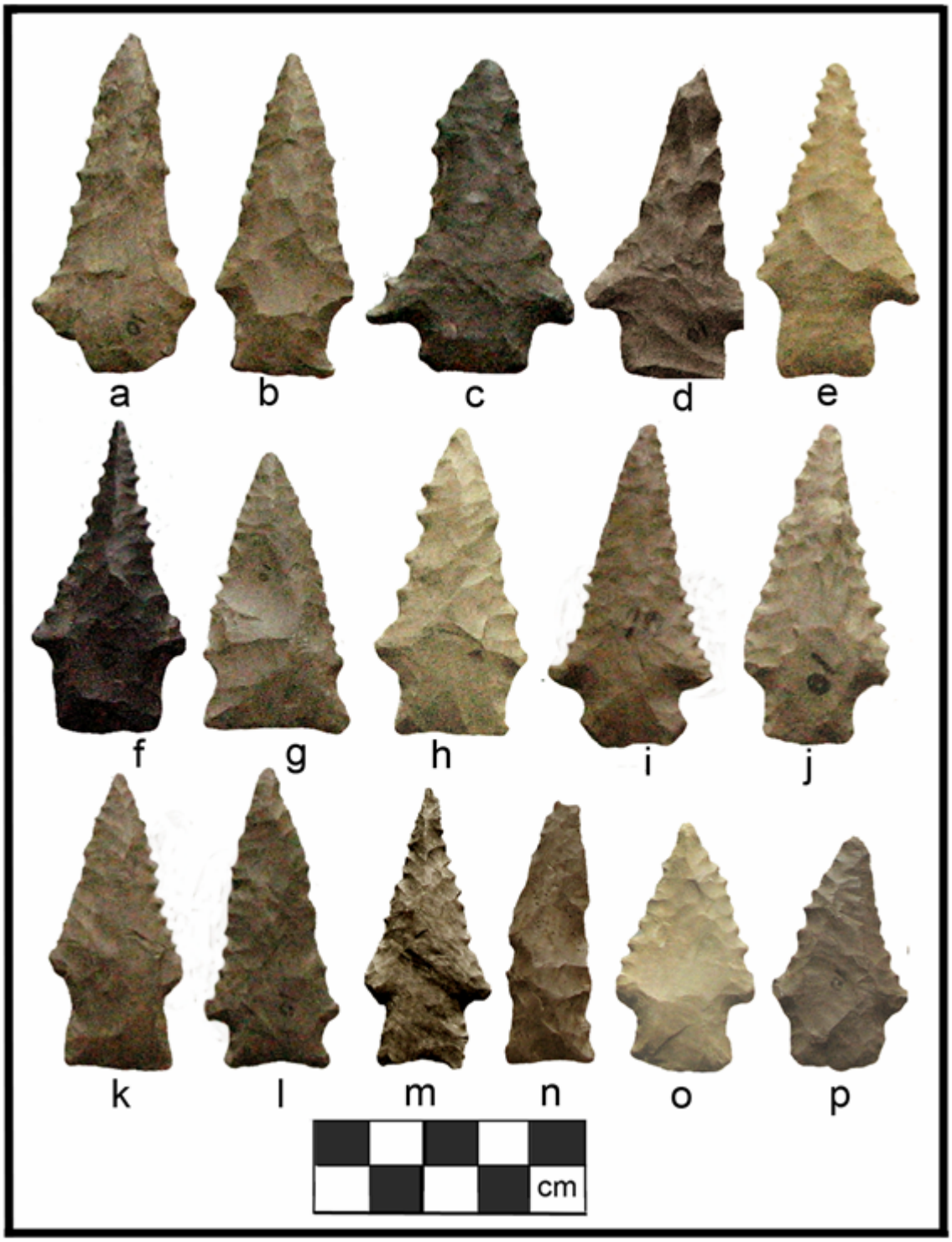

FIGURE 15. Kirk Serrated.

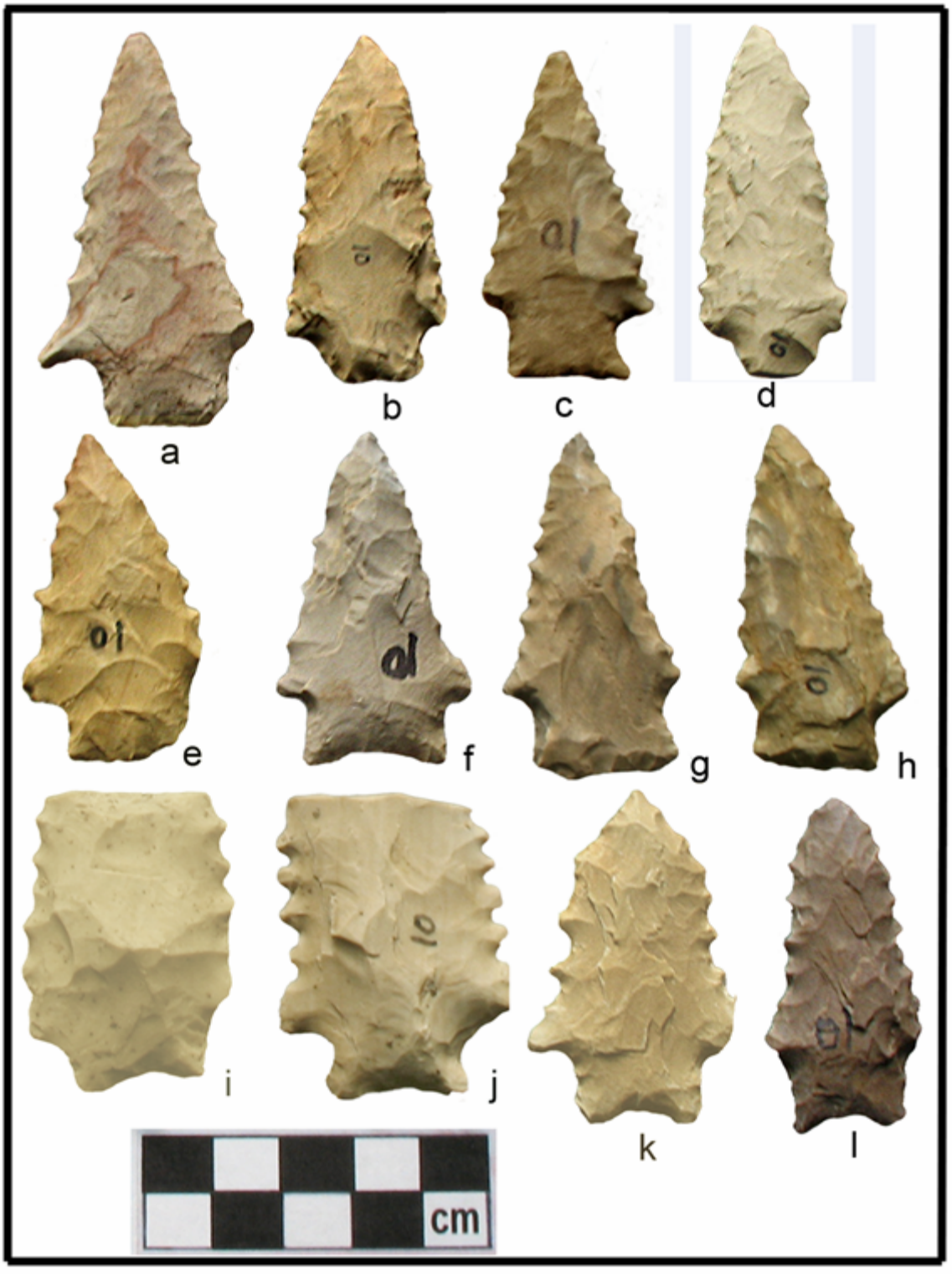

FIGURE 16. Kirk Serrated.

Cypress Creek (Figure 17; Table 12)

Summary Description: Medium to large point, triangular blade with slightly excurvate to recurvate sides, deep narrow corner notches producing expanding stem. Serrations and/or basal grinding common.

Sample size: 16.

Form

Blade: Elongate triangular, with slightly excurvate to recurvate edges. Careful pressure retouch producing fine serrations common (N=10).
Base: Usually straight, sometimes (N=6) ground.
Notches: Narrow diagonal notches produced by single blow from each face. Retouch rare.
Stem: Expanding, sides slightly concave to straight.

Dimensions (in mm)

Length: 82.93-53.49, mean 64.19, s.d. 10.10; N=12
Width: 39.91-31.90, mean 35.30, s.d. 2.72; N=11
Thickness: 10.92-6.55, mean 8.29, s.d. 1.21
Stem length: 15.75-9.53, mean 12.65, s.d. 1.47
Minimum stem width: 22.54-14.41, mean 19.47, s.d. 1.98
Base width: 30.54-14.27, mean 26.63, s.d. 3.85

Material

Fort Payne with some Dover, plus examples of Buffalo River and Brassfield.

Technique of Manufacture

Blades roughed out by random flaking, frequently carefully retouched to produce fine serrations. Diagonal corner notched produced by single blow from each face; notch edges usually not retouched. Bases typically flat, occasionally ground. Two examples (Figure 17b and n) are heat-treated.

Comments

These Cypress Creek points were sorted primarily on the basis of narrow corner notches and expanding stems with fairly flat bases. Beveled examples were categorized as Lost Lake (q.v.). There is a fair amount of variability in raw materials and heat treatment. Most of the examples (Figure 17a-j) have unground bases, the specimens in Figure 11k-p have ground bases. Two examples have been retouched from one face about the end to form a scraper (only one shown), another has been reworked to form a drill or perforator (Figure17o and p, respectively).

The matter of corner notching variation, touched upon in comments on Kirk Corner-Notched and Kirk Serrated points, requires and deserves much closer study. Deep narrow corner notches do appear early in such forms as Charleston Corner Notched (Broyles 1971:56), Lost Lake (Cambron and Hulse 1969:46) and probably some Pine Tree Corner Notched (Cambron and Hulse 1969:96). It would be most difficult to distinguish what is here classed as Cypress Creek (solely on the basis of deep and narrow corner notching) from an unbevelled Lost Lake. The comparably notched Cypress Creek points from the Eva site occur above Kirk Serrated points (Lewis and Lewis 1961:Table 6) and are obviously later than the early forms (Charleston, Lost Lake, Pine Tree) listed above.

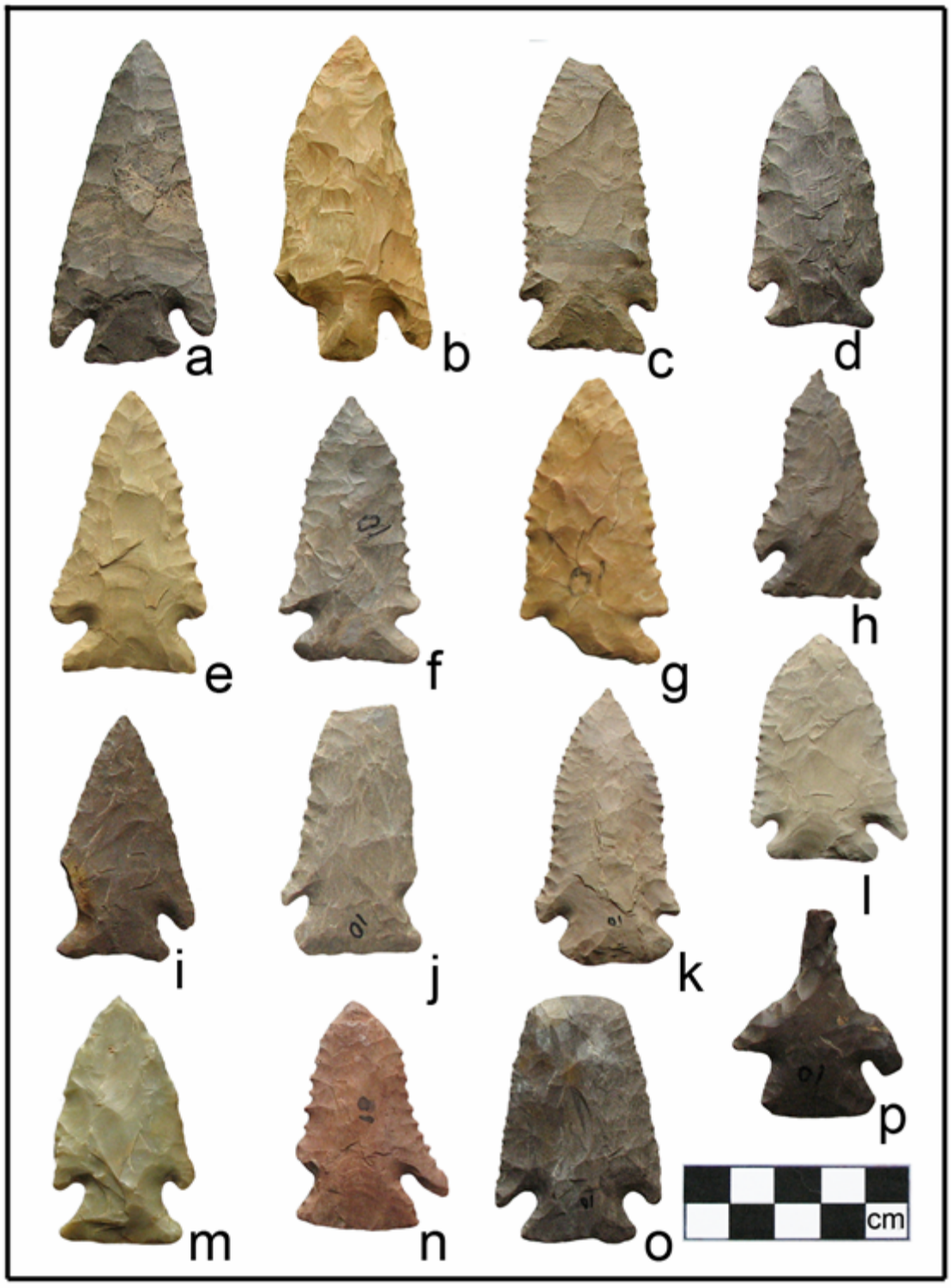

FIGURE 17. Cypress Creek.

TABLE 12. Cypress Creek.

Object*	Length	Max blade width	Thick	Stem length	Min stem width	Max stem width	Base or auricles ground	Material
a	82.91	39.91	10.65	12.74	17.77	23.63		Dover
b	82.93	0	10.92	15.75	14.41	14.27		Buffalo Riv.
c	0	33.4	8.5	13.27	20.93	28.36	serr	Ft. Payne
d	66.13	34	8.9	9.53	20.37	27.46		Dover
e	64.58	35.27	7.39	12.69	20.44	30.54	serr	Ft. Payne
f	62.82	32.84	7.28	12.46	18.56	28.82	serr	Ft. Payne
g	63.45	32.61	8.7	12.33	20.73	0	serr	Tuscaloosa
h	54.58	0	6.55	12.21	17.82	28.94	serr	Ft. Payne
i	55.34	0	6.94	12.32	19.17	26.55		Ft. Payne
j	0	0	7.89	14.55	22.54	30	serr	Dover
k	69.68	34.37	8.39	13.55	21.11	27.07	x serr	Ft. Payne
l	57.16	38.07	7.12	10.2	21.33	26.55	x serr	Ft. Payne
m	57.2	31.9	8.61	13.89	17.22	27.74	x	Brasfield
n	53.49	0	7.67	12.36	19.77	27.93	x serr	Ft. Payne
o	0	37.9	8.76	12.1	19.24	26.14	x serr	Dover
p	0	37.99	8.31	12.49	20.17	25.42	x	Ft. Payne
mean	64.19	35.30	8.29	12.65	19.47	26.63		
s.d.	10.10	2.72	1.21	1.47	1.98	3.85		
range	82.93-53.49	39.91-31.90	10.92-6.55	15.75-9.53	22.54-14.41	30.54-14.27		
N	12	11	16	16	16	15		

*Keyed to Figure 17

Copena (Figures 18-19; Table 13)

Summary Description: Medium to long blade with shallow waist formed by recurved edges. Bases flat, frequently with light grinding. Long and short varieties are apparently present (Figures 18 and 19, respectively).

Sample size: 14

Form

Blade: Essentially triangular with recurved sides.
Base: Basically flat, with slight variation.
Notches: None.
Stem: Presumably below maximum blade constriction. Slightly expanding.

Dimensions (in mm) (overall; both varieties)

Length: 97.42-39.93, mean 63.61, s.d 19.08
Maximum width: 28.66-18.21, mean 22.96, s.d.3.08
Minimum width: 28.33-17.40, mean 21.31, s.d. 3.51
Thickness: 9.34-6.06, mean 7.81, s.d. 2.70
Stem length: 20.42-11.43, mean 16.27, s.d. 2.70
Base width: 27.28-18.98. mean 23.14, s.d. 2.97

Material

Primarily Dover, but St. Louis and Camden represented.

Technique of Manufacture

Blank roughed out with direct percussion, edges carefully trimmed, base thinned and frequently ground.

Comments

This is a relatively late type, included here because this form has not been discussed in the Western Tennessee River Valley. Two variants based on length appear to be present. See Table 13 for individual measurements of each variant. Note that the item shown in Figure 15f is included with the shorter variety.

TABLE 13. Copena.

Object *	Length	Max blade width	Min blade width	Thick	Stem length	Basal width	Grinding	Material
a	97.42	23.18	19.7	8.5	20.42	21.84	x	Dover
b	91.34	22.41	17.53	8.4	19.32	20.82	x	Dover
c	81.48	26.05	25.75	9.34	17.07	27.17	x	Dover
d	81.05	28.66	28.33	7.24	20.39	26.58	x	Camden
e	76.97	27.47	23.73	8.63	15.47	25.74	x	Dover
f	66.7	24.6	24.33	8.59	17.63	27.28	x	Dover
Object **								
a	59.62	18.21	17.44	6.65	16.61	18.98	x	Dover
b	57.2	23.33	23.29	8.11	14.47	25.05		Dover
c	56.22	22.74	19.24	7.74	17.85	21.19	x	Dover
d	46.39	19.52	17.4	6.23	13.77	19.06		St. Louis
e	49.48	23.21	22.35	8.8	15.13	24.82	x	Dover
f	46.67	18.6	17.55	7.58	15.19	19.81		St. Louis
g	40.11	20.93	19.27	6.06	11.43	22.4	x	Dover
h	39.93	22.47	22.44	7.43	13.07	23.15		Dover
Mean	63.61	22.96	21.31	7.81	16.27	23.14		
s.d.	19.08	3.08	3.51	1.00	2.70	2.97		
range	97.42-39.93	28.66-18.21	28.33-17.40	9.34-6.06	20.42-11.43	27.28-18.98		
N	14	14	14	14	14	14		
Large								
mean	85.65	25.55	23.01	8.42	18.53	24.43		
s.d.	8.44	2.70	4.40	0.76	2.19	2.90		
range	97.42-76.97	28.66-22.41	28.33-17.53	9.34-7.24	20.4215.47	27.17-20.82		
N	5	5	5	5	5	5		
Small								
mean	51.37	21.51	20.37	7.47	15.02	22.42		
s.d	9.14	2.29	2.74	0.98	2.12	2.92		
range	66.70-39.93	24.60-18.21	24.33-17.40	8.59-6.06	17.85-11.43	27.28-18.98		
N	9	9	9	9	9	9		

*Keyed to Figure 17
**Keyed to Figure 18

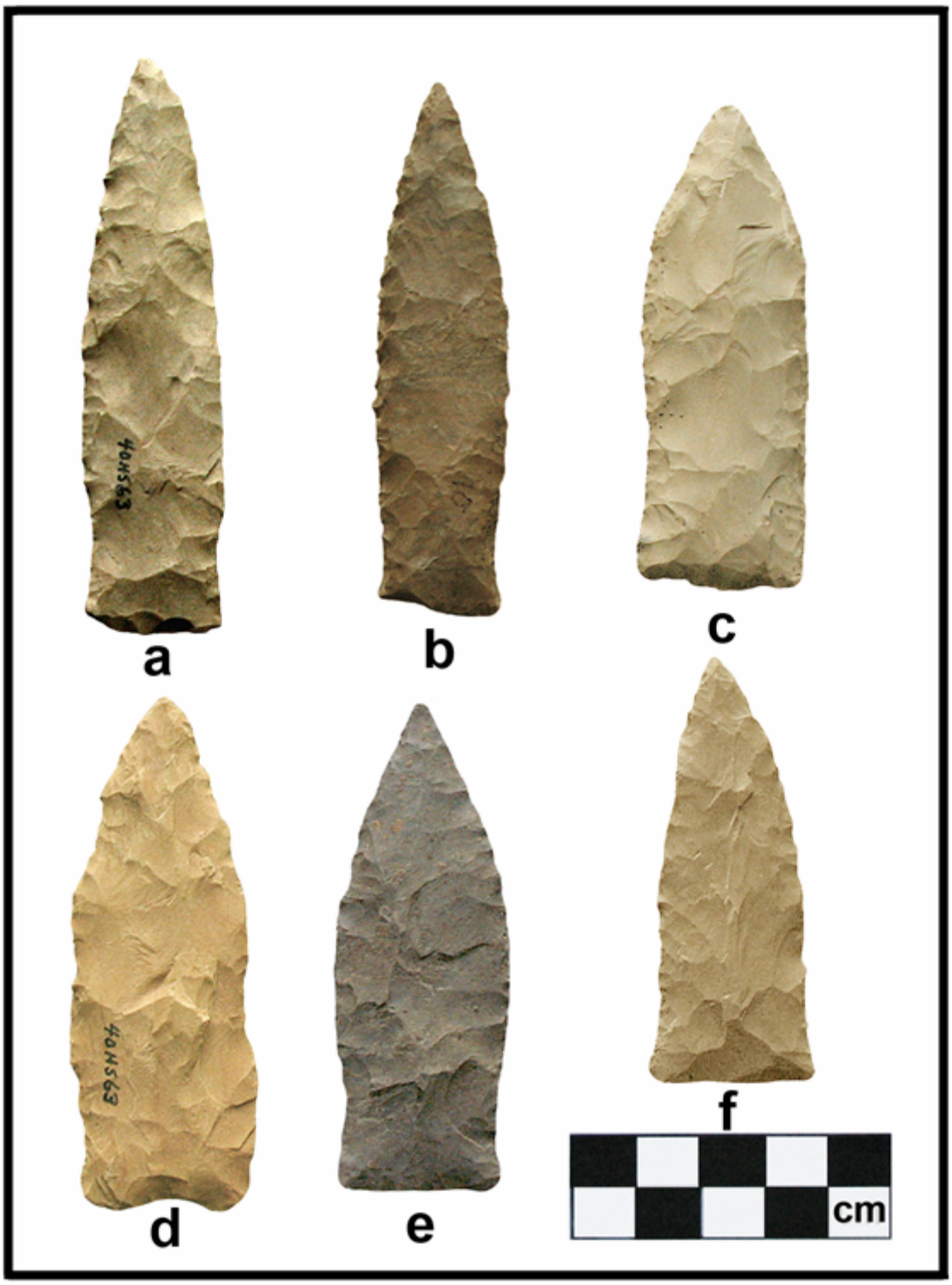

FIGURE 18. Copena (a-e, large; f, small)

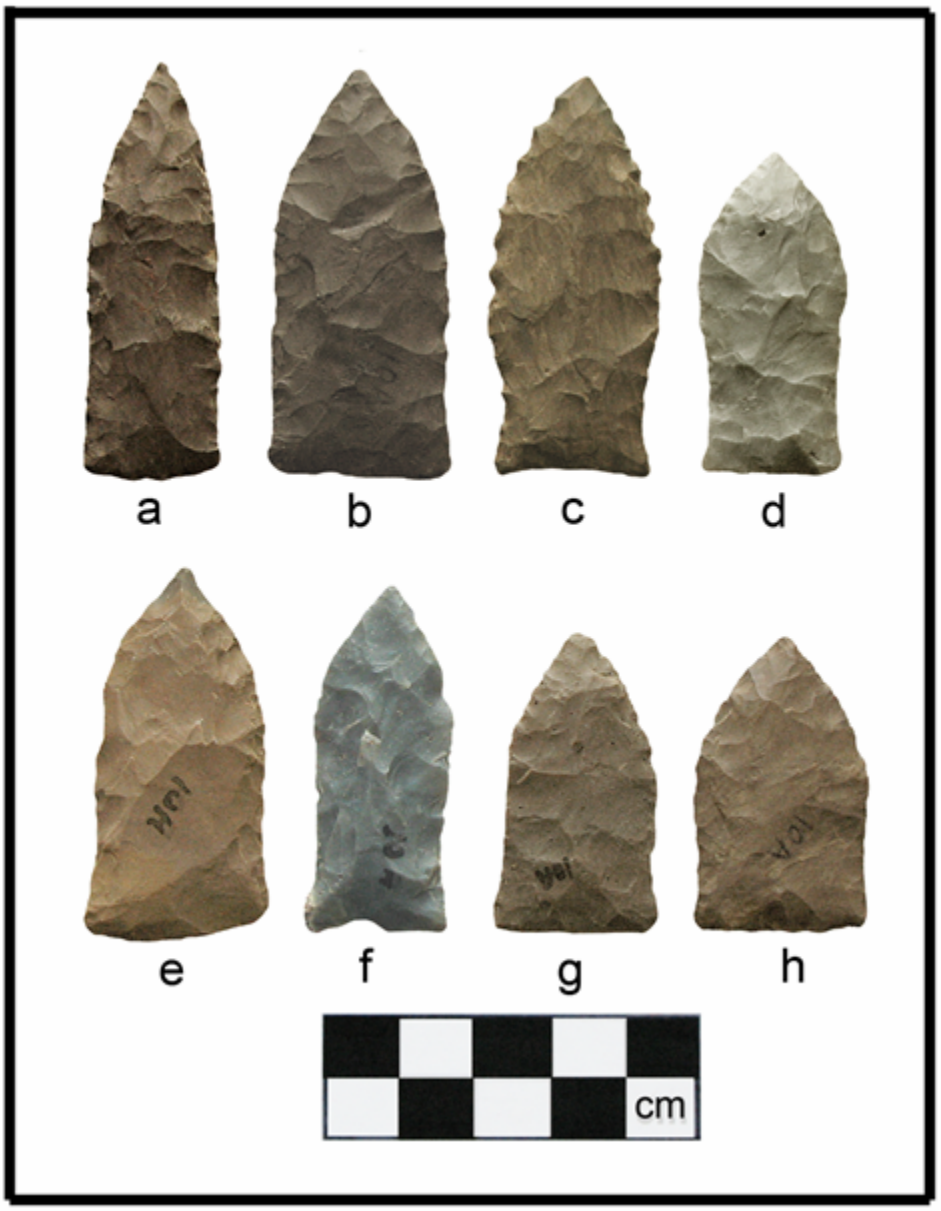

FIGURE 19. Copena, small.

Other Point Types, Point Varieties, and Non-Projectile Forms

The collection from site 40HS174 is very large and no attempt has been made to describe it in its entirety. Stemmed points, presumably later, were avoided. A large number of points are regarded as variants or transitional forms; these were simply photographed and are presented in Figures 20-26. Non-projectile forms (knives, large flakes, end scrapers, and drills) were sampled and photographed; they are presented in Figures 27-32. Finally, a group of gorgets is presented in Figure 33.

FIGURE 20. Miscellaneous points. Top row might quality as non-bevelled Ecusta, but are probably Pine Trees. Two Wheeler points in the second row. Bottom left is the only point found that seems to be a good LeCroy or Kanawha.

FIGURE 21. These points are regarded as Greenbriar variants, lacking only the concave base. All made from Dover. Example in upper right probably a Jeff point.

FIGURE 22. A mixture of Greenbrier, Kirk Corner Notched, and transitional forms.

FIGURE 23. Unclassified corner notched points.

FIGURE 24. Unclassified corner notched points.

FIGURE 25. Eva II and Morrow Mountain points. The distinction appears to be whether or not the base projects below the tangs or corners, the former distinguishing the Morrow Mountains.

FIGURE 26. Big Sandy and side-notched forms. The two points on the upper left might be happier as corner notched points.

FIGURE 27. Bifaces.

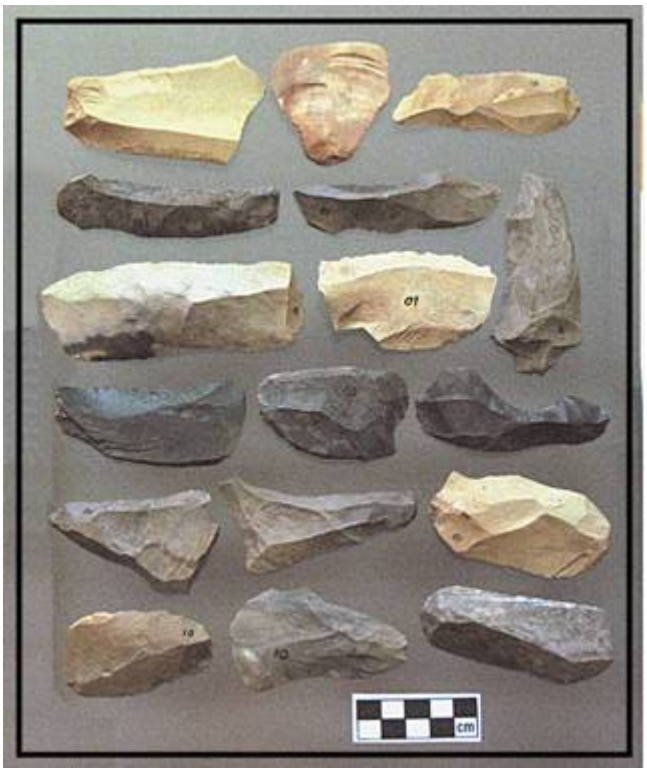

FIGURE 28. Flakes.

FIGURE 29. Large end scrapers.

FIGURE 30. Small end scrapers.

FIGURE 31. Small end scrapers.

FIGURE 32. Drills.

FIGURE 33. Gorgets.

Concluding Remarks

The major goal of this paper has been to flesh out the Early Archaic period in the Western Tennessee River Valley. There are also major Paleo-Indian components at this site, although a relatively small amount comes from the Sims collection. Of course, Paleo-Indian occupation of this region is fairly well documented (Broster and Norton 1996 and references therein).

The material from site 40HS174 and the Big Bottom site (Sims 1971) provide evidence of Greenbrier, early corner-notched, bifurcate, and Kirk Serrated traditions in this region, which lead into to the Middle Archaic sequence from Eva (Lewis and Lewis 1961).

Acknowledgments: This study is a small tribute to the careful work and professional approach to surface collecting by Mr. Ernest J. Sims. He is a major contributor to the archaeology of the middle Tennessee River Valley. Mr. Gary Barker of the Tennessee Department of Transportation also provided valuable assistance to the senior author during the early part of the project.

References

Adair, Lou C. and Ernest J. Sims
1970 Rockport Variety, Harpeth River Point. *Tennessee Archaeologist* 26(2):23-29.

Broster, John B. and Mark R. Norton
1996 Recent Paleoindian Research in Tennessee. In *The Paleoindian and Early Archaic Southeast*, edited by David G. Anderson and Kenneth E. Sassaman, pp.288-297. University of Alabama Press, Tuscaloosa.

Broyles, Bettye J.
1971 Second Preliminary Report: The St. Albans Site, Kanawha County, West Virginia. *West Virginia Geological and Economic Survey Report, Archaeological Investigation 3*.

Cambron, James W.
1970 Harpeth River Point. *Tennessee Archaeologist* 26(1):15-18.

Cambron, James W. and David C. Hulse
1969 *Handbook of Alabama Archaeology, Part I: Point Types*. Archaeological Research Association of Alabama

Chapman, Jefferson
1975 *The Rose Island Site and the Bifurcate Point Tradition*. University of Tennessee Department of Anthropology, Report of Investigations No.14. Knoxville.
1977 *Archaic Period Research in the Lower Little Tennessee River Valley*. University of Tennessee Department of Anthropology, Report of Investigations No. 18. Knoxville.

Coe, Joffre L.
1964 *The Formative Cultures of the Carolina Piedmont*. Transactions of the American Philosophical Society 54, Part 5. Philadelphia.

Griffin, John W.
1974 *Investigations in Russell Cave, Russell Cave National Monument, Alabama*. National Park Service Publications in Archaeology No. 13. GPO.

Jones, J. Scott
2007 The Tennessee-Duck River Paleoindian Complex: Projectile Points and Raw Material Use at the Pleistocene-Holocene Transition. Paper delivered at the 64th Meeting of the Southeastern Archaeological Conference, Knoxville, Tennessee.

Justice, Noel D.
1995 *Stone Age Spear and Arrow Points of the Midcontinental and Eastern United States*. Indiana University Press.

Lewis, Thomas M. N. and Madeline Kneberg
1958 The Nuckolls Site. *Tennessee Archaeologist* 14(2):60-79.

Lewis, Thomas M. N. and Madeline Kneberg Lewis
1961 *Eva: An Archaic Site*. University of Tennessee Press, Knoxville.

McNutt, Charles H. and Guy G.Weaver
1983 *The Duncan Tract Site (40TR27), Trousdale County, Tennessee*. Tennessee Valley Authority Publications in Anthropology No. 33. Chattanooga.

Sherwood, Sarah C., Boyce N. Driskell. Asa R. Randall, and Scott C. Meeks
2004 Chronology and Stratigraphy at Dust Cave, Alabama. *American Antiquity* 69:533-554.

Sims, Ernest J.
1971 The Big Bottom Site. *Tennessee Archaeologist* 27(2):50-91.

Charles H. McNutt
351 Grandview
Memphis, Tennessee 38111

John B. Broster
Tennessee Division of Archaeology
1216 Foster Ave., Cole Bldg 3
Nashville, Tennessee 37243

Mark R. Norton
Tennessee Division of Archaeology
1216 Foster Ave., Cole Bldg 3
Nashville, Tennessee 37243

TWO MISSISSIPPIAN BURIAL CLUSTERS AT TRAVELLERS' REST, DAVIDSON COUNTY, TENNESSEE

Dan Sumner Allen IV

Two adjacent Mississippian period burial clusters were removed at the Travellers' Rest site (40DV11) in Davidson County, Tennessee from August through November 1995. A total of fourteen individuals from twelve stone-box graves and one pit grave were exhumed during the project. Cluster 1 contained five graves adjacent to the east corner of the carriage house, whereas Cluster 2 consisted of eight graves grouped just to the southeast of the carriage house. Six shell-tempered vessels were among the associated mortuary goods recovered from the graves, including an exceptional anthropomorphic rim-rider from Burial 5.

Travellers' Rest is best known as the historic home and plantation of the family of Judge John Overton, one of Middle Tennessee's early settlers and most prominent citizens (Figure 1). The presence of a substantial Mississippian occupation was recognized as early as 1799 when construction of the original Overton home uncovered "…35 or more human sculls & a vast number of bones" (Miller 1987; Nutt 1805). Travellers' Rest has been the subject of several small-scale archaeological studies spanning almost two centuries (Hinshaw 1980; Jones 1876; Miller 1987; Myer 1923; Nutt 1805; Putnam 1878; Williams 1988). The Mississippian component consists of an estimated ten-acre village (see Allen 1996 and Miller 1987 for additional details).

Project Description

The initial objective of the 1995 investigation was to determine whether prehistoric burials were present within the construction footprint for a new education and administrative center. The impact zone included the area beneath and surrounding a late-nineteenth or early-twentieth century carriage house that was to be razed as part of the construction project. Four probable stone-box graves were identified adjacent to the structure during the preliminary investigation. After structure demolition, block excavations uncovered a total of thirteen prehistoric graves containing the remains of fourteen individuals (Figure 2). The burials were situated in two distinct clusters approximately ten meters apart. The grave types included eleven individual stone-box interments, one double stone-box interment, and one individual pit interment (Figure 3; Tables 1 and 2).

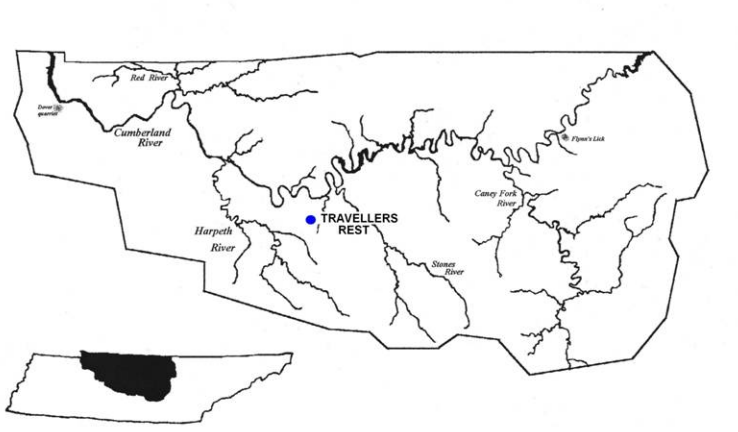

FIGURE 1. Location of Travellers Rest in the Middle Cumberland valley (*Courtesy, Kevin E. Smith*).

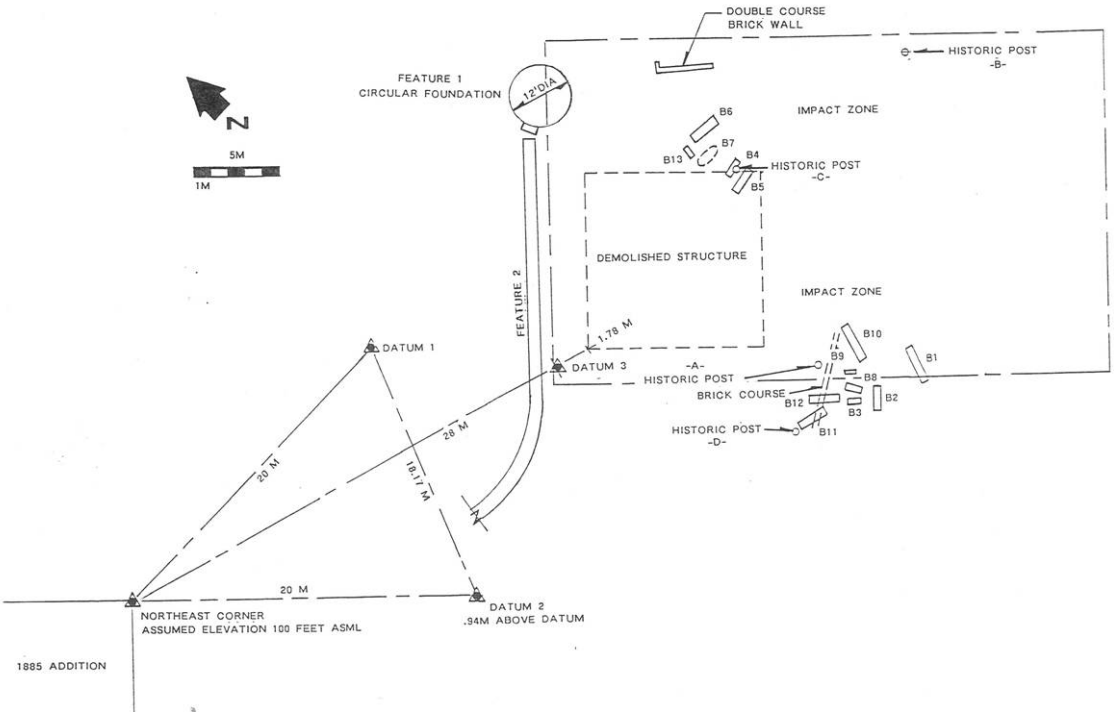

FIGURE 2. Plan view of construction impact zone.

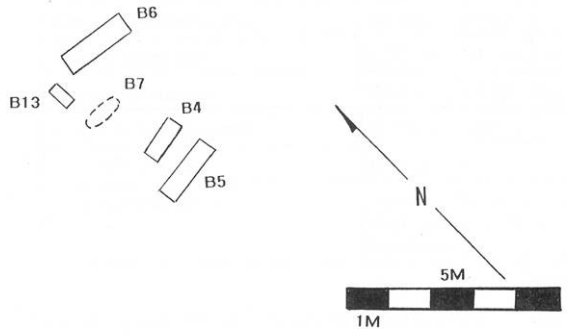

FIGURE 3. Plan view of prehistoric burial clusters (Cluster 1, upper left; Cluster 2, lower right).

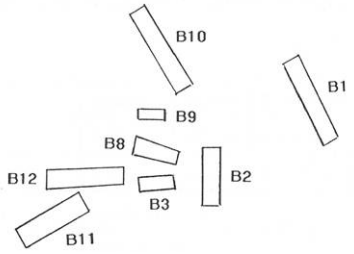

TABLE 1. Burial Demographics and Mortuary Inclusions.

Burial	Cluster	Age	Sex	Artifact Inclusions
1	2	Adult (ca. 35 years)	Male	Fragmented Bell Plain notched rim bowl
2	2	Adult (35-45 years)	Female	
3	2	Child ?	Indeterminate	
4	1	Child (2.5-3.5 years)	Indeterminate	Mussel shell spoon
5	1	Adolescent (11-12 years)	Female	Bell Plain outslanting wall bowl; Bell Plain anthropomorphic rim-rider bowl; Ceramic sphere Shell beads
6	1	Adult (35-45 years)	Male	
7	1	Adult (age indeterminate)	Male	
8	2	Child (2.5-3.5 years)	Indeterminate	Bell Plain mussel shell effigy bowl; Shell bead necklace
9	2	Infant (4-8 months)	Indeterminate	
10a	2	Adult (35-45 years)	Male	Two mussel shell spoons
10b	2	Adult (40-50 years)	Female?	
11	2	Adult (35-45 years)	Male	
12	2	Adult (35-40 years)	Female	Bell Plain jar
13	1	Infant (15-21 months)	Indeterminate	Bell Plain blank face hooded bottle

TABLE 2. Grave Dimensions and Treatment.

Burial	Burial Dimensions (cm)			Grave Dimensions (cm)			Cap Treatment	Floor Treatment
	Length	Width	Thickness	Length	Width	Thickness		
1	176	33	12	203	45	31	Limestone slab	Earth
2	140	40	12	172	49	28	Indeterminate	Earth
3	--	--	--	93	32	20	Limestone slab	Limestone slab
4	112	35	12	112	35	26	Limestone slab	Earth
5	133	35	20	139	38	32	Limestone slab	Ceramic sherds
6	178	32	12	178	46	30	Limestone slab	Earth
7	87	35	8	175	40	30	None	Earth
8	81	24	20	108	32	18	Limestone slab	Earth
9	49	18	6	77	30	24	Limestone slab	Earth
10	167	35	18	190	47	18	Limestone slab	Earth
11	152	35	8	190	49	31	Limestone slab	Earth
12	154	29	17	199	37	29	Limestone slab	Earth
13	64	18	7	82	28	22	Ceramic sherds over Limestone slab	Earth

Cluster 1 Burial Descriptions

Cluster 1 consisted of five graves (Burials 4, 5, 6, 7, and 13) in a relatively tight group underneath and adjacent to the east corner of the carriage house. The cluster contained the remains of two adult males, an adolescent female, a child, and an infant. Four graves (Burials 4, 5, 6, and 7) shared a similar orientation, while the infant grave (Burial 13) was oriented perpendicular to the others (see Figure 3).

Burial 4 comprised the poorly preserved remains of a child between 2.5 to 3.5 years of age. The burial was partially covered by a single layer of capstones overlying the western one-third of the burial. A historic wooden post in the middle of the south wall of the grave had disturbed most of the capstones and a section of the south wall, and had also scattered the skeletal remains. Cranial fragments, dentition and vertebra were retrieved from both ends of the stone-box. Recovered artifacts include a probable shell spoon from the northeast end of the grave as well as incidental shell-tempered ceramic sherds.

Burial 5 consisted of the remains of an 11 to 12 year old adolescent female placed in an extended and supine position

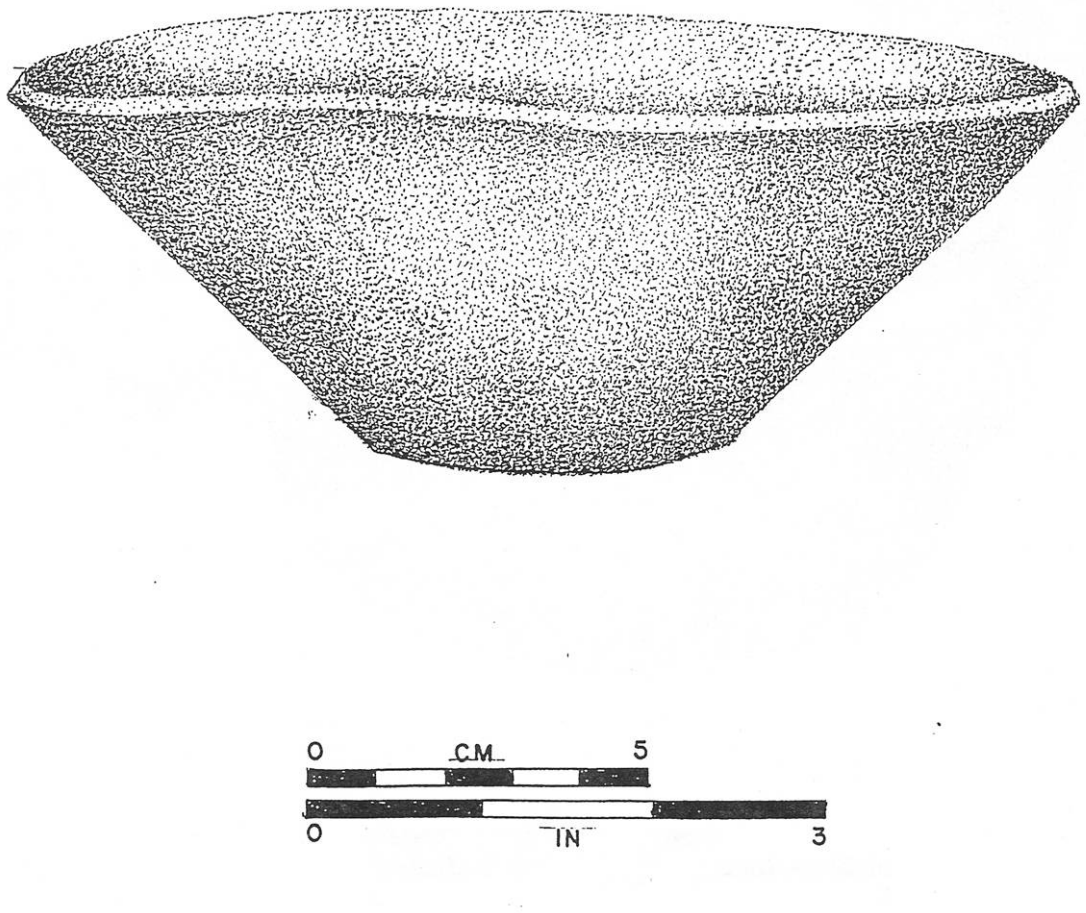

FIGURE 4. Outslanting wall bowl from Burial 5 (*Courtesy, Joe Benthall*).

with the head to the west. The skeletal preservation was moderate to poor. Cranial remains were twisted to the north and facing downwards as if the stone-box had been too short for full extension of the remains. An intact double layer of capstones covered the stone-box. The floor underlying the burial was constructed of a mosaic pavement of shell-tempered ceramic sherds.

An outslanting wall bowl with finely crushed shell-temper was found directly under the capstones inside the south wall (Figure 4). This bowl was above the pelvic region and appeared to have been placed in the right hand of the individual. An anthropomorphic rim-rider bowl with finely crushed shell-temper was also present in this grave overlying the individual's feet (Figures 5-7). Additional associated grave items include several shell beads recovered from the area surrounding the cervical or thoracic vertebrae, and a spherical ceramic object recovered near the cranial remains. The burial fill contained a large number of miscellaneous shell-tempered sherds.

Burial 6 included the remains of an adult male (35 to 45 years old). The burial position, although unclear, was probably extended and supine. The burial was overlain by a double capstone that was

FIGURE 5. Anthropomorphic rim-rider vessel from Burial 5, *in situ*.

approximately two-thirds intact on the western portion of the grave.

Burial 7 contained the poorly preserved remains of an adult male placed in an extended and supine position. The head was to the west and turned to the left side (facing north). This pit burial was truncated through the femur at a point directly below the pelvic region during grading operations. Skeletal preservation was poor and no artifacts were associated with the burial.

Burial 13 comprised the moderately well preserved remains of a 15 to 21 month old infant placed in an extended and supine position with the head to the south (facing north). The skeletal remains were approximately 90 percent complete but extremely fragile. The double-capped grave displayed limestone slabs overlain by a layer of large, shell-tempered ceramic sherds. A small, fine shell-tempered, blank face hooded bottle was located by the right side of the crania (Figure 8).

Cluster 2 Burial Descriptions

Cluster 2 consisted of eight graves (Burials 1, 2, 3, 8, 9, 10, 11, and 12) grouped just to the southeast of the carriage house (see Figure 3). These graves displayed a variety of orientations. Burials 3, 8, 9, and 12 shared a similar northwest to southeast orientation. Burials 1 and 10 were oriented somewhat north to south,

FIGURE 6. Profile of rim-rider vessel from Burial 5 (*Courtesy, Aaron Deter-Wolf).*

while Burials 2 and 11 have orientations different from the other burials.

Burial 1 consisted of the remains of a moderately well preserved adult male (ca. 35 years old) placed in an extended and supine position with the head to the southwest (facing northeast). The skeleton exhibited very slight arthritic lumbar vertebrae.

The well-preserved stone-box displayed intact limestone slab capstones and an earthen floor. The capstones were under a thick historic midden deposit. This observation suggests the burial was very shallow or even exposed on the ground surface at some point in time.

Associated burial items consisted of a fragmented notched appliqué rim bowl (fine shell-temper) near the pelvis and feet. Additional unrelated sherds were found throughout the burial fill.

Burial 2 included the remains of a poorly preserved 35 to 45 year old female.

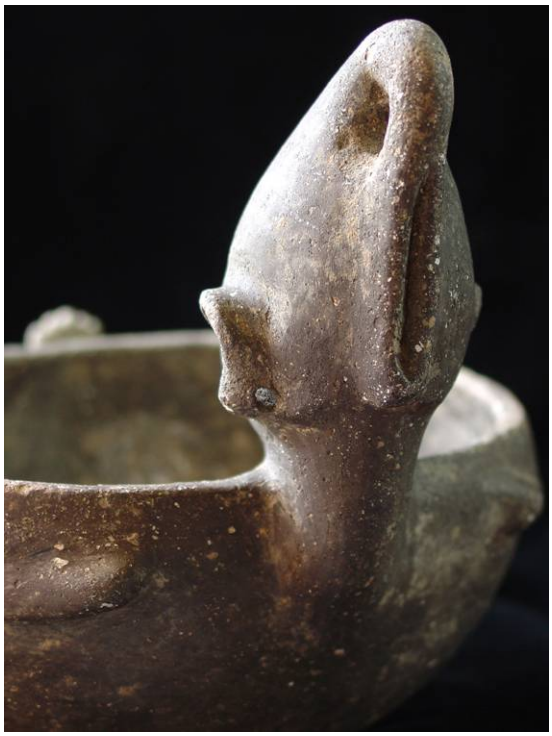

FIGURE 7. Rear view of head details, Burial 5 vessel (*Courtesy, Aaron Deter-Wolf*)

The individual was placed on an earthen floor in an extended and supine position with the head to the southwest (facing northeast). The stone-box was heavily disturbed as plowing removed the capstones, southeast wall and footstones. The plow intrusion apparently carried away the right side of the skeletal remains.

Burial 3 was a child-sized stone-box oriented northwest to southeast. The coffin exhibited a triple layer of intact capstones and a floor of prepared limestone slabs. No skeletal remains were preserved as only a few minute flecks of bone were observed during excavation.

Burial 8 comprised the poorly preserved remains of a 2.5 to 4.5 year old child. The skeletal remains were approximately 40 percent complete. This individual was placed on an unprepared floor of bright orange clay subsoil, probably in an extended and supine position with the head to the northwest (facing southeast). The stone-box exhibited a single layer of heavy capstones that appeared to have been slightly disturbed from original position.

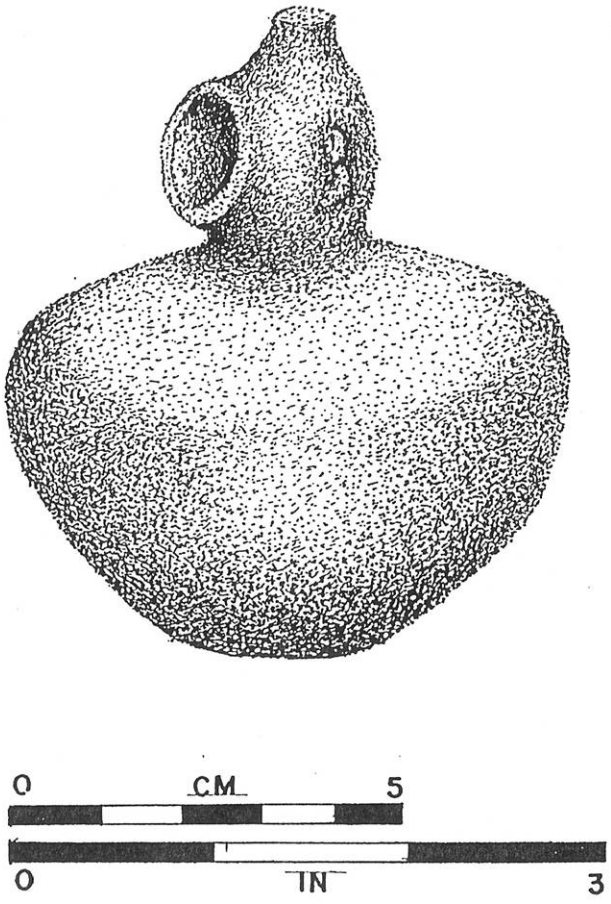

FIGURE 8. Hooded bottle from Burial 13 (*Courtesy, Joe Benthall*).

Among the associated burial artifacts was a small, mussel shell effigy bowl (fine shell-temper) placed to the left side of the cranium (Figure 9), and two small shell beads over the sternum. Upon removal of the skeletal remains, additional shell beads were recovered from beneath the cranium. The location suggests a string of shell beads had been placed around the neck.

Burial 9 consisted of the moderately well preserved remains of an infant (4 to 8 months old) placed on an unprepared floor of bright orange clay subsoil in an extended and supine position with the head to the north (facing south). The skeletal remains were approximately 70 percent complete, and contained within a stone-box covered by scattered and disturbed capstones.

Burial 10 was composed of the moderately well preserved remains of two individuals, an adult male (35 to 45 years old) and a probable adult female (40 to 50 years old). The stone coffin displayed an undisturbed double layer of capstones,

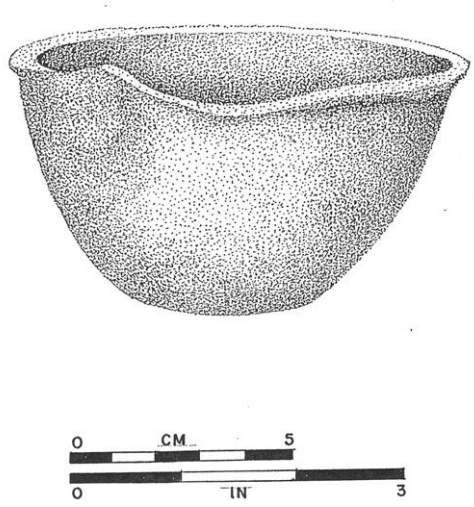

FIGURE 9. Ceramic vessel from Burial 8 (*Courtesy, Joe Benthall*).

and both individuals had been placed on an unprepared floor of bright orange subsoil. Based upon observations made during the removal, the probable female was buried first and pushed to the side and end of the stone-box to make room for the later interment of the male. The male was placed in an extended and supine position with the head to the south-southwest (facing north-northeast). Cranial remains of the female were situated in the northeast corner of the stone box facing south-southeast. The remainder of the female was redeposited along with eastern wall of the stone box except for the pelvis, which protruded between the tibia and fibula of the male slightly north of the patella.

The male exhibited periostitis on the lateral aspect of the left femur shaft. Extensive dental wear and arthritic areas in the pelvis was observed on the probable female.

Two mussel shell spoons had been placed by the left side of the male cranium.

Burial 11 was defined by the poorly preserved remains of a 35 to 45 year old male that had been placed in an extended and supine position with the head to the northwest facing southeast. The stone-box featured capstones exhibiting extensive compression damage, as well as an unprepared subsoil floor. Several side stones were missing from the grave. Long bones were moderately well preserved and exhibited arthritic areas.

Burial 12 consisted of an adult female (35 to 40 years old) placed in a stone-box with two layers of limestone slab capstones and an unprepared subsoil floor. The individual was arranged in an extended and supine position with the head to the east. Skeletal preservation was moderate with poor preservation of the mandible, ribs, vertebra and extremities. This individual exhibited extensive dentin exposure and moderate arthritis on the vertebra.

A small jar with finely crushed shell-temper was recovered from the right hand

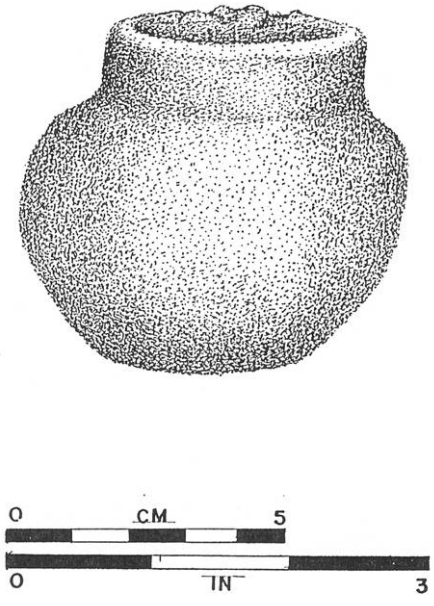

FIGURE 10. Ceramic vessel from Burial 12 (*Courtesy, Joe Benthall*).

and pelvis area (Figure 10). Numerous shell-tempered sherds and gastropod/mollusk shells were distributed throughout the grave fill.

Conclusions

The thirteen graves (with fourteen individuals) removed during the 1995 project undoubtedly represent a small percentage of the total number of human burials at the Travellers' Rest site. However, their distinct clustering provides a glimpse of mortuary patterning at this large late prehistoric settlement. These grave clusters are suggested to represent the cemeteries of two family groups. There are several observations to support this statement. First, there was no evidence for adjacent Mississippian structures, along with a noticeable lack of prehistoric artifacts outside of the burials. The two burial clusters appear to have been spatially segregated from residential areas of the site. Shovel tests during the initial phase of the project indicate an increase in artifact densities to the west of the impact zone that might denote residential areas.

Second, although significant evidence exists for the presence of formally structured village cemeteries in other portions of the Travellers' Rest site, the two grave clusters exposed in 1995 are also spatially distinct from those formal mortuary areas. The placement of the two grave clusters suggests specialized discrete burial areas reserved for specific families or lineages socially differentiated from individuals interred in larger cemeteries.

An additional factor to consider for potential social differentiation is the quantity, quality, and style of the ceramic vessels buried with the individuals. The relative frequency of ceramic vessels in the two burial clusters at Travellers' Rest (30.8%) is significantly higher than that found in roughly contemporaneous larger village cemeteries (15-20%; Kevin E. Smith, personal communication, 2007). All of the ceramic vessels from the Travellers' Rest burials display a compact paste containing finely crushed shell as temper (Bell Plain ware). Of particular note is the presence of an exceptional anthropomorphic rim-rider vessel with Burial 5. This vessel type is relatively rare and undoubtedly carries some special meaning.

While the 1995 removal area was limited to a small section of a large Mississippian period village, the project results were able to provide some additional insights into the mortuary practices of the late prehistoric period in Middle Tennessee.

Notes: The Travellers' Rest remains were removed under a Davidson County Chancery Court Order dated October 9, 1995. The exhumed remains were delivered to the Tennessee Division of Archaeology, and later reinterred at Travellers' Rest.

Acknowledgments: Scott Jones, Chris Hyde, Aaron Russell, David Lochmiller, and Shelley Bridges served as field technicians during the initial phase of the project. Abigail Robbins, Aaron Russell and David Lochmiller worked as field technicians during the actual removal process. The assistance and expertise of Mr. George Fielder, State Archaeologist, and the staff of the Tennessee Division of Archaeology contributed greatly to the success of the project. Artifactual analysis was facilitated by Mike Moore and skeletal analysis was facilitated by Dr. Emanuel Breitburg. Ceramic illustrations were created by the deft penmanship of Joe Benthall. Dr. Kevin E. Smith at Middle Tennessee State University graciously offered his expertise in Cumberland region Mississippian culture during the analysis process. Roger Armes and other members of the Middle Cumberland Archaeological Society graciously offered their volunteer efforts in washing skeletal remains and artifacts. The management and staff of Travellers' Rest injected a healthy dose of historical enthusiasm while offering much positive support during the investigative process.

References

Allen, Dan Sumner IV
1996 Prehistoric Burial Removal at Travellers Rest, Site 40DV11; A Historic and Prehistoric Site in Davidson County, Tennessee. DuVall & Associates, Inc., Franklin, Tennessee.

Hinshaw, Jane
1980 Archaeological Investigations at Travellers Rest, Nashville, Tennessee. Ms on file, Tennessee Division of Archaeology, Nashville.

Jones, Joseph
1876 *Explorations of the Aboriginal Remains of Tennessee*. Smithsonian Contributions to Knowledge No. 259, Washington D.C.

Miller, James V.
1987 *The Travellers Rest Site: A Fortified Prehistoric Middle Cumberland Indian Village*. Mini-Histories, Nashville.

Myer, William Edward
1923 Material Relating to the Indian Village at Travellers Rest,Tennessee. Ms. on file, National Anthropological Archives, Smithsonian Institution, Washington D.C.

Nutt, Rush
1805 "Nutt's Trip to the Chickasaw Country," edited by Jesse D. Jennings. *The Journal of Mississippi History* IX (1), 1947.

Putnam, Frederick Ward
1878 Archaeological Explorations in Tennessee. *Eleventh Annual Report to the Trustees of the Peabody Museum*, No. 2, Cambridge, Massachusetts.

Williams, Stephen
1988 Archaeology at Historic Travellers Rest: A Preliminary Report of Investigations and Findings. Lower Mississippi Survey, Peabody Museum and Harvard Museum, Cambridge.

Dan Sumner Allen, IV
Cumberland Research Group, Inc.
1626 Locerbie Drive
Murfreesboro, Tennessee 37128

LUMINESCENCE DATES AND WOODLAND CERAMICS FROM ROCK SHELTERS ON THE UPPER CUMBERLAND PLATEAU OF TENNESSEE

Jay D. Franklin

Luminescence dating is a poorly understood and little used radiometric dating technique in Southeastern archaeology that has several advantages over radiocarbon dating. This study explores these advantages and reports on new luminescence dates from two rock shelters on the Upper Cumberland Plateau of Tennessee. The dates, bolstered by radiocarbon dates and site stratigraphy, shed new light on Woodland ceramic succession on the Upper Cumberland Plateau. Future directions for luminescence dating are also highlighted.

A major focus of my archaeological research endeavors in the past twelve years has been to define the prehistoric culture history of the Upper Cumberland Plateau of Tennessee, hereafter the UCP (Franklin 2002, 2006, 2008a). Faulkner (1968a) remarked 40 years ago that the Cumberland Plateau was an archaeological *terra incognita*. My efforts have been aimed at changing that notion.

The configuration of the archaeological record on the UCP is significantly different than adjacent lowland regions of Tennessee. This record is even quite different than the foothills of upper East Tennessee which are situated at a similar elevation but possess comparatively fewer rock shelters. The UCP possesses thousands of rock shelters and hundreds of caves, but I have recorded comparatively fewer open air sites (Franklin 2002, 2006). It is clear that these geologic features are not only obvious features on the natural landscape here but are also an integral part of the cultural landscape. In other words, rock shelters and caves should not be viewed *a priori* as special purpose sites. Rather, they represent the entire range of prehistoric hunter-gatherer behavior, including habitation locales. For several years, my research efforts focused on survey – that is, simply identifying archaeological sites and their prehistoric components. I am still invested at this level of inquiry, namely in the Pogue Creek State Natural Area (Franklin 2008a). In the last three years, however, controlled stratigraphic excavations have been undertaken at a handful of shelters on the UCP. These excavations have added significantly to our understanding of prehistory in the region (Franklin and Bow 2007).

Chronology is critical to building culture histories, but radiocarbon dating has not always proven to be useful on the UCP. The spearhead of my research in recent months has been a program of luminescence dating of archaeological sites and materials on the UCP (Bow and Franklin 2008). Specifically, the method employed is termed blue-light optically stimulated luminescence, or BOSL (Lipo and Sakai 2007:1). This report introduces the application of this method in two rock shelter excavations on the UCP.

Methods

Luminescence is a form of radiometric dating that works by measuring accumulated electrons (natural radioactivity over time) in the impurities of archaeological objects that: (1) have crystalline struc-

FIGURE 1. *In situ* pottery (luminescence) sample. Far View Gap Bluff Shelter.

tures; and (2) have been heated or fired in the past, such as pottery vessels (Lipo et al. 2005:536). Luminescence measures the time elapsed since the archaeological firing event and the re-heating of the object in a controlled laboratory environment. This form of dating relies on the fact that once a pottery vessel begins to cool (e.g., after initial firing or the last time it was used for cooking); electrons become trapped in impurities in the crystalline structure of the vessel (Dunnell and Feathers 1994:116). Once those trapped particles are released by exposure to sufficient light (luminescence), the stored particles are released in the form of light (Feathers 2003:1493). "The amount of light released is a function of time and energy exposure. If the rate of luminescence accumulation is measured, a date can be thus calculated" (Lipo and Sakai 2007:2).

Luminescence has a distinct advantage over radiocarbon dating. Accurate luminescence dating *does not* require the association of archaeological carbon with the artifact under investigation. Further, luminescence measures are given in actual calendar years, thereby avoiding the calibration issues that often plague radiocarbon dating (Lipo et al. 2005). Like radiocarbon dating, luminescence is a destructive technique. That is why every effort is made to keep control samples in a comparative collection (see below). Unfortunately, luminescence remains a poorly understood method and is therefore rarely

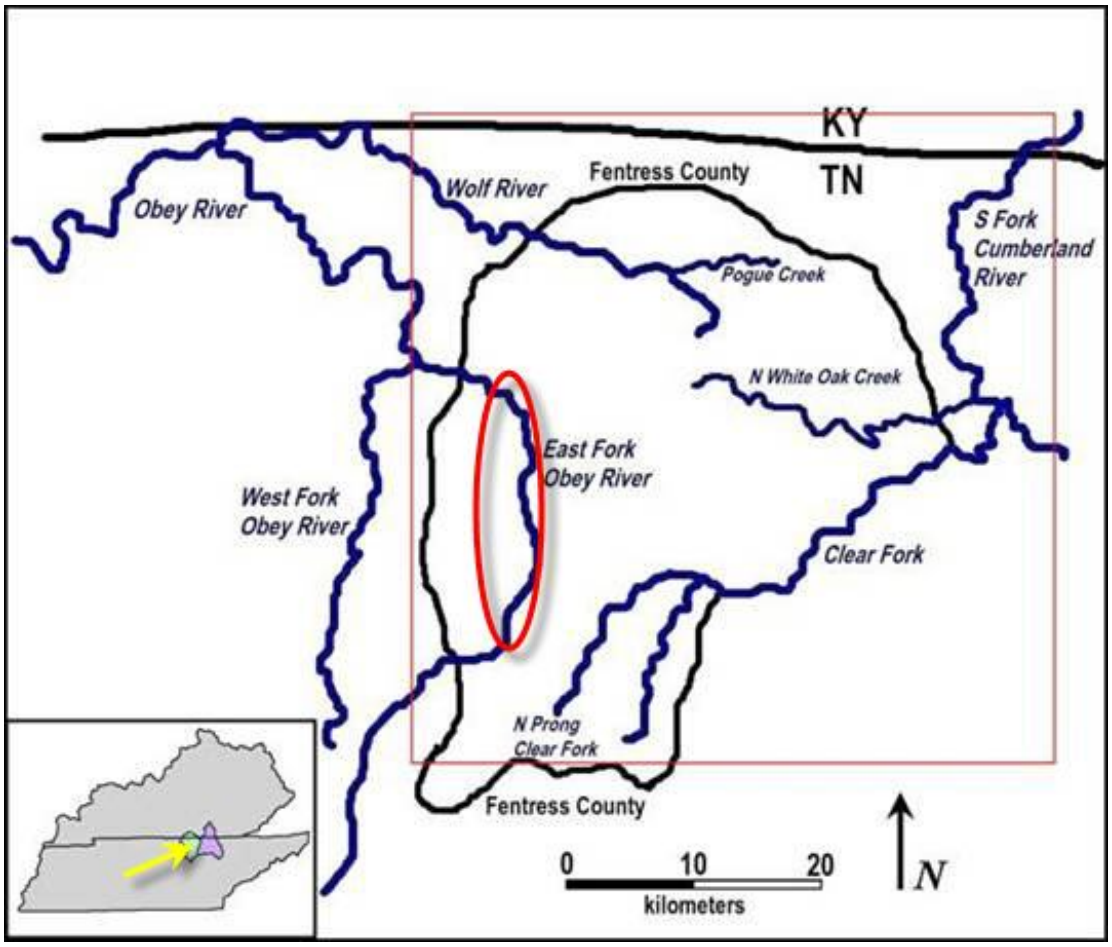

FIGURE 2. Study area: Upper Cumberland Plateau.

used by archaeologists (Feathers 2003).

In the field, once a potsherd has been encountered in excavations, a box with one side cut out is placed over the area of the sherd to prevent excessive ambient light exposure. If the sherd is big enough (e.g., at least 4 x 4 cm), a small piece is broken off and kept for the comparative collection. In any case, the sherd is then photographed *in situ* without flash photography (Figure 1). Sherds are described with respect to surface treatment and tempering material. Metric measurements are also taken, most notably sherd thickness. The BOSL sherd sample is then double-bagged in opaque brown paper bags along with some sediment from the immediate area where the sherd was recovered. The sediment is collected so that a comparative measure of the natural background radiation at the site may also be recorded in the laboratory. The paper bag is then placed in a ziplock plastic bag. Once in the lab, every effort is made to keep the samples from ambient light. The bags are opened in dark storage so that they may air-dry. Excess moisture may affect the luminescence measure, although lab technicians can correct for this condition (Carl Lipo, personal communication 2007). The samples to be dated are then sent to the Institute for Integrated Research in Materials, Environments, and Society (IIRMES) Lab at California State University Long Beach for preparation and dating.

The Sites

Both sites discussed herein are upland rock shelter sites. They are relatively small and are best viewed as bluff shelters. That is, there is very little in the way of rock overhang. Both sites are located in the East Fork Obey River drainage (Figure 2). I note here that while excavations at the shelters discussed in this report are complete, analyses are ongoing. Therefore, work at both sites is only summarized. My focus here is to present the results of the initial suite of luminescence dates from the UCP. The sites are highlighted simply to provide context.

Far View Gap Bluff Shelter

Far View Gap Bluff Shelter is a north-facing, sheer bluff shelter recorded in March 2006 (Figure 3). At that time, excavations were begun on two 1 x 1 meter test units. Initial testing suggested a multi-component site ranging from the Late Archaic through perhaps the Late Woodland periods.

FIGURE 3. Far View Gap Bluff Shelter, facing east.

An archaeological crew from East Tennessee State University (ETSU) returned to Far View Gap Bluff Shelter in

FIGURE 4. Late Woodland midden, Test Unit 7, west wall profile, Far View Gap Bluff Shelter.

March 2007 to continue testing. The primary purpose of these excavations was to obtain pottery samples for luminescence dating. Nine test units were excavated to sterile yellow loamy sand (including the first two units begun the previous year). While artifacts ranging from the Late Paleoindian through the Late Woodland periods were recovered, the site consists primarily of a Late Woodland midden deposit (Figure 4). The midden has likely incorporated earlier artifacts, although the Late Paleoindian biface was recovered at the contact between the midden and the yellow sand. Numerous Hamilton and Madison bifaces were recovered from the midden in the same contexts as limestone tempered ceramics, including plain and smoothed over cord-marked sherds (Figure 5). Both plain and smoothed over

FIGURE 5. Madison biface, Far View Gap Bluff Shelter.

TABLE 1. Luminescence Dates from Far View Gap Bluff Shelter.

Provenience	Depth below surface	Description	Fine-grained measure	Coarse-grained measure
Test Unit 7, Level 2	5cm	Piece Plot 20,BOSL Sample 3: limestone tempered smoothed over cord-marked body sherd	AD 849 ± 67	AD 1019 ± 83
Test Unit 7, Level 2	5cm	Piece Plot 21, BOSL Sample 4: limestone tempered plain body sherd	AD 1086 ± 44	AD 1108 ± 36

TABLE 2. Radiocarbon (AMS) Determination from Far View Gap Bluff Shelter.

Lab #	Provenience	Depth below surface	Description	Measure	2σ Date Range	2σ mean
AA77119	499.5N, 495.5E	2cm	Piece Plot 5: limestone tempered smoothed over cord-marked body sherd	1098 ± 37 BP	AD 870 - 1020	AD 945

cord-marked varieties were recovered as luminescence samples. Two luminescence dates were obtained from Far View Gap Bluff Shelter, one each for limestone tempered plain and limestone tempered cord-marked sherds (Table 1). One accelerator mass spectrometry (AMS) radiocarbon date was also obtained from Piece Plot #5 (Figure 6), a charcoal sooted limestone tempered, smoothed over cord-marked potsherd (Table 2).

FIGURE 6. Charcoal sooted limestone tempered smoothed over cord-marked sherd.

The results of these analyses are unequivocal. Based on the luminescence results, both limestone tempered plain and smoothed over cord-marked wares at the site date to the terminal Late Woodland. Luminescence dates were calculated using both fine grain and coarse grain approaches. Fine grain analysis focuses on mixed mineral samples from 1-9μ in size, while coarse grain analysis isolates quartz particles ranging from 90-125μ in size (Lipo and Sakai 2007). In the case of the Far View Gap samples, the coarse-grained analysis results are more robust because alpha efficiency measurements were not calculated for the fine-grained analysis. Further, the fine grained samples are mixed mineral (quartz, feldspar, and other minerals) in composition and thus makes them less reliable in this context (Lipo and Sakai 2007:6). Because of this mixing of particles, alpha efficiency measurements are necessary to offset the differential bleaching (or resetting) of feldspars vis a vis quartz (Sanderson et al. 2003: 1115, 1119). Alpha efficiency measurements are not required for coarse grain luminescence analysis because coarse grains such as quartz and feldspar are separated (Lipo and Sakai 2007:5). The coarse grain analysis for Far View Gap focused on quartz grains. Moreoever,

the coarse grain luminescence date for the smoothed over cord-marked sherd is further corroborated by the AMS date from charcoal soot on another smoothed over cord-marked sherd (Piece Plot 5). The date ranges from both methods overlap statistically and place these wares at Far View Gap at the end of the 10th century or early 11th century AD.

Eagle Drink Bluff Shelter

Eagle Drink Bluff Shelter was recorded and surveyed in March 2005. The shelter is a very small bluff overhang that faces southeast (Figure 7). In June 2005, archaeological testing was conducted under the aegis of ETSU's inaugural archaeological field school. Five 1 x 2 meter test units were excavated. Testing indicated an intensive Late to Terminal Archaic component as well as some Woodland limestone tempered cord-marked potsherds in the higher levels of Test Unit 5. Archaeological field schools continued at Eagle Drink in the summers of 2006 and 2007. Twenty-one excavation units, numerous diagnostic artifacts, and six chronometric age measures indicate intermittent occupation of the site from the Middle Archaic through the late Middle Woodland periods. Only the Woodland measures are reported here since the focus of this report is on luminescence dates and Woodland ceramics.

FIGURE 7. Eagle Drink Bluff Shelter facing west.

The luminescence pottery samples from Eagle Drink were recovered from the same excavation unit, XU 12, along the back (northwest) wall of the shelter (Figure 8; Table 3). The three samples, taken from successive 5cm levels, were separated by only 12cm vertical difference. It was originally thought that the Woodland occupation of the site was restricted in temporal duration. The first AMS determination from the site on wood charcoal from Feature 2 suggested that the ceramics might be limited to the Early Woodland. The AMS measure of 2308 ± 35 BP would seem to be consistent with this idea (Table 4). However, the luminescence dates clearly indicate that the ceramics at Eagle Drink span most of the Woodland Period.

Of perhaps most interest is the very early date for limestone tempered fabric-marked wares at the site. The BOSL measure of 1218 ± 115 BC dates this pottery to more than 3,000 years ago. This result seems too early for this pottery type (e.g., Long Branch Fabric Marked) in Middle and East Tennessee (Lafferty 1978, 1981; McCollough and Faulkner 1973). Two things should be noted, though. First, the luminescence measure is virtually identical to another one from Red Velvet Spider Rockshelter on the Tennessee River in Roane County. This unpublished

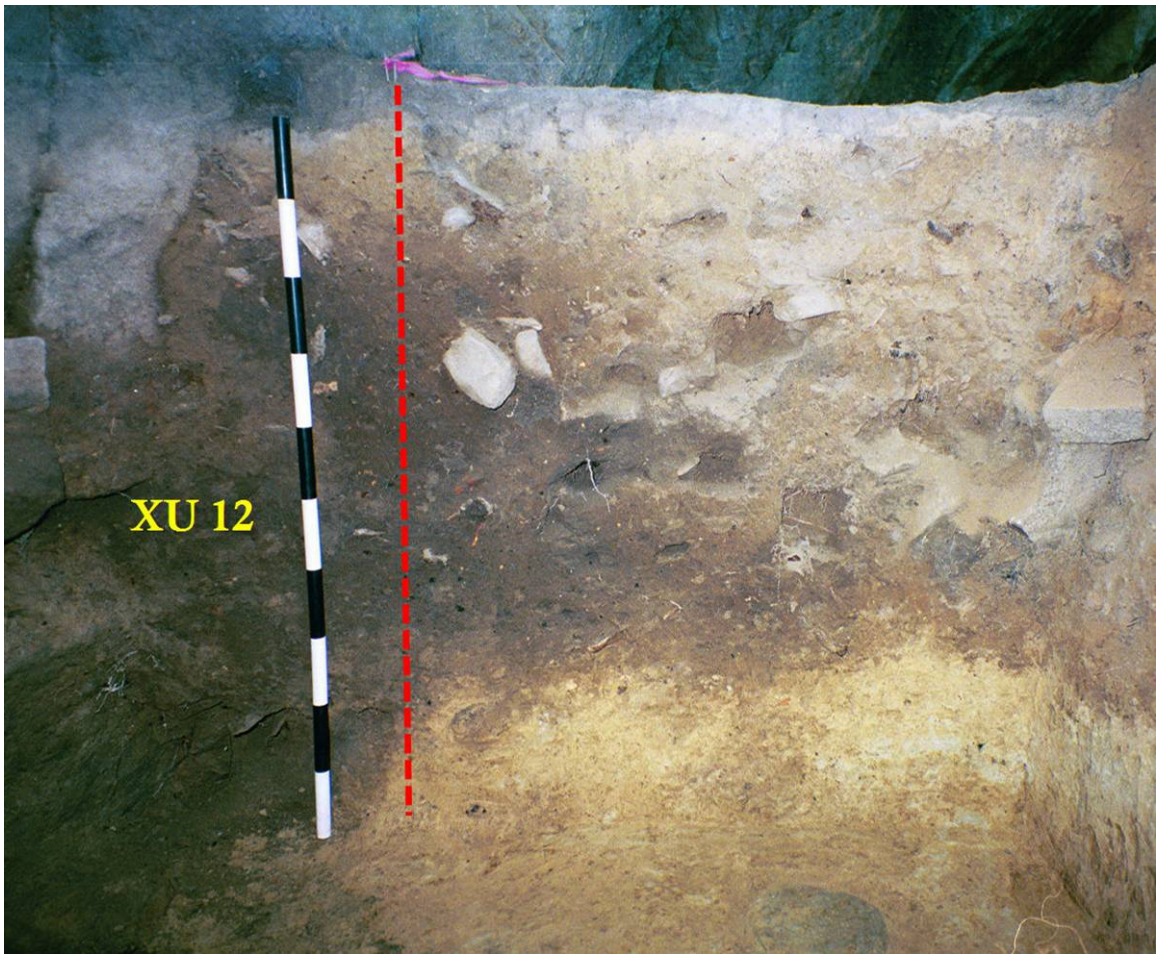

FIGURE 8. North wall [rofile, XU 12, Eagle Drink Bluff Shelter (note: ceramic bearing strata are to the left of the red dotted line).

result also yielded a date of more than 3,000 years ago on limestone tempered fabric-marked pottery (Franklin 2007). The results were generated from two different labs, indicating independent results for these very early dates.

A second interesting point about early pottery on the UCP relates to an AMS determination from charcoal soot on a reconstructed Swannanoa Cord Marked vessel from another shelter in Scott County (Figure 9). The AMS measure on the soot is 2837 ± 40 BP (Table 5). This date also confirms the existence of pottery producing peoples on the UCP approximately 3,000 years ago. In short, there is no reason to doubt the early luminescence date from Eagle Drink.

It is also clear from the luminescence dates at Eagle Drink Bluff Shelter that there has been very little Holocene deposition in the site. The luminescence date of AD 3 ± 66 for the limestone tempered sherd located just 6 cm above the fabric-marked sherd dated to more than 1200 years earlier would seem to corroborate this idea. Sediment micromorphology analyses are currently underway and should clarify the depositional history of the shelter further (Sarah Sherwood, personal communication 2008). The luminescence date also appears to confirm that limestone tempered cord-marked wares on the UCP are Middle Woodland (e. g., Candy Creek Cord Marked). Finally, at Eagle Drink, the criss-cross cord-marked

TABLE 3. Luminescence Dates from Eagle Drink Bluff Shelter.

Provenience	Depth below surface	Description	Fine-grained measure
Excavation Unit 12, Level 4	16 cm	Piece Plot 44,BOSL Sample 2: limestone tempered criss-cross cord-marked body sherd	AD 676 ± 45
Excavation Unit 12, Level 5	22 cm	Piece Plot 65,BOSL Sample 4: limestone tempered cord-marked body sherd	AD 3 ± 66
Excavation Unit 12, Level 6	28 cm	Piece Plot 89,BOSL Sample 5: limestone tempered fabric-marked body sherd	BC 1218 ± 115

TABLE 4. Woodland Radiocarbon (AMS) Determinations from the Eagle Drink Bluff Shelter.

Lab #	Provenience	Depth below surface	Description	Measure	2σ Date Range	2σ mean
AA71096	Excavation Unit 7, Level 11, Fea. 2	40cm	wood char-coal	2308 ± 35 BP	BC 420-340 (72.6%) BC 300-200 (22.8%)	BC 380, BC 250
AA77118	Excavation Unit 10, Level 5, Fea. 3	17cm	wood char-coal	1900 ± 42 BP	AD 20-230	AD 125

TABLE 5. Radiocarbon (AMS) Determination from the Griffin Pot, Scott County Rock Shelter, UCP.

Lab #	Provenience	Depth below sur-face	Description	Measure	2σ Date Range	2σ mean
AA60590	Scott Co. rock shelter	vessel protruding from surface	charcoal soot on potsherd	2837 ± 40 BP	BC 1124-902	BC 1013 (2963 BP)

TABLE 6. Additional Early Woodland AMS Determinations from Rock Shelters on the UCP.

Lab #	Provenience	Depth below surface	Description	Measure	2σ Date Range(s)	2σ mean
AA45683	Pemberton Rock Shelter, Test Unit 1, Fea. 1	40cm	wood char-coal	2417 ± 50 BP	BC 760-680 (18.4%), BC 670-610 (9.9%), BC 600-390 (67.1%)	BC 720, 640, 495
AA45684	Calf Rock Cave	surface	cut deer metatarsal	2371 ± 33 BP	BC 720-690 (2.8%), BC 540-380 (92.6%)	BC 705, 460

variety of limestone tempered wares dates to the late Middle Woodland Period as evidenced by the luminescence date of AD 676 ± 45.

While neither of the two AMS determinations from Eagle Drink were directly associated with ceramics, they do indicate that Woodland occupations of the site were more or less continuous if only intermittent (Table 4). Again, this is one reason why luminescence dates from the region are so important. I have also obtained other Early Woodland AMS determinations from rock shelters on the UCP (Table 6). However, none of these (except for the sooted Swannanoa vessel dis-

FIGURE 9. Griffin Pot, Scott County rock shelter (photo: Tom Des Jean).

cussed above) is directly associated with ceramics. There are also Early and Middle Woodland AMS measures from 3rd Unnamed Cave that are not associated with ceramics (Franklin 2008b). It is clear that Early Woodland peoples maintained a significant presence on the UCP. However, in examining only survey and donated artifact collections (e. g., diagnostic artifacts), it appears that Early Woodland component sites are not as numerous as preceding Late Archaic and succeeding Middle Woodland sites (Franklin 2002, 2006). The artifact and chronometric information would seem to be somewhat contradictory. That is, typological artifact descriptions are not always in accord with actual chronometric dating of said artifacts. Because a major goal of research on the UCP is to define the Woodland ceramic sequences and define the overall culture history of the region, chronometric dates must be directly associated with Woodland ceramics. This is not always possible with radiocarbon dating. However, it *is* possible with luminescence dating based on the criteria discussed above.

Discussion

This author has maintained for several years that one of the reasons there seems to be so little fabric-marked pottery on the UCP is because the Woodland ceramic traditions in the region were fairly conservative (Franklin 2002, 2006). That is, the earliest surface treatment was cord-marking, and cord-marking continues to dominate UCP assemblages throughout the Woodland.

Because of this, some of the limestone tempered cord-marked pottery from surface and donated collections on the UPC may actually be Early Woodland. Only additional controlled stratigraphic excavations and more luminescence dates can address this problem. This would mean that limestone tempered cord-marked wares could span a nearly 2,000 year duration. Clearly, greater chronological resolution is warranted. Faulkner (1968b) has advocated the revision of certain formal "types" of limestone tempered cord-marked pottery for decades, most notably the seemingly ubiquitous Candy Creek Cord Marked. For now, based on the luminescence dates presented in this report, a purely Middle Woodland designation for limestone tempered cord-marked pottery cannot be adequately challenged. The date of AD 3 ± 66 for this type at Eagle Drink clearly places it in the Middle Woodland. However, based on the luminescence dates, it appears that both limestone tempering and fabric-marking were contemporaneous with siliceous stone tempering and cord marking very early on. Further, ceramic technology appears very early on the UCP and East Tennessee more generally, more than 3,000 years ago. Finally, the luminescence dates from Far View Gap Bluff Shelter indicate that the Late Woodland persisted well beyond AD 1000 when many Southeastern cultures are thought to have adopted Mississippian cultural traits, including the use of river mussel shell as a tempering agent. They also suggest that the identification of Hamilton and/or Madison bifaces, in the absence of ceramics, should not be identified as Mississippian.

Directions for Future Research

This report presents new luminescence dates on pottery from two rock shelters on the UCP where controlled stratigraphic excavations have been conducted. Excavations are planned at two more shelter sites this year. However, there are thousands, perhaps tens of thousands, of rock shelters in the region. In the past twelve years, this author has surveyed more than 350 rock shelter sites on the UCP (Franklin 2002, 2006, 2008a). Proper excavations at more than a few of these would take decades. Thus, it remains that there is far more survey data than excavation data, and perhaps this will always be the case. A major challenge is finding a way to adequately incorporate the survey data into building the culture history of the UCP. A further hindrance is that scholars are not nearly the only ones interested in the rock shelters of the region. Artifact hunting has been a local pastime and right of passage here for more than 100 years. Many of the rock shelters in my survey region are vandalized to varying degrees. For some time I have been trying to find an effective way of obtaining useful historical information from these disturbed shelters. I now believe that the answer lies in luminescence dating because of the criteria discussed previously, namely that the method does not require undisturbed archaeological contexts or the association of archaeological carbon. A notably few scholars have obtained robust luminescence results from surface contexts at archaeological sites (Sampson et al. 1997; Lipo et al. 2005). Lipo et al. (2005) obtained very robust luminescence results on Mississippian ceramics from plow zone contexts in the Central Mississippi Valley. Given the certain exposure of both the ceramics and attendant sediments in this case, I am quite confident that robust results can be obtained from disturbed contexts in rock shelters and caves given that exposure to ambient light in these contexts is far less

than in plow zone contexts in the open air. The control sediment samples should reflect the background (annual dose) radiation in any case. A certain amount of ambient light exposure is both expected and acceptable. Once in the lab, each potsherd is taken into a dark room setting and the outer two millimeters are drilled away with a dremel tool to account for this circumstance (Sachiko Sakai, personal communication 2007). Despite this potential, survey materials have received short shrift in archaeological research because of their *perceived* lack of useful chronological information (Dunnell and Feather 1994; my emphasis). With great strides in luminescence dating, this perceived shortcoming has been eliminated (Feathers 2003).

The archaeological record of the UCP is mostly encountered in surface or exposed contexts. As Dunnell and Feathers (1994:115-116) state, "The vast bulk of the archaeological record lies on the surface. . . It is obvious that if a spatially representative record is required, archaeologists must cope with surficial deposits." In the past several months, I have begun to collect pottery samples for luminescence dating from both undisturbed and disturbed surface contexts in the rock shelters of the UCP (Franklin 2008a). Disturbed rock shelters unfortunately constitute the vast majority of shelters on the UCP. In order to obtain an adequate and accurate sampling of the archaeological record here, disturbed sites must be incorporated into survey and testing projects. The initial luminescence dates on sherds from these disturbed contexts are pending. In the meantime, the luminescence dates from good stratigraphic contexts are reported here. This approach, along with metric measurements of potsherds, is also being used to seriate existing surface collections from the rock shelters of the Upper Cumberland Plateau (Franklin and Bow 2007).

By combining luminescence dating with typological descriptions (including metric measurements such as vessel/sherd thickness), existing rock shelter ceramic assemblages can be seriated. This will be a big step forward in the effort to describe Woodland ceramic assemblages and define the culture history of the UCP. It must be emphasized, however, that many more luminescence dates are required before this approach can be considered reliable and statistically meaningful. As mentioned above, several new dates are pending. In sum, this approach will anchor long-term research and management strategies for the UCP, including the multi-year archaeological survey and testing project in Pogue Creek State Natural Area (Franklin 2008a). Finally, it will allow this author to adequately sample and document the vast surficial archaeological record of the Upper Cumberland Plateau of Tennessee.

Acknowledgments: I owe a sincere debt of gratitude to the Estate of Bruno Gernt, Inc. for allowing me to conduct these excavations. I am especially indebted to Jerry Gernt for his support and friendship. The AMS dates were done by the NSF-Arizona AMS Facility at the University of Arizona. Funding for the AMS dates was provided by the NSF-Arizona AMS Facility and a Major Research Development competitive grant from the Office of the Vice Provost for Research and Sponsored Programs, ETSU. Funding for the luminescence dates was provided by the Honors College, ETSU in the form of a Student–Faculty Collaborative grant to Sierra Bow and Jay Franklin and a Major Research Development competitive grant from the Office of the Vice Provost for Research and Sponsored Programs, ETSU. The Department of Sociology and Anthropology, ETSU also provided funding for the field research. Lucinda Langston served as crew chief and lab manager for both projects. Sierra Bow analyzed the ceramics from both sites with me. Sierra Bow, Travis Bow, Andrew Hyder, Beth Price, Tim Smith, Heather Johnson, Conor Franklin, and Miller Franklin braved extremely cold weather to help excavate Far View Gap Bluff Shel-

ter. Joe Tevepaugh informed me about Far View Gap Bluff Shelter and surveyed Eagle Drink Bluff Shelter with me. I am very grateful for his help and friendship. I appreciate all the students who took part in ETSU's first three archaeological field schools at Eagle Drink. Thanks go to Jeff Wiley and the folks at the Hangin' Hog BBQ for always making sure we are well fed while in the field. I appreciate the constructive and cogent comments of two anonymous reviewers. I bear all responsibility for any shortcomings of this research.

References

Bow, Sierra M. and Jay D. Franklin
2008 The Upper Cumberland Plateau Archaeological Thermoluminescence Dating Project. Paper Presented at the 20th Annual Current Research in Tennessee Archaeology Meeting, Nashville.

Dunnell, Robert C. and James K. Feathers
1994 Thermoluminescence Dating of Surficial Archaeological Material. In *Dating in Exposed and Surface Contexts*, edited by Charlotte Beck, pp. 115-137. University of New Mexico Press, Albuquerque.

Faulkner, Charles H.
1968a *Archaeological Investigations in the Tims Ford Reservoir, Tennessee, 1966.* Report of Investigations 6, Department of Anthropology, The University of Tennessee, Knoxville.
1968b A Review of Pottery Types in the Eastern Tennessee Valley. *Southeastern Archaeological Conference Bulletin* 8:23-35.

Feathers, James K.
2003 Use of Luminescence Dating in Archaeology. *Measurement Science and Technology* 14:1493-1509.

Franklin, Jay D.
2002 Prehistory of Fentress County, Tennessee: An Archaeological Survey. Doctoral Dissertation, Department of Anthropology, University of Tennessee, Knoxville, University Microfilms, Ann Arbor, Michigan.
2006 Prehistoric Culture Chronology on the Upper Cumberland Plateau of Tennessee. Paper Presented at the 63rd Annual Southeastern Archaeological Conference, Little Rock, Arkansas.
2007 Cave and Rock Shelter Excavations on the Tennessee River, Roane County, Tennessee. Paper Presented at the 64th Annual Meeting of the Southeastern Archaeological Conference, Knoxville, Tennessee.
2008a Archaeological Survey of Pogue Creek Gorge State Natural Area. Paper Presented at the 20th Annual Current Research in Tennessee Archaeology Meeting, Nashville.
2008b Big Cave Archaeology in the East Fork Obey River Gorge. In *Cave Archaeology of the Eastern Woodlands: Papers in Honor of Patty Jo Watson*, edited by David H. Dye, pp. 141-155. University of Tennessee Press, Knoxville.

Franklin, Jay D. and Sierra Bow
2007 Archaeological Explorations of Workshop Rock Shelter, Upper Cumberland Plateau, Tennessee. Paper presented at the 64th Annual Southeastern Archaeological Conference, Knoxville, Tennessee.

Lafferty, Robert H., III
1978 The Early Woodland Chronological and Cultural Affinities at Phipps Bend on the Holston River, Northeast Tennessee. *Journal of Alabama Archaeology* 24(2):132-150.
1981 *The Phipps Bend Archaeological Project*. Research Series 4, Office of Archaeological Research, University of Alabama, and TVA Publications in Anthropology 26, Knoxville.

Lipo, Carl P., James K. Feathers, and Robert C. Dunnell
2005 Temporal Data Requirements, Luminescence Dates, and the Resolution of Chronological Structure of Late Prehistoric Deposits in the Central Missis-

sippi Valley. *American Antiquity* 70(3):527-544.

Lipo, Carl P. and Sachiko Sakai
2007 Luminescence Results from Far View Gap Bluff Shelter. Report on file, Upper Cumberland Plateau Archaeology Laboratory, East Tennessee State University, Johnson City.

McCollough, Major C.R. and Charles H. Faulkner
1973 *Excavation of the Higgs and Doughty Sites, I-75 Salvage Archaeology.* Tennessee Archaeological Society, Miscellaneous Papers No. 12, Knoxville.

Sampson, C. Garth, Ian Bailiff, and Sarah Barnett
1997 Thermoluminescence Dates from Later Stone Age Pottery on Surface Sites in the Upper Karoo. *South African Archaeological Bulletin* 52:38-42.

Sanderson, D.C.W., P. Bishop, M.T. Stark, and J.Q. Spencer
2003 Luminescence Dating of Anthropogenically Reset Canal Sediments from Angkor Borei, Mekong Delta, Cambodia. *Quaternary Science Reviews* 22: 1111-1121.

Jay D. Franklin
Department of Sociology and Anthropology
East Tennessee State University
Box 70644
Johnson City, Tennessee 37614-1702