

## ANIMAL REMAINS FROM

# The Etowah Site, Mound C

## BARTOW COUNTY, GEORGIA

Henry van der Schalie and Paul W. Parmalee

### INTRODUCTION

**T**HE ETOWAH SITE, located three miles southwest of Cartersville, Bartow County, Georgia, consists of three large ceremonial or temple mounds clustered together near the north bank of the Etowah River, with smaller domiciliary mounds in the surrounding area. The main concentration of mounds and village occupation comprises approximately 40 acres and the general periods of occupancy range from the Etowah Culture Periods I to IV (1,100-1,500 A.D.), through the Wilbanks Culture Period (1,500-1,600) to the early historic Cherokee (1,600-1,700).

Mound C, like the other two large mounds (A and B) at Etowah, was four-sided with a flat top intended primarily as a temple foundation. The mound had a number of building periods, each marked by the addition of a new layer (mantle) of clay to the sides and top. The addition of a new mantle, usually of a single type of clay and distinct from the preceding layer, may have taken place at the beginning of a ceremonial cycle, following the deliberate destruction of the old temple. Supposedly there was a ramp which ran from the ground level to the top of the mound on the east side, although no trace of such a ramp exists today. Extensive traces of a palisade, in the form of post-holes, have been found surrounding the base of the last construction phase of the mound. A second palisade (probably a light pole fence) encircled an earlier mound phase.

The time span at Etowah (Mound C) is involved and not all periods of occupation have as yet been clearly defined. The pre-mound refuse pits

as well as some of the material from certain upper-level structures belong on a Hiwassee Island level. The last construction phase of the mound belongs on a Wilbanks Level but the early building phases are as yet somewhat indeterminate insofar as a temporal position is concerned; probably some of the construction phases are pre-Wilbanks and, therefore, fit into the Etowah III or IV Period. After the pits were filled with Etowah Periods II and III refuse, occupation continued during Etowah Period IV in the same area, as indicated by the two-foot layer of refuse above the pits. Etowah IV exhibits a wider range of pottery types, including a late Etowah complicated stamped ware (Savannah Complicated Stamped), a large series of undecorated but beautifully smoothed and burnished wares, and a certain amount of painted pottery and rims of effigy vessels (Kelly and Larson, 1957).

Pottery of the Wilbanks Period is a fairly homogeneous assemblage of very heavy, gritty, friable domestic ware which is primarily decorated with a crudely executed and badly applied complicated stamp. The Etowah Period IV and the Savannah complicated stamps are clearly defined patterns, with the pottery thinner and much stronger. According to Kelly and Larson (op. cit.), "The deterioration in ceramic art by Wilbanks times is very striking. It is as if in their desperation and inability to produce a satisfactory, durable pottery, the Wilbanks people compensated by simple massive reinforcement and size." Their pottery consisted mainly of huge cooking vessels and heavy dishes; the rims were thick and plain, with almost no attempt at modeling or decoration.

Over 100 human burials were found in Mound C, the majority of which occurred around the edge of the final mound construction, and a large number and variety of cultural artifacts have been recovered. Probably no single mortuary structure in the Southeastern culture area has proved to be so rich in ritualistic paraphernalia as this mound. The objects recovered from burials (burial customs suggestive of the "Southern Cult") indicate a highly organized and complex religious pattern characterized by special ceremonials, priests with elaborate and distinctive costumes, and a variety of unique symbols. Probably the most sensational find was the discovery of two human figures (male and female), carved from Georgia marble, each of which was two feet in height and weighed nearly 100 pounds. The variety of other artifacts included items such as: conch-shell bowls; conch columella pendants; copper hair ornaments, celts, copper-covered wooden beads, plaques, plates and a horned headdress; stone human effigies, celts, pipes and a monolithic axe; pots, effigy jars and bowls; galena; mica; carved wooden objects; flint projectile points, knives and ceremonial blades; several kinds of cloth; pearl and shell beads and bone awls.

Archaeological explorations had been made at the Etowah Site prior to 1900 although it was not until the years 1925-1927 that portions of the site (primarily Mound C) were extensively excavated. The comprehensive

report by Moorehead (1932) deals with the history of the site, his findings at Etowah, and his attempt to show cultural affiliations with other groups based on significant artifacts which were recovered. Apparently through the efforts of Dr. Frank C. Baker, a sample of the shell found during Moorehead's excavation was retained and the specimens identified (F. C. Baker: *Molluscan Shells from Etowah Mounds*, pp. 145-149); unfortunately, however, the bone refuse was apparently not kept.

In June, 1954, the Georgia Historical Commission and the University of Georgia, Department of Anthropology and Archaeology, began a detailed exploration of Mounds B and C. During the field work in 1954, 1955 and 1956 a quantity of significant artifacts were recovered (Kelly and Larson, 1957) as well as several thousand specimens of mollusks and vertebrates; excavations in 1957 and 1958 added considerably more material. Lewis H. Larson, Jr., Archaeologist, Georgia Historical Commission, Cartersville, was in charge of the excavation of Mound C, and the authors would like to express their appreciation to him for making this excellent faunal sample available for study. Identification of the various species of snails, clams and fresh-water mussels was made by the co-authors, while the vertebrate species were determined by Paul W. Parmalee unless otherwise acknowledged.

## PART 1. MOLLUSKS

Henry van der Schalie

THE MOLLUSKS found in mounds at the Etowah site in Georgia were reported by F. C. Baker (1932) in W. K. Moorehead's "Exploration of the Etowah Site." It is now possible to compare the shells obtained in recent (1954 to 1958) studies of Mound C with the mollusks reported from that area by Baker. The current excavations yielded many additional species. As a result, this newer information will occasion some changes in concepts previously presented when fewer species were available. It is also important to consider all of the mollusks recovered to date in relation to the known recent fauna of the Coosa River drainage to which the Etowah region belongs.

Baker and others have indicated that aboriginal people made extensive use of the rich mollusk materials in their immediate environment. Although the presence of marine species is clearly an indication of trade relations or routes of travel, most of the shell remains are of local origin, the animal itself being used as food, the shells in the construction of tools or implements, as well as jewelry. Baker compared the marine and

fresh-water species from the mounds of Georgia with those from Hopewell, Cahokia, and Illinois Valley mounds to the north. For convenience, a list of the species, following the group arrangement of Baker, will be presented and comparisons then will be made between the earlier and the later discoveries.

### **LAND SNAILS**

Although the land mollusks recovered in Mound C were represented by relatively few species, as compared to the many available in the Etowah region, the following four species were among the larger snails inhabiting the area and were probably used as food:

#### ***Anguispira alternata* (Say)**

Forty-three specimens of the Tiger Snail were recovered from Mound C. This snail occupies a wide variety of habitats but tends to be abundant in areas where there is much litter and down timber. It is usually common enough to serve as a good source of food.

#### ***Triodopsis albolabris major* (Binney)**

This Polygyrid (2 specimens recovered) is among the largest and most widespread of the land shells; it undoubtedly grew to a maximum size in the limestone region surrounding the Etowah drainage where it could serve as a substantial food.

#### ***Mesodon thyroidus* (Say)**

Twelve specimens of this mollusk were found. It is usually very common today on flood plains of rivers where it lives among litter. Although not as large as the previous species, it attains a shell dimension of 2 to 3 centimeters. It is far more abundant where it occurs than most Polygyrids and would, perhaps, be more likely to be used for food than any of the four species found in Mound C.

#### ***Triodopsis obstricta* (Say)**

While this species (2 specimens recovered) is not as common as the other three listed here, its shell may average 2.5 centimeters in diameter and the animal is sufficiently large to be used as a food. It tends to be more localized through habitat preference.

Hitherto, land snails were not listed among the animal materials found at the Etowah site. Their shells are somewhat smaller and more fragile than the aquatic snails and the mussels which are represented far more abundantly. Hence these shells may not be preserved as well as those that have proven more abundant.

### **FRESH-WATER SNAILS**

Since the time of the first report on the Etowah site, some useful

papers have been published on the snail fauna of the Coosa drainage. Prior to the installation of the several power dams throughout the course of the Coosa with the attendant alterations in the fauna of the river, H.H. Smith was able to make extensive collections of mollusks there. He was a professional collector supported by Bryant Walker, George Clapp and Truman Aldrich. The specimens collected by Smith in his explorations were used by Goodrich (1936; 1941; and 1944) in studies of the snails inhabiting the Coosa drainage. These reports and the specimens available in the Museum of Zoology have been used to establish the identity of the species given in the following enumeration of operculate snails now known to be associated with the mounds at the Etowah site. Table 1 includes both the species listed by Baker (1932) and those recently uncovered.

Table 1. Enumeration and Comparison of Fresh-Water Operculates from Mound C, Etowah Site, with those reported by Baker (1932)

Species Mound C	Number of Specimens	Species Baker (1932)	Number of Specimens
Pleuroceridae:			
<i>Goniobasis capillaris</i> (Lea)	2244		
<i>Goniobasis caelatura</i> (Conrad)	13	= <i>Goniobasis decorata</i> (Anthony)	20
		<i>Goniobasis flava</i> (Lea)	1
<i>Pleurocera showalterii</i> (Lea)	123	<i>Pleurocera annuliferum</i> (Conrad)	2
Viviparidae:			
<i>Campeloma geniculum</i> (Conrad)	221	<i>Campeloma crassulum</i> (Raf.)	3
<i>Campeloma ponderosum</i> <i>coarctatum</i> (Lea)	145	= <i>Campeloma coarctatum</i> (Lea)	2
<i>Campeloma</i> sp.	70	<i>Campeloma lewisii</i> (Walker)	2

Since the two families represented in the tabulation contain some of the larger snails among those now living in the local streams, and since some of them are found in such large numbers, it would seem that these aquatic snails did serve as a food. Also, the additional information tends to support the statement by Baker (1932: 146): "It is surprising that the round river snail, *Anculosa*, so commonly used in Illinois for bead purposes, is totally absent in the Etowah mounds, although this genus of snails is common in Georgia and Alabama." As will be indicated later,

the beads at the Etowah site were made almost entirely from marine shells.

## FRESH-WATER MUSSELS

One of the best sources of food for the aboriginal peoples in the Etowah region, as well as for the inhabitants of the sites studied in Illinois, were the fresh-water mussels. The large amount of naiad material recovered from the Mound C site necessitates some changes in perspective regarding the value of these animals in the life of the Etowah Indians. Baker (1932: 146) stated:

“Comparing the fresh water molluscan material in the Etowah mounds with that from the mounds in Illinois, we find that among the clams or bivalves the Illinois Indians used twenty species while the Etowah Indians used but eight. Only two species are common to both localities, *Lampsilis ovata* and *Elliptio crassidens*.”

The additional material uncovered now indicates that there are about two dozen species of mussels commonly used by the Etowah tribe, actually more than recorded for the Illinois group. Also, a closer inspection of the lists reveals that there are several species both areas have in common. One must realize that a basic fauna, the Mississippi fauna, invades most of the eastern naiad faunal regions (van der Schalie, 1938; 1950). Parmalee (1956) has made a comparison of the past and present populations of mussels in southern Illinois. He has also discussed the use of these mussels as tools (hoes, cups, dippers) and ornaments. Essentially, the species in the Etowah region are similar enough to those in Illinois to serve many of the same needs.

A list of the mussels of the Coosa River drainage has not been prepared heretofore. In view of the altered conditions in that valley at the present time it would seem worth while to present the following list of species belonging to the original naiad fauna of the Coosa drainage. This information was taken from data prepared by Bryant Walker and available because his collections are deposited in the Museum of Zoology at Ann Arbor. It is unfortunate that men like Walker and A. E. Ortmann are not appreciated by some recent malacologists who are not willing to recognize their basic contributions.

It is clear from Table II (page 43) that the mussel fauna in the Coosa River was formerly a very rich assemblage. In all, some 57 species have been recognized with 34 of them more or less common in the drainage. An analysis of the mussels of another northern tributary to the Alabama River, the Cahaba River, was made by H. van der Schalie (1938) and it has approximately the same assemblage of mussels as the Coosa but with fewer (48) recorded species. The similarities and differences and the relation of the Alabama fauna to the Cumberlandian fauna need not be discussed here. However, it is necessary to stress that there are, con-

trary to the statement by Baker (1932: 146), several species of mussels common to both the Illinois and Alabama drainages and those wide-ranging species were used extensively by both groups of Indians.

Table II. Mussel Fauna of Coosa River Drainage Prior to 1900

Abundant (34)		Not Abundant (23)	
	No. Specimens		No. Specimen
<b>Unioninae</b>			
<i>Fusconaia ebenus</i> Lea		<i>Fusconaia undata</i> Conrad	
* <i>Quadrula</i> sp.	29		
* <i>Quadrula pustulosa</i> Lea	102		
<i>Quadrula rumphiana</i> Lea			
<i>Quadrula metanevra</i> Raf.			
* <i>Tritigonia verrucosa</i> Raf.	72		
* <i>Amblema boykiniana</i> Lea			
B (= <i>Amblema triumphans</i> B. H. Wright)			
* <i>Amblema perplicata</i> Conrad	116		
<i>Pleurobema showalterii</i> Lea		<i>Pleurobema nux</i> Lea	
* <i>Pleurobema hartmaniana</i> Lea	1	B* <i>Pleurobema rubella</i> Conrad	82
<i>Pleurobema alta</i> Conrad		<i>Pleurobema troscheleana</i> Lea	
<i>Pleurobema chattanoogaensis</i> Lea		<i>Pleurobema stabilis</i> Conrad	
* <i>Pleurobema decisa</i> Lea	4	<i>Pleurobema nucleopsis</i> Conrad	
* <i>Pleurobema</i> sp.	239	<i>Pleurobema perovata</i> Conrad	
B* <i>Elliptio arcuatus</i> Lea	15	<i>Pleurobema brumbyana</i> Lea	
(= <i>E. forbesianus</i> ?)		<i>Pleurobema cor</i> Conrad	
B* <i>Elliptio crassidens</i> Lea	630	<i>Pleurobema interventus</i> Lea	
<i>Elliptio crassidens</i>		<i>Pleurobema hanleyana</i> Lea	
<i>incrassatus</i> Lea		* <i>Pleurobema murrayense</i> Lea	153
B* <i>Elliptio dilatatus</i>			
f. <i>subgibbosus</i> Lea	9		
<b>Anodontinae</b>			
* <i>Strophitus cannasaugaensis</i> Lea	1	* <i>Strophitus subvexus</i> Conrad	
<b>Lampsilinae</b>			
* <i>Ptychobranchus foremanianus</i> Lea	160		
<i>Obliquaria reflexa</i> Raf.			
* <i>Tritigonia verrucosa</i> Raf.			
<i>Plagiola lineolata</i> Raf.			
* <i>Obovaria subrotunda</i> lens Lea	220		
* <i>Medionidus acutissimus</i> Lea	1		
<i>Medionidus parvulus</i> Lea			
B <i>Leptodea fragilis</i> Raf.			
* <i>Proptera purpurata</i> Lamarck	1		
<i>Proptera alata poulsoni</i> Conrad			
<i>Carunculina germana</i> Lea		<i>Carunculina cromwelli</i> Lea	
<i>Micromya vibex</i> Conrad		* <i>Carunculina corvunculus</i> Lea	2
<i>Micromya planus</i> Lea		* <i>Micromya lienosa</i> Conrad	73
<i>Micromya nebulosa</i> Conrad		<i>Micromya concestator</i> Lea	
* <i>Micromya vanuxemensis</i> Lea	12		
* <i>Ligumia recta latissima</i> Raf.	30	* <i>Lampsilis clarkiana</i> Lea	87
<i>Lampsilis doliaris</i> Lea		<i>Lampsilis perpasta</i> Lea	
<i>Lampsilis excavata</i> Lea		<i>Lampsilis perovalis</i> (Conrad)	
<i>Dysnomia compacta</i> Lea		<i>Dysnomia penita</i> Conrad	
		<i>Dysnomia modicella</i> Lea	
		* <i>Dysnomia metastriata</i> Conrad	26
		<i>Truncilla donaciformis</i> Lea	

\* Species recovered in Mound C, together with the number of specimens found.

B Species recorded by F. C. Baker.

If the mussels listed by Parmalee (1956: 186) and those listed in Table II are compared in terms of the mussel species recovered in Mound C at the Etowah site (species marked with an asterisk in Table II), the following ten species are common to both regions:

<i>Elliptio dilatatus</i> (Spike; Lady-finger)	<i>Tritigonia verrucosa</i> (Pistol-grip)
<i>Elliptio crassidens</i> (Elephant's Ear)	<i>Fusconaia ebenus</i> (Niggerhead)
<i>Amblema peruviana</i> (similar to <i>A. perplicata</i> or Blue-point)	<i>Proptera alata poulsoni</i> (Pink Heel-splitter)
<i>Quadrula pustulosa</i> (Warty-back)	<i>Ligumia recta latissima</i> (Black Sandshell)
<i>Quadrula metanevra</i> (Monkey-face)	<i>Plagiola lineolata</i> (Butterfly)

A number of other species have counterparts in the Coosa drainage but their taxonomic relationships are as yet not clear. In any case, several of the species that these drainages have in common were used by the Etowah Indians who utilized the animals as one of their basic food sources.

## MARINE MOLLUSKS

The marine mollusks found at the Etowah site are sufficiently well represented to make up somewhat for the "disparity" noted for this site by Baker (1932: 148) who reported only 5 marine species, two bivalves and three snails. If the number of species Baker reported is added to those listed here from Mound C, the total becomes eleven as compared to twelve found in Illinois. Five are clams; six are snails. The species and the number of each recovered from Mound C are given in Table III. The composition of the Etowah Mound C and the Illinois mounds no longer appears so different.

One of the missing species recovered in Hopewell mounds in Illinois but not previously found at the Etowah site is *Cassis madagascarensis*. Its recovery, along with the several large specimens of species of *Busycon*, indicates that these large conchs are also among the most valuable shells for making dippers, vessels of various kinds, and especially for making beads. Numerous beads were made from the columella of the larger whelks. Beads were also manufactured using pearls and the nacreous materials of the many species of fresh-water mussels recovered at the Etowah site. The number of heart shells, *Dinocardium robustum*, and related species of marine clams, such as *Dosinia discus*, indicates that those east coast and Gulf coast shells were obtained by barter or during extended travels to the coasts. To what extent they served as implements or food is uncertain. Examples of the larger conchs, *Cassis madagascarensis* and *Busycon perversum*, which were used as dippers, are shown in Figure 1.



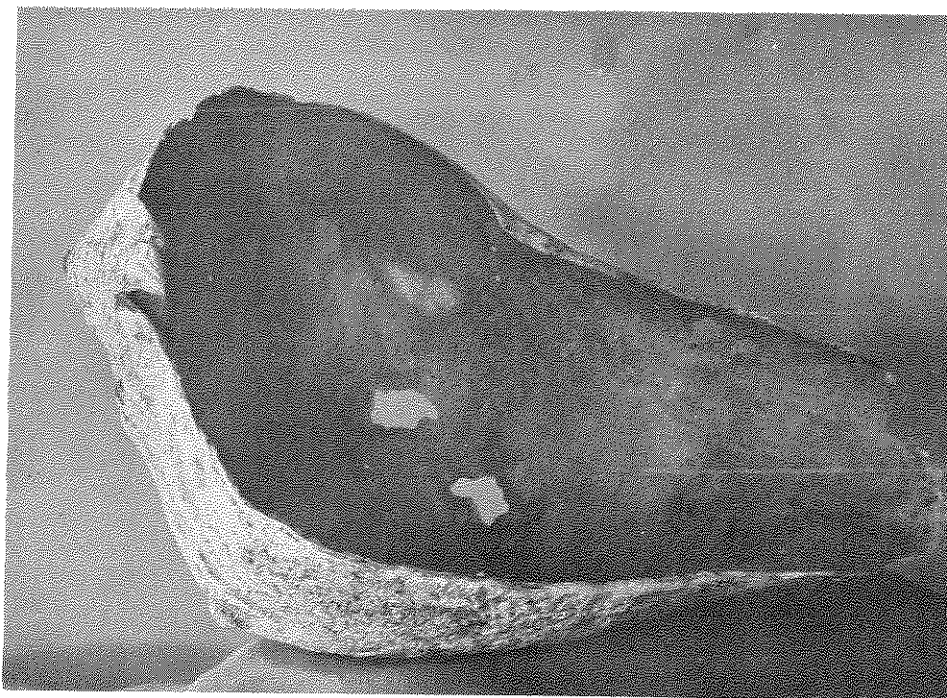


Figure 1. Above, *Busycon perversum* dipper from Mound C, Etowah Site, Georgia. Below, *Cassia madagascarensis* dipper from same site.

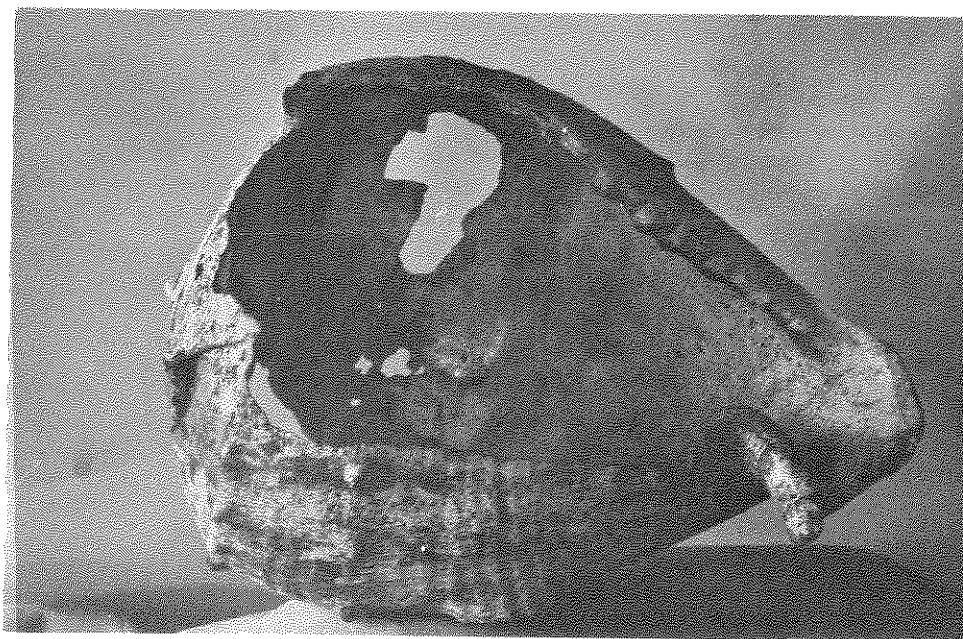


Table III. Comparison of Marine Shells Recovered at Mound C with Those Reported by Baker (1932)

CLAMS OR BIVALVES			
Mound C Species	Number of Specimens	Baker (1932) Species	Number of Specimen
<i>Dinocardium robustum</i> Solander	11		
<i>Trachycardium</i> sp.	1	<i>Trachycardium magnum</i> Linné	2
<i>Dosinia discus</i> Reeve	9		
<i>Volsella demissa</i> Dillwyn	1	<i>Arca pexata</i> Say ( <i>Anadara ovalis</i> Bruguiere)	
SNAILS			
<i>Busycon canaliculatum</i> Linné	25		
<i>Busycon perversum</i> Linne	10	<i>Busycon perversum</i> Linné	
<i>Busycon contrarium</i> Conrad	3		
<i>Cassis</i> cf. <i>madagascarensis</i> Lam.	2	<i>Oliva litterata</i> Lam. ( <i>Oliva soyana</i> Rav.) <i>Marginella apicina</i> Menke	

In summary, the extensive amount of shell material recovered Mound C at the Etowah site in Georgia was compared with the moll reported from the same area by F. C. Baker (1932). When all known *g* are considered together the shells recovered are contained in the fo ing groups: 4 species of land shells, 9 species of fresh-water operc snails, 26 species of fresh-water mussels or naiades, 5 marine biv or clams, and 6 marine snails. It is evident that the Etowah Indians ample use of the rich fresh-water mollusk fauna of the Coosa River age for food, while the larger marine whelks and clams were utili: the manufacture of implements and jewelery. With the combined c tions reported here it is shown that the differences in the use of by the Indian tribes in Illinois as compared to those living in the valley are not as pronounced as previously claimed.

## REFERENCES

- Baker, Frank C.  
1932 (In Moorehead, W. K. Exploration of the Etowah Georgia. pp. 145-149.)

- Goodrich, Calvin
- 1936 *Goniobasis* of the Coosa River, Alabama. Univ. Mich. Mus. Zool. Misc. Pap. No. 31, pp. 1-60, 1 plate.
- 1941 Pleuroceriidae of the Small Streams of the Alabama River System. Univ. Mich. Mus. Zool., Occ. Pap. No. 427, pp. 1-10.
- 1944 Certain Operculates of the Coosa River; Pulmonates of the Coosa River. The Nautilus, Col. 58, pp. 1-15.
- Parmalee, Paul W.
- 1956 A Comparison of Past and Present Populations of Fresh-Water Mussels in Southern Illinois. Ill. Acad. Sci., Trans. 49, pp. 184-192.
- van der Schalie, Henry
- 1938 The Naiades (Fresh-Water Mussels) of the Cahaba River in Northern Alabama. Univ. Mich. Mus. Zool., Occ. Pap. No. 392, pp. 1-29.
- van der Schalie, Henry, and Annette van der Schalie
- 1950 The Mussels of the Mississippi River. Amer. Midl. Nat., Vol. 44, pp. 448-466.
- Walker, Bryant
- 1918 A Synopsis of the Classification of the Fresh-Water Mollusca of North America, North of Mexico. Univ. Mich. Mus. Zool., Misc. Pap. No. 6, pp. 1-213.

## PART 2: VERTEBRATES

Paul W. Parmalee

REPRESENTATIVES of the five classes of vertebrates occurred in the faunal sample recovered during the excavation of Mound C. Bone scattered throughout the mound fill, in refuse pits and with human burials has provided an excellent index to the food habits of the Etowah people, and the variety of bone (and shell) artifacts manufactured for use as tools or ornaments have aided the archaeologist in understanding their activities and living standards. Although shell hoes and other evidence of agricultural activities were discovered at the Etowah Site, it is apparent from the huge quantity of faunal remains that these Indians utilized

the native animals for a large percentage of their subsistence. The vertebrate species identified from Mound C and the number of remains of each are listed in Table IV.

## MAMMALS

A minimum of 15 species of mammals were determined from the faunal sample, representing a total of nearly 4,800 identified bones. Typically, the Whitetail Deer ranked first numerically and constituted 94 percent of the total number of identified mammal remains. Coupled with over an additional 13,000 unidentifiable large mammal bone fragments, most of which were probably deer, it is evident that this animal was of extreme importance in the diet of these Indians and that it probably formed the basic meat staple. Bones and antler of *O. virginianus* were also utilized for the manufacture of tools such as antler projectile points and tines, awls and beamers. All bones of the deer were represented so it is apparent that the entire carcass was brought back to camp.

It is of interest to note here that no remains of the Elk, *Cervus canadensis*, were found in either Mounds C or B (material from Mound B is presently being studied) although 16 bones of this species were identified by William R. Adams, Indiana Laboratory of Ethnozoology, Bloomington, from a faunal sample recovered in the village between these mounds by William H. Sears in 1953. All bones of the Elk came from Sq. 240L90, an area of historic Cherokee settlement; since this species was not represented in earlier occupation levels, these data suggest that possibly the Elk did not enter the region until quite recently.

**Table IV. The species of Vertebrates Identified from the Faunal Sample Recovered in Mound C, Etowah Site, Bartow County, Georgia. 1954-1958**

Species	Total Number of Identified Remains
FISHES:	
Fresh-water Drum, <i>Aplodinotus grunniens</i>	111
Bull Shark, <i>Carcharhinus leucas</i> (teeth from headdress)	32
Catfish spp.	17
Catfish and/or Bullhead, <i>Ictalurus</i> spp.	14
Sucker and/or Buffalo fish, <i>Catostomidae</i>	14
Gar, <i>Lepisosteus</i> sp.	13
Sucker, <i>Catostomus cf commersoni</i>	11
Redhorse, <i>Moxostoma cf carinatum</i>	4
Bass, <i>Micropterus cf salmoides</i>	1
Sauger or Walleye, <i>Stizostedion</i> sp.	1
AMPHIBIANS:	
Bullfrog, <i>Rana catesbeiana</i>	2

REPTILES: Snakes  
 Rattlesnake, *Crotalus cf horridus* 2

REPTILES: Turtles  
 Common Box Turtle, *Terrapene carolina* 730  
 Pond Terrapin, *Pseudemys cf floridana* and/or *P. scripta* 302  
 Turtle spp. 238  
 Snapping Turtle, *Chelydra serpentina* 56  
 Soft-shelled Turtle, *Trionyx cf ferox* 42  
 Alligator Snapping Turtle, *Macrochelys temminckii* 3

BIRDS:  
 Turkey, *Meleagris gallopavo* 587  
 Passenger Pigeon, *Ectopistes migratorius* 48  
 Canada Goose, *Branta canadensis* 6  
 Sandhill Crane, *Grus canadensis* 4  
 Great Horned Owl, *Bubo virginianus* 3  
 Red-shouldered Hawk, *Buteo lineatus* (two with a burial headdress) 3  
 Bobwhite, *Colinus virginianus* 3  
 Cooper's Hawk, *Accipiter cooperi?* 2  
 Great Blue Heron, *Ardea herodias* 2  
 Ivory-billed Woodpecker, *Campephilus principalis* 2  
 Red-bellied Woodpecker, *Centurus carolinus* 1  
 Swan, *Olor sp.?* 1  
 Barred Owl, *Strix varia?* 1  
 Blue or Snow Goose, *Chen sp.* 1  
 Mallard or Black Duck, *Anas sp.* 1  
 Raven, *Corvus corax* 1  
 Screech Owl, *Otus asio?* 1  
 Bald Eagle, *Haliaeetus leucocephalus* 1  
 Red-tailed Hawk, *Buteo jamaicensis* 1

MAMMALS:  
 Whitetail Deer, *Odocoileus virginianus* 4,500  
 Black Bear, *Ursus americanus* 46  
 Beaver, *Castor canadensis* 39  
 Opossum, *Didelphis marsupialis* 35\*  
 Rabbit, *Sylvilagus cf floridanus* 33  
 Gray Squirrel, *Sciurus carolinensis* 26  
 Fox Squirrel, *Sciurus niger* 23  
 Raccoon, *Procyon lotor* 20  
 Marsh Rice Rat, *Oryzomys palustris* 14  
 Mountain Lion, *Felis concolor* 10  
 Canid, Probably Dog, *Canis familiaris* 8\*\*  
 Bobcat, *Lynx rufus* 6  
 Squirrel, *Sciurus sp.* 5  
 Gray Fox, *Urocyon cinereoargenteus* 5  
 Striped Skunk, *Mephitis mephitis* 3  
 Small rodent spp. 2  
 Southeastern Pocket Gopher, *Geomys tuza?* 2  
 Spotted Skunk, *Spilogale putorius?* 1  
 Mink, *Mustela vison* 1

\* A nearly complete skeleton not included.

\*\* Two complete dog burials not included.

The Black Bear was taken and utilized although it is apparent that this carnivore was killed in limited numbers. With reference to historic Indians in the southeastern United States, Swanton (1946) states that "The bear was probably the next [to the deer] most useful animal. It was hunted for its flesh, but still more for its fat, which was preserved in skins. Heavy winter robes and bed coverings were made of the skins, and moccasins were also cut out of them." Various sections of the skull and limb bones were found, thus suggesting that the entire animal was utilized; a rather unique awl was recovered that had been fashioned from a fibula of this species. Several bones of the Bobcat and Mountain Lion were encountered which points to a limited use of these carnivores; Swanton (op. cit.) mentions that "We hear of the panther [Mt. Lion] being eaten sometimes and the use of its skin as clothing for the person, or as bedclothes. The wildcat [Bobcat] seems to have been eaten at times and its skin was also worn."

Several smaller species of mammals such as Beaver, Opossum, rabbit (*Sylvilagus* sp.), squirrel (*Sciurus* spp.), and Raccoon also were utilized for food and probably their hides for clothing, but the combined number of their remains constituted less than four percent of the total. In contrast to other sites of a contemporaneous time-period (e.g. Cahokia in Illinois: Parmalee, 1957), squirrels were of little significance as a supplement to the deer meat diet. The majority of the rabbit bones compared favorably with the Eastern Cottontail, *Sylvilagus floridanus*, although a few (apparently from adult animals) were relatively small and may be referable to the Marsh Rabbit, *Sylvilagus palustris*. Of interest was a two-inch section of a Beaver incisor that had been cut off perpendicular to the long axis of the tooth; the cutting surface of the incisor appeared to have been ground down and possibly the tooth had been used as a chiseling tool.

The paucity of Canid remains found scattered in the midden debris and refuse pits is noteworthy; only eight bones, which were probably those of the Domestic Dog, were recovered in these deposits. Possibly the dog was still held in high esteem by the Etowah people as it had been with cultures of a much earlier time-period, e.g. the Archaic in Kentucky (Webb, 1946). Two complete dog burials were found in Mound C and according to Mr. Larson (letter of Jan. 30, 1959), "... the tails of both dogs were curled over their backs in the burials." Although no detailed statistical study has been made of these skeletal remains, the tail being curled forward over the hip suggests some related form of the basic Eskimo dog type.

## BIRDS

Avian remains were recovered in considerable numbers (over 650 identified bones) from Mound C and it is apparent that birds formed an important supplement to the meat diet. Although at least 16 species were

represented, the Turkey was by far the most important and bones of *M. gallopavo* constituted 88 percent of the total number of identified bird remains. As in the case of the Whitetail Deer with mammals, bones of the Turkey are typically the most numerous of the bird remains found at sites in Eastern United States (e.g. Neill, Gut and Brodkorb, 1956; Sears, 1956). This large bird was evidently quite common in the vicinity of the Etowah Site and the Indian utilized it to a far greater extent than any other avian species. Of nearly 600 unidentifiable bird bone fragments, at least 90 percent were those of large birds and are probably referable to *M. gallopavo*. Several awls manufactured from the tarsometatarsus of the Turkey were recovered in Mound C as well as the cut distal ends of a tibiotarsus and tarsometatarsus; possibly the shafts of these two bones were utilized in some manner.

The scarcity of duck and goose bones suggests that waterfowl were rarely available in the vicinity of Etowah or for some reason were disdained by the Indian; in regions where these birds are common, they were extensively utilized (Parmalee, 1957). Except for the Turkey and Passenger Pigeon, the majority of the other avian species represented (hawks, owls, crane and woodpeckers) could not be considered as desirable food animals and it is quite possible that these birds were collected primarily for their bones and/or plumage. A distal end of a tarsometatarsal of the Red-shouldered Hawk was found with each of two burials and had apparently been part of the headdress.

One of the most interesting bird records from Etowah was that of the Ivory-billed Woodpecker (two carpometacarpals, determined by Dr. Herbert Friedmann, U.S. Nat. Mus., Wash.); although remains of this now nearly-extinct species have been reported from other archaeological sites (Wetmore, 1943; Parmalee, 1958), the woodpecker may suggest a certain cultural significance at this site. Moorehead (1932: Figs. 31, 32a and e) has illustrated three shell gorgets, found with burials in Mound C, which depict woodpeckers. Although these artifacts might be simply the artistic achievement of the Indian(s) who made them, they may also signify the importance of these birds (particularly the large, impressive Ivory-billed Woodpecker) as a part of their cultural complex.

Bones of the now-extinct Passenger Pigeon ranked second, numerically, and these birds were probably collected for food during the migrations. Remains of *E. migratorius* have been reported from several sites (Goslin, 1955; Parmalee, 1958) although the quantity at most sites has been small considering the availability of this once extremely abundant game species. In the case of historic tribes in southeastern United States, Swanton (1946) states that "The most important game bird was the wild turkey, hunted where-ever it could be found. Second in importance was the passenger pigeon, whose roosts were gathering places for Indian hunters at certain seasons."

## REPTILES (snakes)

Only two vertebrae of a snake (*Crotalus* sp.) were recovered during the five years of excavation in Mound C. Although snakes may have been of some ceremonial or religious significance to those people as suggested by Moorehead (1932: Fig. 38 illustrates a coiled rattlesnake [or knot of hair?] carved with wood with copper overlay, found with a Mound C burial), the scarcity of remains suggests little-if-any practical use of these animals.

## REPTILES (turtles)

The abundance of turtle remains which occurred in the refuse pits and in the midden debris attest to their extensive use by the Etowah people. Apparently they were collected exclusively for food since none of the shell remains had been altered in any fashion for use as ornaments, dishes or other utensils as is so typically the case in other regions (Parmalee, 1958, et. al.). Nearly 1,400 turtle bones, representing at least five species, were recovered from Mound C; a nearly-complete plastron of the Map Turtle (*Graptemys* cf. *geographica*), a species as yet not identified from Mounds B or C, was found in a village refuse pit in 1953. Remains of the Alligator Snapping Turtle at the Etowah Site are noteworthy since this species now occurs only in the southern half of Georgia; although positive specific identification is questionable on the basis of the fragmentary remains (plastron, humerus, mandible), these bones—especially the mandible section—compare favorable with reference specimens of *M. temminckii*.

Remains of the Soft-shelled Turtle (*Trionyx* cf. *ferox*), the Snapping Turtle and the Terrapin (most of which are probably referable to the River Turtle, (*Pseudemys floridana*), as well as those of mollusks and fish, indicate that the Etowah River was rather intensively hunted for food animals. However, bones of the terrestrial Box Turtle were the most numerous and comprised 53 percent of all the turtle remains. Shells of the aquatic species are generally fragmentary and this condition suggests that the flesh was probably extracted by the Indian after the shell was first broken by pounding. Many of the plastrons and carapaces of *Terrapene* from Mound C were recovered in an unbroken condition, however, and an interesting explanation with regard to Box Turtles has been hypothesized by Neill, Gut and Brodkorb (1956): "The Indians merely chipped or broke away the posterior margin of the carapace, thus leaving a gap between upper and lower shell. Into this gap a stick, or perhaps the fingertips, could be inserted; the posterior lobe of the plastron could then be pried, pulled, or broken away. In consequence, box turtle remains include carapaces that are intact except for the posterior portions, and small, battered fragments that had been broken from the carapace margins."



## AMPHIBIANS

A section of the pelvis and femur of a large frog, probably referable to the Bullfrog, were found in this mound; possible frogs were utilized for food by the Etowah people but the paucity of amphibian remains indicates that they were rarely, if ever, collected for that purpose.

## FISHES

The quantity of fish bones recovered during the excavation of Mound C was small compared with the total number of vertebrate remains. Less than 200 bones of fish endemic to the area were identified to the genus and/or species level; in addition, there were approximately 400 unidentifiable fish bone fragments. As a group, however, fish apparently served as an important supplement in the diet of the Indians occupying this site and one species, the Fresh-water Drum, was utilized more extensively than any other single species. Approximately 60 percent of the identified fish bones were those of *A. grunniens* and of the several hundred fish scales found in the midden debris, over 90 percent were those of the Drum.

Representatives of two genera of suckers were recognized (*Moxostoma* and *Catostomus*) and judging from the size of several pharyngeal arches (and teeth), hyomandibulars, maxillae, and dentaries, some of the specimens must have been quite large. A few of the large catfish bones are probably referable to the Channel Catfish, *Ictalurus lacustris*.

Approximately 32 shark teeth, identified as those of the Bull Shark (*Carcharhinus leucas*) by Dr. Loren P. Woods, Curator of Fishes, Chicago Natural History Museum, occurred with Burial No. 148 in Mound C, and apparently they had been incorporated as a part of the headdress. A single tooth of the Great White Shark (*Carcharodon carcharias*) was found by Dr. A. R. Kelly, University of Georgia, Athens, during his excavations of Mound B. The remains of exotic forms such as the shark and marine mollusks at Etowah signify the establishment of an efficient barter system or of extensive trade routes to the Gulf and/or Atlantic Coasts. However, the commodities were evidently not obtained for culinary purposes but rather for the manufacture of ornaments and other decorative objects; for their subsistence, the Etowah people depended primarily upon the native species which inhabited the region.

## LITERATURE CITED

- Goslin, Robert M.  
1955. Animal Remains from Ohio Rock Shelters. Ohio Jour. Sci., Vol. LV, No. 6, pp. 358-362.

- Kelly, A. R., and Lewis H. Larson.  
1957. Explorations at Etowah, Georgia 1954-1956. *Archaeology*,  
Vol. 10, No. 1, pp. 39-48.
- Moorehead, Warren K.  
1932. Exploration of the Etowah Site in Georgia. *Phillips Acad.*,  
Andover, Mass., Yale Univ. Press, 178 pp.
- Neill, Wilfred T., H. James Gut, and Pierce Brodtkorb.  
1956. Animal Remains from Four Preceramic Sites in Florida.  
*Amer. Antiquity*, Vol. 21, No. 4, pp. 383-395.
- Parmalee, Paul W.  
1957. Vertebrate Remains from the Cahokia Site, Illinois. *Trans.*  
*Ill. Acad. Sci.*, Vol. 50, pp. 235-242.  
  
1958. Remains of Rare and Extinct Birds from Illinois Indian Sites.  
*Auk*, Vol. 75, No. 2, pp. 169-176.
- Sears, William H.  
1956. Excavations at Kolomoki, Final Report. *Univ. Ga. Series*  
*in Anthro.*, No. 5, 114 pp.
- Swanton, John R.  
1946. The Indians of the Southeastern United States. *Smiths. Inst.*,  
*Bur. Amer. Ethnology*, Bull. 137, 943 pp.
- Webb, William S.  
1946. Indian Knoll. *Univ. Ky. Repts. in Anthropol. and Arch.*, Vol.  
IV, No. 3, Pt. I, pp. 115-365.
- Wetmore, Alexander.  
1943. Evidence of the Former Occurrence of the Ivory-billed Wood-  
pecker in Ohio. *Wilson Bull.*, Vol. 55, p. 55.