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ARCHAEOBOTANY OF FIVE SITES INVESTIGATED DURING PHASE II
TESTING OF THE CEDAR SHORES DEVELOPMENT, LAKE VILLA, ILLINOIS

1990

REPORT OF INVESTIGATIONS NO. 90

WESTERN MICHIGAN UNIVERSITY

DEPARTMENT OF ANTHROPOLOGY

Prepared for:

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The Cedar Shores development in the Village of Lake Villa occupies more 700 acres in Sections 28 and 33, Antioch Township, T46N R20E, Lake County, Illinois. This is an area of deep glacial tills, glacial outwash sands and gravels, and glacial lake deposits that features gently sloping relief and poorly defined drainage patterns. Lying near and within the southern limits of the project are three standing bodies of water: Cedar, Deep and Sun lakes. The last lake, Sun, drains by way of a small creek that flows north across the study area to Loon Lake, lying outside the northern boundary of the Cedar Shores development.

Soils on uplands include a series of silt loams and silty clay loams, while muck soils flank the lake's edge and stream shoreline settings where wet marshes predominate. At the time of the Government Land Office survey, drier sites removed from wetlands supported a mosaic of oak forest and savanna communities dominated by bur oak, black oak, and white oak. Occasionally mentioned by surveyors are red oak and hickories. Lurie and Jeske, in their Phase I completion report (1988), note that species diversity recorded for this project does not compare very favorably with that of the nearby Chain O'Lake State Park. Thus, while this project, and the areas around Deep and Sun lakes, in particular, has a high potential for archaeological resources, the lack of diversity of plant species and the relatively small size of marshes would not lead one to anticipate finding many long-term habitation sites here. Rather, sites recorded for the Cedar Shores development should be indicative of short-term, task specific or seasonal occupation oriented toward exploitation of

This site occupies a small knoll adjacent to a wooded area north of Deep Lake. A small kettle depression lies northwest of the site.

CS-31

This site was also initially defined from surface collections in a plowed field, but excavation units placed between the field and the small outlet for Sun Lake revealed cultural materials extending to a depth of 50 cm below the ground surface. Here, the top 30 cm of deposits are attributed to slope wash from the plowed field.

CS-13

This small site was identified from surface collections in a plowed field, but follow-up test excavation between the field and a nearby marsh revealed cultural material buried to a depth of 60 cm below the surface. The top 25 cm is interpreted as recent slope wash. At a depth of 40 cm below surface, six small potsherds were retrieved from one excavation unit. Archaic points have been recovered from the area of the site under cultivation.

CS-4

The Phase I survey of the Cedar Shores development did support the general expectations of the model proposed by Lurie and Jeske (1988), in that the vast majority of the more than 50 sites recorded were seasonal or task specific components clustered near elevations above the small marshes and lakes. Limited testing of all sites was undertaken by MARS during the summer of 1989, and of this number the authors received samples of archaeological sediments from five: CS-4, CS-13, CS-31, CS-46, and CS-48.

the small marsh and lake edge settings.

aquatic and riparian plant and animal resources concentrated in

This site, covering an estimated 1050 m², is one of the more extensive in the project and lies between Deep Lake and a small kettle to the north. The site seems to conform to the contours of the kettle. It

CS-48

Careful examination of the soils and stratigraphy indicates that this 15 m diameter mound is a cultural feature, but little cultural material was recovered during testing of this mound. Several chert flakes were found in mound fill, and an abrader of igneous rock was recovered from the base of this 60 cm high feature. However, the prevalence of rodent burrows calls the context of the cultural items into question. It is perhaps noteworthy that a farm outbuilding is located about 10 m northeast of CS-48.

CS-46

Cultural items were collected from the surface of a plowed field, but since the surface was highly eroded, two 1 m X 1 m excavation units were placed in the grassy area between the crest of the knoll and the kettle. The stratigraphy showed that this portion of the site had not been plowed. A feature was defined in the corner of the northernmost square at a depth of 20 cm below the surface. In profile, the irregularly shaped basin seemed to extend from the modern surface to 40 cm below, and the pit was surrounded by an ashy grey soil. The entire feature was excavated, and all fill was floated. This pit did not contain any lithic or ceramic debris, but was rich in carbonized plant material. A 25 gm sample of wood charcoal was submitted for radiocarbon determination, yielding a date of 300 ± 50 BP: A.D. 1650 (Beta-35404). The multiple intercept calibrated age is A.D. 1532, 1541, 1637 (Struiver and Reimer (1986)).

has never been plowed, but has been used for pasture and as a camping ground for scouts. It also appears that a gravel road once crossed the site.

Although cultural material was recovered from just below the ground surface and continued to a depth of 30 cm, most of the items were found to occur about 20 cm below the surface. The samples of carbonized plant material collected from CS-48 were retrieved from a depth of about 15 cm, below a layer of gravel very close to the one pit feature defined by excavators. This pit was basin shaped in cross section and contained knapping debris.

A 25 g sample of wood charcoal from flotation processed sediments collected from Level 2 in Test Pit 9 was submitted by the authors for radiocarbon determination, providing a date of 200 ± 50 BP: A.D. 1750 (Beta-35205). The multiple intercept calibrated age for this date is A.D. 1665, 1784, 1788 (Stuiver and Reimer 1986).

The information on the five Cedar Shores sites from which we received botanical material for study has been provided by Dr. Rochelle Lurie (personal communication, 2 Jan 90).

Sample Contents and Analytic Procedures

Carbonized plant specimens numbering more than 4400 and aggregating almost 360.0 g by weight were received from MARS in an unsorted condition following retrieval through application of flotation procedures in the field. Seven of 12 samples from which these residues were collected are of known volume, ranging from 1.5-13.0 liters and totaling 50 l of processed sediment; the remaining five samples are

of unknown volume. Be that as it may, the contents of all 12

flotation samples were handled in the same manner prior to sorting

into size fractions for identification and quantification.

Initially, the contents of each container were passed through a

graded series of geologic sieves and each size fraction examined

under magnification. Items that were not of plant origin were

extracted, as were those plant specimens evidencing no carboniza-

tion and presumably of modern or recent origin (i.e. contaminants).

All specimens remaining after this initial sorting were then placed

in categories according to plant part.

Following gross sorting of the assemblage, all specimens were counted,

weighed, and identified using 10X-20X magnification and reference to

standard wood and seed identification manuals (Core, Cote, and Day

1979; Martin and Barkley 1961; Montgomery 1977; and USDA 1974) and,

when necessary, compared with both fresh and carbonized specimens in

type sets maintained in the Archaeology Laboratory at Western

Michigan University.

Data Presentation

Table 1 summarizes the plant residues observed in 9 of 12 flotation

samples examined. From both a qualitative and quantitative perspec-

tive, the results of our analysis shed little light on subsistence

behavior. Wood charcoal, most assuredly representing fuel residues,

accounts for 99% by both count and weight of all plant remains. The

39 specimens assigned to other categories of charcoal include seed

remains, tree buds, monocot stem fragments, and a single piece each

CEDAR SHORES DEVELOPMENT, LAKE VILLA, ILLINOIS
ARCHAEOBOTANICAL REMAINS

<u>Site</u>	<u>Sample No.</u>	<u>Context</u>	<u>Sample Volume</u>	<u>Contents wt / ct</u>	<u>Comments</u>
CS-4	1	Test Pit 4 Level 4 Area B	(sandbag)		no botanical material observed in the sample
CS-4	2	Level 4 Area B	(1/3 bag)		no botanical material observed in the sample
CS-13	3	Test Pit 1 Level 4	12 l	.25 g	1 unidentified wood char- coal fragments
					1 Knotweed seed (<u>Polygonum</u> sp.)
					1 goosefoot seed (<u>Chenopodium</u> sp.)
CS-31	4	Feature 1 Test Pit 1	? 223.25g/ 3000+		4 great quantity of small wood charcoal fragments (small randomly selected sample of identifiable pieces were 65% <u>Pinus</u> spp., with the remainder unidentified)
					4 unidentified tree buds

CEDAR SHORES DEVELOPMENT, LAKE VILLA, ILLINOIS
ARCHAEOBOTANICAL REMAINS

<u>Site</u>	<u>Sample No.</u>	<u>Context</u>	<u>Sample Volume</u>	<u>Contents wt / ct</u>	<u>Comments</u>
				2	monocot stem fragments
				1	unidentified nutshell
				1	pigweed seed (<u>Amaranthus</u> sp.)
				1	horsetail seed (<u>Equisetum</u> sp.)
				1	bedstraw/cleavers seed (<u>Galium</u> sp.)
				1	large-flowered bellwort (<u>Uvularia grandiflora</u>)
				1	moonseed (<u>Menispermum canadense</u>)
				1	distal tip of an acorn (<u>Quercus</u> sp.)
				5	fragments of an unknown berry pit or stone
				9	unidentified fragments of small seeds
CS-46	5	Test Pit 3 Level 4A	6 l	.05 g/10	unidentified wood charcoal fragments

CEDAR SHORES DEVELOPMENT, LAKE VILLA, ILLINOIS
ARCHAEOBOTANICAL REMAINS

<u>Site</u>	<u>Sample No.</u>	<u>Context</u>	<u>Sample Volume</u>	<u>Contents wt / ct</u>	<u>Comments</u>
CS-46	6	Test Pit 3 Level 4C	1.5 l		nothing to report
CS-46	7	Test Pit 3 Level 6	4.5 l	.20g/19	unidentified wood charcoal unidentified seed fragments
CS-48	8	Test Pit 1 Level 3B	4 l	5.11g/82	small unidentified fragments of wood charcoal
CS-48	9	Feature 1 Test Pit 2 SE extension	13 l	2.00g/ ?	many very small pieces of wood charcoal that are unidentifiable raspberry seeds (<u>Rubus</u> spp.) unidentified seed fragments

CEDAR SHORES DEVELOPMENT, LAKE VILLA, ILLINOIS
ARCHAEOBOTANICAL REMAINS

<u>Site</u>	<u>Sample No.</u>	<u>Context</u>	<u>Sample Volume</u>	<u>Contents wt / ct</u>	<u>Comments</u>
CS-48	10	Test Pit 2 Level 2 SE extension	?	15.0g/133	wood charcoal fragments (a 20% random sample consisted of 60% <u>Quercus</u> and 40% ring-porous hardwood charcoal)
				1	unidentified seed
CS-48	11	Test Pit 9 Level 1	?	41.2g/365	wood charcoal fragments (a small random sample consisted of 50% ring-porous, 30% probable <u>Quercus</u> , and 20% <u>Ulmus</u> or elm)
CS-48	12	Test Pit 9 Level 2	9 1	46.0g/800+	wood charcoal fragments (a small random sample of potentially identifiable specimens broke down as follows: 60% <u>Ulmus</u> , probably red elm, and 40% ring-porous hardwood)
				1	unidentified seed coat fragment

plant species diversity, at least in part, conditioned human occupation very favorably on Lurie and Jeske's (1988) contention that lack of flotation sample, as well as the assemblage as a whole, reflects further argue that the very few woods identified in any particular site environs without a high degree of selectivity. And one might represented by charcoal were exploited for firewood in the immediate identification, it is reasonably safe to conclude that all trees specimens that were not too fragmentary or distorted to permit 99% of the specimens, wood charcoal, based upon the small number of With respect to that category of carbonized residues accounting for sample as is human utilization.

contamination is as viable an explanation for their presence in the presence in archaeological context. In other words, prehistoric seed rain or some other natural agency as being responsible for their in close proximity to these sites, making it impossible to rule out naturally in the forest edge, thicket, marsh, and water edge habitats sample! And all of these species can be anticipated to have grown question is represented by more than a single occurrence in the possibly exploited by the human occupants of the five sites in the raspberry, accounting for three specimens, no other plant food potentially edible plant resources. With the singular exception of most difficult. This is especially true for specimens representing remains comprising the sample from Cedar Shores makes interpretation the very small number and fragmentary condition of carbonized plant

Interpretations and Conclusions

of acorn shell and unidentified nutshell.

of the study area in prehistory, resulting in a pattern of settle-
 ment characterized by small task specific or seasonal encampments
 from which resources of the marshes and lakes were exploited.

References Cited

Core, H.A., W.A. Cote, and A.C. Day
 1979 Wood structure and identification. Syracuse University
 Press, Syracuse, New York.

Lurie, R., and R. Jeske
 1988 Results of phase I archaeological investigations of the
 Cedar Shores development property, Lake county, Illinois.
 Midwest Archaeological Research Services, Cultural Resource
 Management Report 34.

Martin, A.C., and W.D. Barkley

1961 Seed identification manual. University of California Press,
 Berkeley.

Montgomery, F.H.

1977 Seeds and fruits of plants of eastern Canada and northeastern
 United States. University of Toronto Press, Toronto.

USDA (Forest Service)

1974 Seeds of woody plants in the United States. United States
 Department of Agriculture, Agriculture Handbook 450.
 Washington, D.C.