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Recent Research On Poverty Point Period Subsistence And Settlement Systems: Test Excavations At The J.W. Copes Site In Northeast Louisiana

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ABSTRACT

The subsistence economy which supported Poverty Point culture in northeast Louisiana is at present incompletely understood. The analysis of faunal and floral material from preliminary investigations of the J.W. Copes site, recovered by Mitchell Hillman in 1975 and by the author in 1980, suggests that the site may have been occupied year-round and that the subsistence system may have been characterized by specialization in the procurement of deer and fish. These inferences must be considered to be propositions which will be evaluated with further excavations at the site.

INTRODUCTION

Sometime during the second millennium B.C. the Lower Mississippi Valley was the locus of unprecedented cultural developments for the Late Archaic as it is presently understood for eastern North America. The material manifestations of this cultural florescence called Poverty Point are well known: large scale earthworks construction at the Poverty Point and Jaketown sites, and smaller scale constructions at numerous other sites; evidence of long distance trade relationships through which exotic raw materials made their way to Poverty Point sites; a well developed lapidary industry; and the ubiquitous clay cooking balls.

Despite intense interest and research for three quarters of a century, Poverty Point culture remains an incompletely understood period in North American prehistory. Among other things, our understanding of the Poverty Point cultural system has been impeded by a lack of evidence for the subsistence strategies which supported the cultural developments. This lack of information, at least for Poverty Point Phase sites in northeast Louisiana, is in part due to the concentration of investigations at the type site, where preservation of organic remains is generally poor. Past inferences about dietary strategies which have ranged from suggestions of large scale maize agriculture to intensive hunting-gathering, have been based on the apparent organizational superstructure of the Poverty Point cultural system and on ecological argument rather than on archaeobiological data.

Recently Thomas and Campbell (1978) have reported on test excavations at localities on the periphery of the Poverty Point site which have provided some evidence of subsistence practices. Although faunal remains recovered were sparse

(Byrd 1978), floral remains included a variety of plant foods including the nuts of hickory and pecan, acorns, persimmons, hackberry, chenopodium, polygonum, and wild bean, as well as domesticated squash (Shea 1978). While it is possible that the squash associated with Poverty Point materials recovered by Thomas and Campbell could have been derived from a later ceramic occupation, it is not unreasonable to suggest that small-scale gardening comprised a minor component of a hunting-gathering-gardening complex (Thomas and Campbell 1978:271), since squash cultivation has been documented as early as 2400 B.C. in the Midwest (Chomko and Crawford 1978; Kay *et al.* 1980). However, the role of gardening as a component of the total subsistence system cannot be evaluated. Although the investigations by Thomas and Campbell provided significant new information about plant foods utilized during the Poverty Point period, additional data are required to examine the relative importance of exploited species, scheduling of subsistence activities, and how Poverty Point demographic patterns may have developed in relation to the spatial and temporal variations in exploitative strategies.

Given the need for further subsistence information from the Poverty Point period, the Museum of Anthropology at the University of Michigan began a small scale project in northeast Louisiana to first assess the potential for the recovery of archaeobiological remains at Poverty Point sites and to begin a project of excavation designed to provide the necessary data base for evaluating models of Poverty Point subsistence.

During short field seasons in the fall of 1980 and again in the summer of 1981, Poverty Point phase sites were systematically visited and tested for preservation of floral and faunal materials. It has become clear that for reasons of soil pH and the abrasive action of active alluviation of floodplain

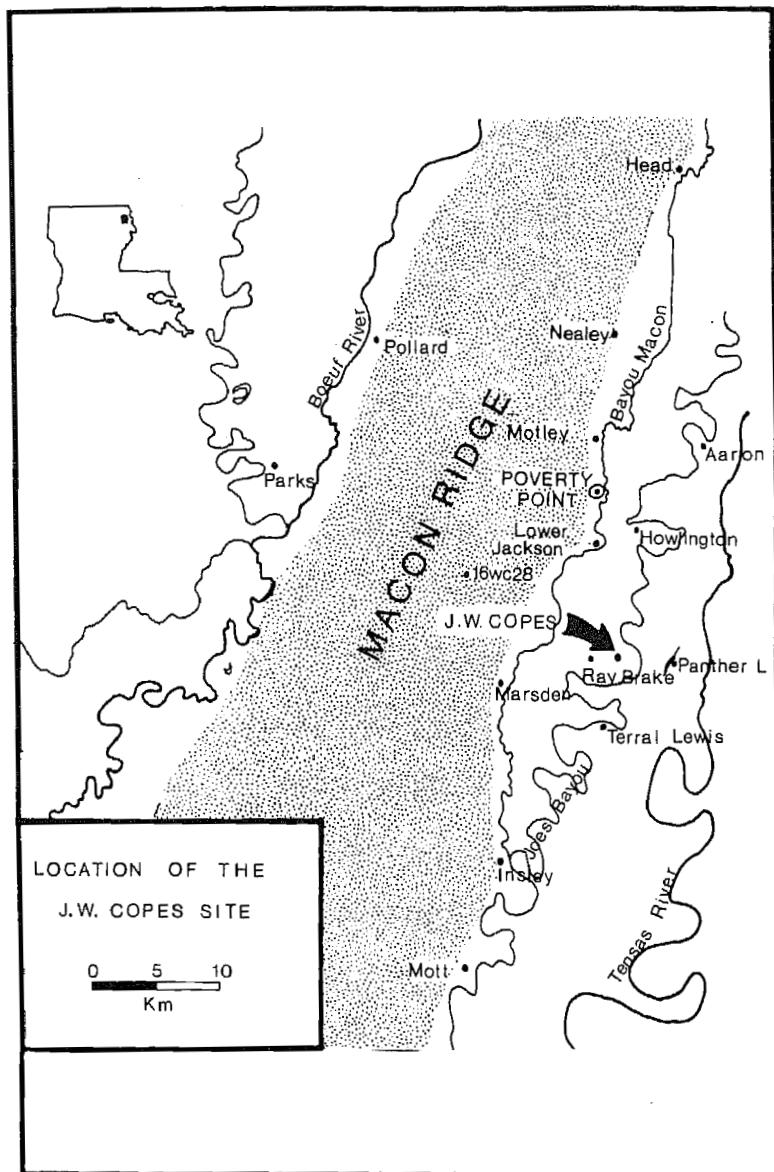


Figure 1. Copes and other Poverty Point components in the Macon Ridge area.

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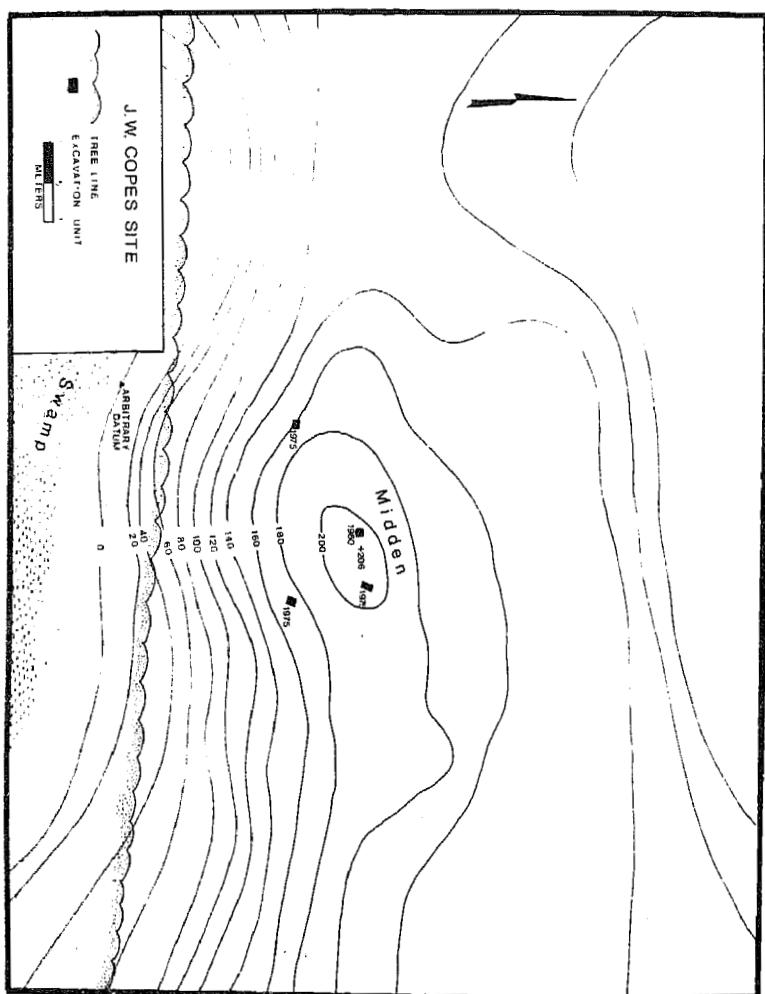
sites, archaeobiological remains are generally no longer extant. However, this is not entirely the case, as well preserved remains have been recovered from the J.W. Copes site. Analysis of the remains recovered from the Copes site has provided significant new information about Poverty Point subsistence strategies. The results presented here must be considered as preliminary and must be evaluated with additional, more intensive excavations. Such excavations are scheduled for the summer of 1982.

SITE DESCRIPTION

The Copes site (Figure 1) is located on a natural levee adjacent to a low-lying arcuate brake, approximately 1.6km west of Joes Bayou and about 13km south-southeast of the Poverty Point site. The brake was formerly a segment of a former Arkansas River course which flowed through the area between 6000 and 5000 B.P. (Lenzer 1978). At the time of Poverty Point occupation, the brake was apparently an oxbow lake or swamp. The site is presently under cultivation. Prehistorically, the region was forested in bottomland hardwoods, including several species of oak, red gum, pecan, and in low areas, tupelo gum and cypress.

The site covers an area of approximately 0.5ha (Figure 2). At the center of the site is a 200m² roughly oval deposit of undisturbed Poverty Point midden. The midden is lenticular in cross section with a maximum thickness of 1.0m. Prior to recent land leveling activities, the Poverty Point component was buried beneath a substantial Tchefuncte-Marksville habitation midden. This accumulated midden apparently served to protect the organic remains associated with the Poverty Point component. The land leveling has exposed the Poverty Point midden facilitating its excavation but has exposed it to the destructive effects of plowing and chemical fertilizers.

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INVESTIGATIONS

Previous investigations of the Copes site include the examination by Clarence Webb of surface collections made by local amateurs (Webb 1968, Webb *et al.* n.d.). In 1975, Mitchell Hillman (presently curator of the Poverty Point Commemorative Area) mapped the site and excavated several small test units into the midden. Hillman found a variety of Poverty Point artifacts including projectile points, other lithic materials, and a large number of Poverty Point objects. He also recovered well preserved faunal material, which he allowed to be taken to the University of Michigan Museum of Anthropology for analysis in 1980.

Because of the excellent condition of the faunal material recovered by Hillman, the author visited the site in November, 1980. The site was mapped and a surface collection was made. A grid was augered into the midden to map its subsurface dimensions. In addition, a 1.0m² test unit was excavated in order to determine whether organic preservation was still adequate to justify further, more extensive excavations.

ANALYSIS OF RECOVERED MATERIALS.

The small scale excavation produced a small but informative assemblage (Table 1). A total of 980 artifacts was recovered from the test unit (Table 1), the composition of which confirms that the midden is an unmixed Poverty Point component. Despite the small sample, there are apparent changes in the relative frequencies of types of Poverty Point objects that parallel those documented by Ford at the Poverty Point site (Webb *et al.* n.d.:48). Specifically, there is a relative decrease in cylindrical objects in the upper levels and an associated increase in melon-shaped and cross-grooved

types, suggesting that the Poverty Point component may span several hundred years of occupation. It should be noted that this pattern was not evident in the sample recovered by Hillman (C. Webb, personal communication, 1982).

The lithic assemblage recovered is quite small. Raw materials are similar to those considered to derive from nonlocal sources. Included among recovered lithics is one cube of galena. Galena such as that collected at the Copes site apparently was mined from deposits in southeastern Missouri (Walhall *et al.* 1982).

There were 142 bones recovered from Hillman's excavation and the 1980 test unit that could be identified at least to class (Table 2). In addition, several hundred identifiable bones, mainly small fish, were recovered from flotation samples (Table 3). Species included deer, raccoon, grey squirrel, swamp rabbit, mallard, crow, turtle, and 15 species of fish. Deer and fish dominated the assemblage.

Carbonized floral remains from flotation samples included a *Chenopodium* sp. seed, hickory or pecan and acorn shells, cane, abundant wood charcoal (not yet identified), and one wild bean pod (*cf. Strophostyle* sp.). Quantitative analysis has not yet been completed.

The composition of the faunal assemblage permits several observations. In general deer and fish dominate the faunal material, with small mammals, turtles, other reptiles, and birds comparatively rare. Annuli growth on fish vertebrae indicates that the fish were collected mainly during the early through late summer. The preponderance of deer suggests that the site may have been occupied during the fall or winter, since deer hunting is most productive during that time of year (*cf. Smith 1975*). However, the only direct evidence for seasonality in the deer assemblage is a nearly complete skull with antlers shed, suggesting an early spring kill. The presence of a mallard in the collection may point to a winter

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TABLE 1
J.W. Copes Site: Artifact Inventory
Test Unit A

		Surface	Plowzone (0-20cm)	20-30cm	30-40cm	40-50cm	50-75cm	Total
Lithic Artifacts	Projectile Point	11						1
	Proj. Pt. Frag.		.1					1
	Retd. Pieces	5					1	6
	Cores						1	1
	Flakes	8		1	3	1		13
	Blocks	1	1					2
	Nodule			1				1
	Sandstone			2	1			3
	Galena				1			1
Poverty Point Objects	Biconical-W ²	1			1		1	1
	Biconical-F ³	2	1			2	1	5
	Melon-shaped-W							3
	Melon-shaped-F	3	9	19	7	9	3	50
	Melon w/cross- grooves-W			1	1	2	2	6
	Melon w/cross- grooves-F	1	3	3			1	8
	Cylindrical Grooved-W					1		1
	Cylindrical Grooved-F	1			6	11	3	21
	Bisquit-W					4	2	6
	Bisquit-F			1		2		3
	Amorphous-W				1	1	1	3
	Amorphous-F							
	Unid. Frag.	16	81	265	169	254	59	844
	Uncounted (gm)		16.95		18.80	37.48	14.23	
	TOTAL		39	96	293	191	287	74
								980

¹Gary typical projectile point

²W=whole

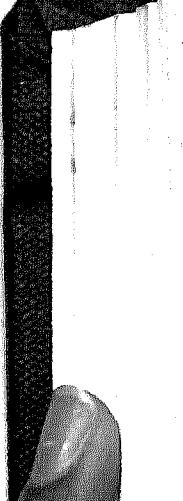
³F=fragmentary

TABLE 2
J.W. Copes Site: Faunal Inventory

Species	Common Name	Collections (Number of Elements)			
		Surface	Hillman Collection	Test Unit A	Total
<i>Odocoileus virginianus</i>	deer	4	31	6	41
<i>Odocoileus/Cervus</i>	deer/elk	2			2
	large mammal	3	14	1	18
<i>Didelphis virginiana</i>	opossum		1		1
<i>Procyon lotor</i>	raccoon	1			1
<i>Sciurus carolinensis</i>	gray squirrel		1		1
<i>Sylvilagus aquaticus</i>	swamp rabbit		1		1
	small mammal		1		1
<i>Anas platyrhynchos</i>	mallard		2		2
<i>Corvus brachyrhynchos</i>	crow		1		1
<i>Chrysemys-Graptemys</i>	cooter or map turtle		2		2
<i>Amia calva</i>	bowfin	1	1		2
<i>Ictaluridae</i>	catfish		24		24
<i>Ictalurus</i> spp.	catfish	2			2
<i>I. punctatus</i>	channel catfish		4		4
<i>I. furcatus</i>	blue catfish		12		12
<i>I. punctatus-fircatis</i>	channel/blue catfish	1			1
<i>I. melas</i>	brown bullhead		1		1
<i>I. nebulosus</i>	yellow bullhead		4		4
<i>Pylodictus olivaris</i>	flathead catfish		14		14
<i>Ictalibus</i> spp.	buffalo		2		2
<i>Aplodinotus grunniens</i>	freshwater drum		1		1
	unid. fish		4		4
TOTAL		14	121	7	142

TABLE 3
J.W. Copes Site: Fauna From Flotation Samples
Excavation Unit A

Species	Common Name	20-30cm	Depth Below Surface		
			30-40cm	40-50cm	50-75cm
<i>Sciurus</i> sp.	squirrel			X	
cf. <i>Procyon lotor</i>	raccoon (?)			X	
	large mammal	X		X	X
	medium mammal			X	
	Unid. mammal	X	X	X	X
<i>Chrysemys</i> spp.	cooter		X		
<i>Lampropeltis/Elaphe</i>	corn/rat snake			X	
<i>Lepisosteidae</i>	gar		X		X
<i>Lepomis</i> spp.	sunfish		X		
<i>Aplodinotus grunniens</i>	freshwater		X	X	X
	drum				
	bowfin		X	X	X
<i>Amia calva</i>	sucker			X	X
<i>Catastomidae</i>	sunfish			X	X
<i>Centrarchidae</i>	catfish		X	X	X
<i>Ictalurus</i> sp.	striped bass		X	X	X
cf. <i>Morone saxatalis</i>	minnows	X	X	X	
<i>Cyprinidae</i>	unid. fish				X



season occupation, although mallards are known to inhabit the Lower Mississippi Valley throughout the year (cf. St. Amant 1959). While the problems introduced by storage must be recognized, the presence of nuts and *Chenopodium* may reflect late summer or early fall collecting activities.

CONCLUSIONS

Although a larger sample will be required to adequately evaluate the seasonal use of the site, the present assemblage does point to the possibility of a year-round occupation. The results of this analysis bears reporting since greater sedentism has long been a suspected attribute of Poverty Point settlement patterns. The appearance of a more sedentary settlement pattern, as part of the evolutionary trend which resulted in the Poverty Point Culture, may have been permitted by or may have been a response to a hunting strategy involving bottomland species that selectively concentrated on the procurement of deer and the harvesting of large quantities of riverine fish species. There is also some suggestion that this hunting-gathering economy may have been supplemented by small-scale gardening, including the cultivation of squash and perhaps small seed annuals. Future investigations at the Copes site will serve to augment the data base required to evaluate these propositions more fully.

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