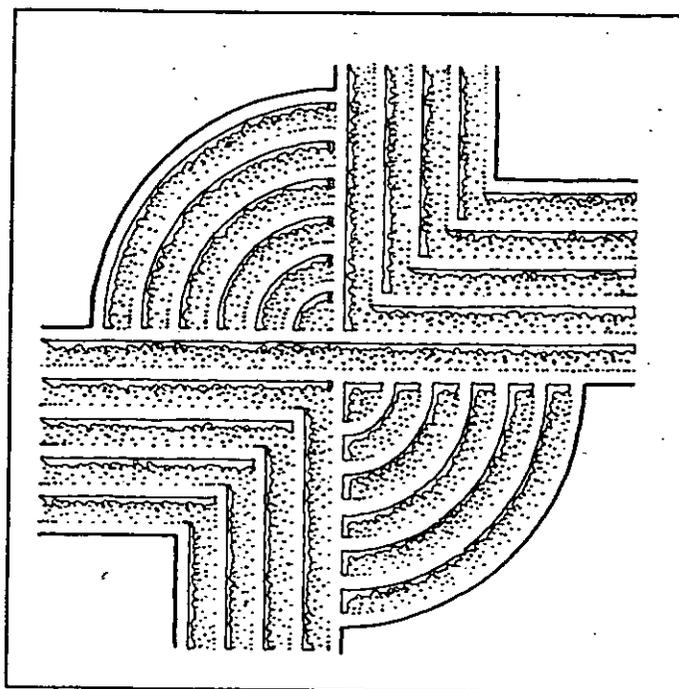


ETHNOBOTANICAL ANALYSIS OF SELECTED  
SAMPLES FROM 16MO103, MOREHOUSE COUNTY,  
LOUISIANA



**RESEARCH CONTRIBUTION 18**

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ETHNOBOTANICAL ANALYSIS OF SELECTED SAMPLES  
FROM 16M0103, MOREHOUSE COUNTY, LOUSIANNA

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Chicora Research Contribution 18

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## Introduction

During the first quarter of 1987 archaeologists with the firm of Brockington and Associates conducted test excavations at a Plaquemine phase site in Morehead County, Louisiana. Based on the ceramics this site is expected to date about A.D. 1200 (Paul Brockington, personal communication 1987; see also Phillips et al. 1951:454).

Regretably, no additional information concerning this site, the extent or techniques of the excavations, the form or function of the recovered features, or the nature of the ethnobotanical recovery techniques was provided by Brockington and Associates. It appears that very small samples of soil were subjected to flotation since the recovered charcoal samples are all under 5 grams and most are less than 1 gram in weight.

In spite of these limitations, the samples provide some further data on subsistence resources used by the occupants of this site and may also provide evidence of seasonal site use. These samples may also be indicative of site function, although lacking more information on collection techniques and site sampling procedures, conclusions drawn from these data must be tentative.

and Associates from 51 different proveniences (although some features have the same number with different letter designations). These flotation samples, as previously mentioned, weighed from less than 0.1 gram to slightly over 4 grams, and all were fairly clean of rootlets and obvious debris. It appears that the samples were presorted prior to this examination, but it is not possible to determine what might have been removed. All of these samples, strictly speaking, are too small to provide reliable results; samples weighing from 10 to 15 grams would be preferable and more likely to yield representative subsistence data.

Because the samples were small, it was decided to only examine selected proveniences, chosen on the basis of size and a desire to obtain a more-or-less representative cross section of feature types. Since there was no data on feature function or type, the decision was made to select proveniences which contained both small and medium amounts of floated materials (under the assumption that if equal volumes of soil were floated from all features, those producing smaller quantities of charcoal might represent distinct feature types). As a result of these selection processes, 15 samples were chosen and examined (representing a 29% sample). Sample sizes range from 0.09 to 3.77 grams and the studied proveniences should be generally reflective of the entire site collection.

Two of the larger samples were prepared in a manner similar to that described by Yarnell (1974:113-114) and were examined under low magnification (7 to 30X) to identify carbonized plant foods and food remains. The 13 smaller samples were not screened

to yield component sample fractions, but were examined as a single fraction, also under low magnification (7 to 30x). In both cases remains were identified on the basis of gross morphological features and seed identification relied on Martin and Barkley (1961), Montgomery (1977), and Schopmeyer (1974). In no cases did the samples contain wood charcoal of sufficient size to allow species identifications. The results of the analysis are provided in Table 1.

Excluding Feature 19, which had a very high percentage of debris (88.9%), wood charcoal is the dominant component in most samples, ranging from 40.3 to 89.4%. Debris in all samples included primarily soil and rock fragments, although noncarbonized organic materials were quite common in Features 21 and 22. Bone fragments, primarily burnt, or in several cases calcined, are not unusual in many of the samples. Food remains include only hickory nutshells, found in 10 samples (66.7%) and varying from only 1.7% of the component to over 34%. Only two samples (Features 15A and 48) produced carbonized seeds and in both cases the single specimens were badly fragmented. The noncarbonized seeds include grass (Gramineae), probable marsh sedge (Cyperaceae), chenopod (Chenopodium album), knotweed (Polygonum sp.), and grape (Vitis sp.).

### Discussion

The ethnobotanical remains from 16M0103 are not particularly revealing, but as previously noted the flotation samples are quite small and much of the dearth of information must be attributed to

Provenience	Wt.	Wood Charcoal		Bone		Debris		Hickory Nutshell		Seeds		Noncarb. Seeds	
		wt.	%	wt.	%	wt.	%	wt.	%	wt.	%	wt.	%
Feature 4	0.24	0.16	66.7	t	t	0.06	25.0	0.02	8.3			t	t
8	0.46	0.29	63.0			0.17	36.9					t	t
9A	1.33	0.68	51.1	0.01	0.8	0.56	42.1	0.08	6.0			t	t
15A	3.85	3.44	89.4			0.19	4.9	0.20	5.2	0.02	0.5	t	t
19	1.53	0.17	11.1			1.36	88.9						
20	0.82	0.71	86.6			0.11	13.4					t	t
21	3.77	1.81	48.0			1.07	28.4	0.88	23.3			0.01	0.3
22	0.72	0.29	40.3			0.23	31.9					0.20	27.8
24	1.87	1.02	54.5	0.01	0.5	0.57	30.5	0.57	30.5	0.27	14.4		
32	0.39	0.19	48.7			0.20	51.3						
48	3.57	1.75	49.0	0.03	0.8	0.54	15.1	1.24	34.7	0.01	0.3		
53	0.09	0.06	66.7	0.01	11.1	0.01	11.1	0.01	11.1				
67	0.87	0.48	55.2	0.05	5.7	0.26	29.9	0.08	9.2				
75	1.39	0.91	65.5	0.11	7.9	0.17	12.2	0.20	14.4				
78	1.18	0.75	63.6			0.41	34.7	0.02	1.7				

t = less than 0.01 gram

Table 1. Flotation sample components, weight in grams.

this problem. The average sample size is just under 1.5 grams which probably represents a soil sample of about 1 gallon. The procurement of adequate samples is a problem which all archaeologists face. The most forthright solution, of course, is the flotation of soils in the field so that sample sizes may be immediately adjusted to ensure adequate collection. As this is frequently not possible, it is necessary to establish, based on available data, a minimum soil sample size, especially since it is always easier to subsample a large flotation fraction than to go back to a closed site and collect more soil. This study suggests that future work at 16MO103 should anticipate collecting 10 to 20 gallons of soil per provenience or feature. The soil may be processed until a minimum flotation sample of 10 grams has been achieved, although a sample of up to 30 grams may be more representative.

The only food remains identified was a species of hard mast, hickory (*Carya* sp.), which occurred in 66.7% of the samples. Hickory is abundant in the samples perhaps in part because its dense, durable shell is amenable to preservation and recovery. Nevertheless, there is little reason to doubt that hickory nuts were a significant food source for the inhabitants of 16MO103. Hickory is found in the Southern Evergreen Forest Region of Louisiana, particularly in the Hardwood Bottoms (Braun 1950:293-297); since there are both riverbottom and upland species, hickory should have been common in the vicinity of the site. Hickories tend to produce an abundant crop every one to five years, usually with light crops in the intervening years (Fowells 1965; Schopmeyer 1974). Crop yields range from about 2 to 3 bushels per tree in a good year (Schopmeyer

1974). Further, the nuts are easily stored and the kernals are a good energy source, being high in protein and fat (Asch et al. 1972). The chief problem inherent in hickory nut exploitation appears to be the competition with other species, especially squirrels, for the nuts, and extracting the edible kernel from the refractory shell. Both the archaeological record and the accounts of early travelers in the Southeast (e.g., Harper 1958:25; Lefler 1969:105) indicate that neither problem precluded the effective use of this resource.

The presence of this nut mast indicates that the site was occupied in the fall as the fruits ripen and fall from the trees. Hickories, however, may be stored for previous use, as previously mentioned. Thomas Ashe notes that,

the Wild Wallnut or Hiquery-Tree, gives  
the Indians by boyling its Kernal, a  
wholesome Oyl. . . . Whilst new it has  
a pleasant Taste; but after six months,  
it decays and grows acid (quoted in  
Waddell 1980:53).

The two other seeds recovered from these collections were too fragmented to allow identification, but curiously, the site has provided no evidence of cultigens such as corn, beans, or squash, all of which might reasonably be expected at a Plaquemine phase site. The absence of other food remains may be the result of sampling biases, either in features excavated or the size of the flotation samples. Alternatively, this site may reflect a specialized function, with limited quantities of cultigens present.

Sources Cited

Asch, Nancy B., Richard I. Ford, and David L. Asch

- 1972 Paleoethnobotany of the Koster Site: The Archaic Horizons. Reports of Investigations 24. Illinois State Museum, Springfield.

Braun, Lucy

- 1950 Deciduous Forests of Eastern North America. Hafner Press, New York.

Fowells, H. A.

- 1965 Silvics of Forest Trees of the United States. Agricultural Handbook Number 271. United States Department of Agriculture, Washington, D.C.

Harper, Francis (editor)

- 1958 The Travels of William Bartram: Naturalist's Edition. Yale University Press, New Haven.

Lefler, Hugh T. (editor)

- 1969 A New Voyage to Carolina by John Lawson. University of North Carolina Press, Chapel Hill.

Martin, Alexander C. and William D. Barkley

- 1961 Seed Identification Manual. University of California Press, Berkeley.

Montgomery, F. H.

- 1977 Seeds and Fruits of Eastern Canada and Northeastern United States. University of Toronto Press, Toronto.

Phillips, Philip, James A. Ford, and James B. Griffin

- 1951 Archaeological Survey in the Lower Mississippi Alluvial Valley, 1940-1947. Papers 25. Peabody Museum of

American Archaeology and Ethnology, Cambridge.

Schopmeyer, C. S.

1974 Seeds of Woody Plants in the United States. Agricultural Handbook Number 450. United States Department of Agriculture, Forest Service, Washington, D.C.

Waddell, Gene

1980 Indians of the South Carolina Lowcountry, 1521-1751. Reprint Company, Spartanburg, South Carolina.

Yarnell, Richard A.

1974 Plant Food and Cultivation of the Salts Cavers. In Archaeology of the Mammoth Cave Area, edited by P.J. Watson, pp. 113-122. Academic Press, New York.