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Slave Subsistence at the Upper South Mabry Site, East Tennessee: Regional Variability in Plantation Diet of the Southeastern United States

Amy Lynne Young
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To the Graduate Council:

I am submitting herewith a thesis written by Amy Lynne Young entitled "Slave Subsistence at the Upper South Mabry Site, East Tennessee: Regional Variability in Plantation Diet of the Southeastern United States." I have examined the final electronic copy of this thesis for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Arts, with a major in Anthropology.

Walter E. Klippel, Major Professor

We have read this thesis and recommend its acceptance:

Gerald F. Schroedl, Charles Faulkner

Accepted for the Council:
Carolyn R. Hodges

Vice Provost and Dean of the Graduate School

(Original signatures are on file with official student records.)

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Date July 29, 1993

SLAVE SUBSISTENCE
AT THE UPPER SOUTH MABRY SITE,
EAST TENNESSEE:
REGIONAL VARIABILITY IN PLANTATION DIET
OF THE SOUTHEASTERN UNITED STATES

A Thesis

Presented for the

Master of Arts

Degree

The University of Tennessee, Knoxville

Amy Lynne Young

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This thesis is dedicated

to my mother,

Helen H. Reiter,

who has always been

my best friend

and

my inspiration.

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ABSTRACT

Archaeologists have identified patterns in the archaeological record of plantation sites which they attribute to the status differences of the plantation inhabitants; however, most of these investigations have been restricted to the coastal areas of the deep South. Recent excavations at plantations in Tennessee have provided the opportunity to compare this coastal subsistence pattern with data from two plantations in the Upland South. This thesis compared eight faunal assemblages from four plantations, two coastal and two inland contexts, in order to investigate whether inland plantations exhibit the same patterns which have been identified on coastal plantations. Faunal remains were used to compare dietary diversity, to examine habitat exploitation and to investigate skeletal portion utilization.

Faunal assemblages from coastal plantations have revealed a fairly consistent pattern in which a lot of wild species of animals from a wide variety of habitats are represented. Slave assemblages contain a lower diversity of species than planter assemblages although both seem to exploit most of the habitats which are locally available. Slave assemblages are comprised mainly of head, back and foot portions of pig and cow while planter assemblages contain meatier portions such as steaks, roasts, hams and chops.

The means of analysis used in this thesis suggest a different interpretation of coastal plantation subsistence. Slave and planter assemblages did not differ in terms of the number of species which were

exploited but planter assemblages did contain more specimens from more costly habitats. Planter assemblages are not comprised mostly of high yield carcass portions but instead contain a greater proportion of middle yield portions.

This analysis also indicated a difference in subsistence patterns between coastal and inland plantations. While coastal plantation residents relied most heavily on aquatic animals such as fish and reptiles, residents of inland plantations relied most heavily on mammals. Differences between the environments do contribute to the differences in animal group use but other things such as the economic base and the type of labor system in use on the plantations appear to be contributing factors.

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CHAPTER 1

INTRODUCTION

Archaeologists have identified patterns in the archaeological record of plantation sites which they attribute to the status differences of the plantation inhabitants (Otto 1984; Fairbanks 1984). However, most of these investigations have been restricted to the coastal areas of the deep South such as the barrier islands of Georgia and Florida (Fairbanks 1968; Adams 1987; Otto 1984). Recently, archaeological excavations at plantations in Tennessee have provided the opportunity to examine status in the interior regions of the South as well.

Are the archaeological patterns of plantations from the interior South similar to patterns which have been defined for coastal plantations? Are slave faunal assemblages from the Upland South characterized by a diversity of species from a variety of habitats or are they comprised of a very simple array of animals requiring limited cost investment? Do faunal patterns from plantation sites truly reflect differences in the treatment and status of slaves and their masters, or do they actually reflect differences in local environment and resource availability?

This thesis uses data from four late antebellum plantations in order to investigate these questions. Two sets of data come from coastal contexts at Cannon's Point Plantation, Georgia, and the Kingsley Plantation, Florida, and two sets come from inland contexts at the Hermitage in Middle Tennessee and the Mabry Plantation in East Tennessee. Together, these sites provide an opportunity to investigate issues regarding variability in slave subsistence from different regions of the American South.

The data used in this analysis consists of eight different faunal assemblages, two from each of the four sites previously mentioned. Faunal remains provide the opportunity to reconstruct diet and to investigate subsistence practices and to contribute to larger studies of status differences as reflected in archaeological record (Schulz and Gust 1983; Singer 1985; Lyman 1987; Reitz 1987). Along with discarded material culture such as ceramics and glass, faunal remains are a primary source of information regarding slave lifeways and plantation life in general (Otto 1984; Fairbanks 1984; Singleton 1991).

In this thesis faunal remains are examined to compare diet among slaves as well as to compare how slave diet compares with the diet of the planters who owned them. Faunal remains are also used to compare subsistence practices among plantations in different geographical areas of the American South. This includes a preliminary investigation of slave diet at the Mabry Plantation and this is important because no studies of slave subsistence have been conducted in this part of the South before. The Mabry Plantation is the only Upper South slave habitation site which has been excavated, so faunal data from this site are useful for initial comparisons between slave diet there and on other plantations and for making preliminary interpretations about planter-slave relations in this region.

The methods used to measure and compare regional variability in slave subsistence patterns consist of three parts 1) comparison of assemblage diversity, 2) examination of habitat exploitation and 3) investigation of skeletal portion utilization.

Assemblage diversity is compared between the eight different assemblages. This analysis is conducted in three steps. 1) The assemblages are compared using the Kintigh diversity program (Kintigh 1984); 2) a series of two-sample t-tests is conducted to determine where significant differences in diversity occur; and 3) the relative abundances of different animal groups are compared to determine if there are definable patterns in the proportions of different animal groups represented in the different assemblages. The seven groups of animals used for this comparison consist of domesticated mammals, wild mammals, domesticated birds, wild birds, fish, reptiles and amphibians.

Next the environmental setting of each plantation is considered. Differences between the types of habitats which were exploited for food procurement and the extent to which these habitats were exploited by different status groups are compared between the different sites.

Finally, the relative proportions of different meat-yielding carcass portions of two domesticated species are compared. The two species used in the analysis are pig (Sus scofa) and cow (Bos taurus). Every identified element from each of the two species is assigned to one of three categories which are defined based on the relative meat yield of that portion of the carcass. A frequency distribution graph of low, middle and high meat yield cuts is created for each species for each of the eight assemblages being compared and these frequency distribution graphs are used to fully describe how the different portions of the two species are represented in the diet. The Kolmogorov-Smirnov two sample test is used to compare differences in frequency distribution of the three groups.

Using these three measures, faunal assemblage variability will be compared between sites from inland and coastal settings. It is difficult to characterize the foodways inherent to plantation life, because many factors are known to shape subsistence practices. Some of these factors include the wealth and status of the planter (Otto 1984), the labor system employed on the plantation (Adams 1987) and the environmental location of the plantation (Reitz 1987). These three factors, and others, have the potential to produce an incredible amount of variation in the archaeological record of plantation sites, and as such, they provide the focus of studies which seek to understand plantation foodways. A primary goal of contemporary plantation archaeology is to understand the effects of these factors and to define the material correlates of these factors in the archaeological record.

CHAPTER 2

SLAVE SUBSISTENCE IN THE AMERICAN SOUTH

Many historical and anthropological studies have attempted to determine the nature of slave life in the American South. Through time, the emphasis of these studies has shifted from simple descriptions of planter's account books to intensive nutritional and biological analyses, examinations of ecological and environmental influences, and finally, cultural and psychological considerations of diet (McKee 1988:17).

Traditionally, historical investigations of slave subsistence focused on the quality of slave diet and there was considerable debate about whether this diet was adequate or not. According to some historians, slave diet was simple, consisting largely of rations of cornmeal and pork (Stampp 1956; Hilliard 1972). Stampp (1956) suggested that slaves "lived on little else than this dismal fare throughout the year" (Stampp 1956:284). Furthermore, Leslie Owens (1976) indicates that slave meals often lacked flexibility and variety.

Historic documents reveal a basic core of foods which were issued to slaves as rations. This core includes items such as corn, bacon, potatoes, rice, molasses and coffee. However, all slaves did not receive each of these different foods. Factors known to affect the distribution of rations include: season of the year, inclement weather, arrival or delay of shipments, the type of labor system in use, and the wealth of the planter (Adams 1987). All plantation owners were different and their temperaments varied widely; this also had significant impact on the types and amounts of food rations which were issued to the slaves. While there was some variability among the rations which were issued, it was generally the case that planters provided a food ration for each slave for each day. Some historians have debated the kinds of factors which motivated plantation owners either to provide adequate rations or not to. Some researchers suggest that slaves were treated well because the planter had paternalistic feelings for the people in his charge, but others feel that planters were simply trying to maximize returns from their costly slave investments (McKee 1988:21). "To provide diversity and refinement would cost money. Unless such expenditures were justified by increased output per slave, it would not be in the master's interest to provide them" (Sutch 1976:234). Genovese (1966:46) contends that the limited diversity of slave diet was largely due to economic factors and not the ill will of the planter.

The wealth and status of a plantation owner had a major impact on the quality of rations received by their slaves. Wealthier planters could afford to provide for their slaves in better ways than less wealthy planters. Likewise, it has been shown that status of a slave has important implications for the amounts of rations which that slave recieves. On plantations, as in most other situations, status is a very complicated issue. While it is true that the basic social relationship between planter and slave is an issue of status, there are actually many different levels of status within each group. Status is relative and can only be determined with reference to someone else (Adams 1987). Slave status is a function of the age and occupation of that particular slave and this status is usually in direct proportion to the planter who owns him or her (Kelso 1984:26).

Maximizing slave returns while keeping costs low presented a definite dilemma for planters. One way in which planters may have been able to do so was a function of the labor system they employed. One of two basic types of labor systems, task labor or gang labor, was used, and each type of labor system had different implications for slave subsistence. Under the gang system, slaves worked out in the fields all day. Because they worked so much, their meals were often prepared for them in a central kitchen and then carried out into the fields for them to eat. Slaves had very little time to personally take care of their nutritional needs and often times they were not even allowed to do so. Under the task system, slave life was quite different. Each slave was assigned a plot of land, or task, and it was their responsibility to do all of the chores associated with crop production on that piece of land. After the task was taken care of for the day, the slave was given the rest of the day to do as they pleased. In many cases, slaves spent this time hunting, trapping or tending their own gardens (Adams 1987).

Other historians have pointed out that despite a lack of variety, slave diet was still sufficient to maintain general health (Genovese 1966:44; Sutch 1976:234). A nutritional study by Gibbs et al (1980:175) points out that slaves must have had a fairly nutritional diet because they were able to work long hours and still maintain a high birth rate. If slave diet was nutritous enough to permit long work days and high birth rates, it is likely that rations given to slaves were being supplemented in some way. In the study of slave foodways, it is very important to distinguish between two ideas: slave rations and slave diet. Adams (1987) indicates that while slave diet was not restricted to corn and pork, planter supplied rations were indeed very plain and simple. Other researchers suggest that slave diet actually contained a great deal of variety (Gibbs et al. 1980; Morgan 1982) and that most of this variety may be attributable to the food producing activities of slaves themselves (Adams 1987).

Under the task system, slaves provided most of their own food and in many cases even managed to earn some extra spending money by selling surplus agricultural products (Adams 1987). Morgan (1982) cites many examples where slaves were able to feed and support themselves with foods they had hunted, gathered or produced in their own gardens. In some cases, slave food producing exploits were so successful that they were able to sell the rations which were provided by the planter. According to these historians, the subsistence exploits of slaves were quite varied and creative, and some even referred to slaves as "artful scavengers" because of their ability to use so many different techniques in acquiring food(Boles 1984).

Many historic accounts indicate that slaves were very successful and efficient hunters. Olmsted (1856:92) cites several instances where he saw slaves hunting opossums, rabbits, deer and other garden raiding varmints. Slaves were also known to set traps in which they could catch a variety of animals. They set deadfalls for squirrels, snares for rabbits, traps for quail and duck, and pens for wild turkey (Hundley 1860:343). Turtles were trapped and alligators were clubbed or snared. By using traps, slaves were able to greatly expand the range of terrestrial animals they could procure (Olmsted 1856:416).

Slaves were also known to exploit aquatic resources. Clams, mussels and oysters were gathered from nearby marshes. Dip nets were used to catch crabs and cast nets were used to catch shrimp, mullet and other schooling fish. Larger fish were caught with hooks from the shore and sometimes from a boat (Adams 1987).

In addition to these hunting techniques, many slaves also relied upon their personal gardens to supplement their diet. While there are only a few references of planter gardens on coastal sites, there are many references indicating that slaves had gardens and often sold some of their garden produce to planters (Otto 1984; Adams 1987). Slave gardens were situated either on small patches of land between cabins or were located in cleared patches in the middle of the woods. These patches in the woods were cleared by the slash and burn technique and slaves could plant whatever crops they wanted. It is believed that some of the crops they planted, such as sesame, groundnut, tania and some peppers, were African in origin (Adams 1987).

Slaves also raised some animals on their own, and this fact is well documented. Many sources indicate that slaves on coastal plantations raised animals such as chickens, pigs, sheep and ducks. Travellers through the area often noted that chicken coops and pig pens were often attached to and located among the rows of slave cabins (Adams 1987). Pigs were either kept in pens built between the cabins or were allowed to roam freely in the woods, foraging on whatever they could find while chickens were usually kept in coups which were attached to the cabins (Adams 1987).

Planter versus Slave Diet

Virtually all historians agree that planter diet was different than that of their slaves, and that slave diet was certainly inferior to the diet of their masters (Sydnor 1933:38). One historian, John Boles claims that while most white farmers ate plainly, "The diet of slaves was less varied than that of their owners" (Boles 1984:93).

Archaeologists working on coastal plantations, such as Charles Fairbanks, have done much to enhance the picture of slave diet created by historians. Fairbanks (1984) suggested that the diversity of species utilized by both planters and slaves may have been greater than was suggested by historians. In slave diet, cow (Bos taurus) and pig (Sus scrofa) were the most common large mammals utilized while medium-sized mammals such as opossum (Didelphis virginianus) and raccoon (Procyon lotor) were also commonly used. Fish and shellfish were also abundantly represented. Planter diet contained all of these same elements and white-tailed deer (Odocoileus virginianus) was also present (Fairbanks 1984).

Fairbanks (1984) also mentions some differences between planter and slave diets. In particular, he noted a consistent dichotomy in the carcass portions utilized by these two social groups. The diet of the planter was dominated by high yielding cuts of beef, pork and venison such as steaks and roasts. In the slave diet on the other hand, beef and pork were heavily represented but usually by low meat-yielding portions such as the head and feet. Fairbanks also noted a difference in the types of habitats which were exploited by planters and slaves. The fish and shellfish represented in slave assemblages were those which could be netted, trapped or collected in small ponds and tidal streams. Planter assemblages, on the other hand, contained fish and shellfish which occur more commonly in large rivers and deep waters.

In his work at Cannon's Point Plantation, John Otto also recognized differential patterns of resource use by the residents of plantations. He too found that planters used higher cuts of domestic fauna than slaves and that planters used a greater diversity of wild fauna than slaves (Otto 1984).

Geographical Variablility

According to Reitz (1987), plantations situated on sea islands and adjacent mainlands usually had similar resource availability. However, the people living on these plantations had very different access to these resources. Slaves were the property of the planter and as such, they had to live by their rules. In some cases, planters allowed their slaves to live with little interference (Olmsted 1856); in other cases, slave life was completely dominated by the planter (Michie 1990).

On the plantations of the Coastal Plain, the low lying, tidal environment was particularly well suited to an agricultural style in which huge tracts of land were planted in single cash crops such as rice, cotton or sugar. The economics of such an agricultural base required the use of large numbers of slaves and often, the slave population for a single plantation numbered in the hundreds (Singleton 1991).

Some historians suggest that a similar pattern was common in the flatter portions of central and western Tennessee where economic dependence on cash crops such as cotton and tobacco necessitated the use of large numbers of slaves (Lamon 1981). For this reason, plantations in the flatter portions of the inland South were agriculturally and economically comparable to plantations on the Coastal Plain.

Historians also have suggested that in certain regions of the South different plantation economics may have created differences in slave lifeways. For example, Lamon (1981) states that at the beginning of the nineteenth century, slaves in East Tennessee often worked side by side with the planters. Overseers were not common and close personal relationships between planter and slave often developed. Mooney (1968) adds that planters in East Tennessee rarely had more than ten slaves and many times these slaves lived with the planter's family and took an interest in his well being. Gray (1933) summarizes the differences between large and small plantations and states that differential treatment on the smaller plantations was made possible because fixed rules of class behavior were not enforced and slave treatment could vary from planter to planter.

Archaeologists also suggest that plantation models based on data from the Coastal Plain may be inappropriate for plantations in areas other than the Coastal Plain. One cannot assume that the pattern defined for coastal sites will be found on inland sites where the local environment offers a different suite of resources. In fact, major differences should be expected between coastal and inland sites (Adams 1987).

Andrews and Young (1992) describe two plantations in East Tennessee and Kentucky which they feel do not fit the Coastal Plain model. In contrast to the Coastal Plain pattern, these two plantations were agriculturally diversified and they had fewer slaves which were organized into smaller, more specialized work groups. Historically, settlers of East Tennessee did not depend on large gangs of slave labor because the varied agricultural base did not require it (Lamon 1981). Andrews and Young propose that plantations which fit this this pattern be referred to as "Upper South" plantations and they define this type of plantation as "a rural slaveholding unit characterized by diversified agricultural products and services" (Andrews and Young 1992:3).

The definition of an Upper South plantation offered by Andrews and Young (1992) is based largely on economics and the relationship between planter and slave; they do not define any geographical boundaries for where such an Upper South plantation may or may not occur. Otto (1989) offers an alternative label for plantations which are not located on the Atlantic or Gulf Coastal Plains. Otto describes the Upland South as "the uplands and highlands between the Appalachians and the Texas plains" (Otto 1989:x) and this area encompasses all lands which are higher in elevation than the Gulf Coastal Plain. The Upper South plantation described by Andrews and Young (1992) is just one type of plantation found in the Upland South.

Faunal Remains and Status

Several lines of evidence can be useful for interpreting status in the archaeological record. Documentary evidence is often incomplete and misleading and is probably most useful when used in conjunction with other indicators such as archaeological materials and architectural remains (Singleton 1978; Smith et al. 1981:180).

Faunal remains are one type of archaeological material which have the potential to be a very important source of information about status. Some aspects of faunal remains which can be particularly useful include butchering and disposal patterns, element distribution, species utilization and assemblage diversity (Reitz 1987:102).

Faunal assemblage patterning is highly dependent upon site formation processes. Faunal remains are particularly sensitive to a variety of post-depositional factors and these factors include bone weathering, soil chemistry, mechanical alterations, rodent and carnivore modification, and bone density. There are also many pre-depositional factors which affect faunal assemblage patterning and these center around factors such as the choice and availability of food resources. Variables which influence these factors are ethnicity, cost, time period, environment and site function (Reitz 1987:102). Cultural forces at work during deposition often cause taxa to be represented inaccurately, element frequencies to be skewed, and non-cultural materials to be introduced into the record.

Summary

Food procurement strategies were an integral part of slave lifeways. In the traditional view of slavery, historians presented slaves as ignorant, helpless and easily manipulated vessels, passive consumers of whatever the master provided. In the emerging view of slavery, plantation relations are viewed quite differently. New research into plantation subsistence has shown that "slaves were not passive consumers, that they had a cuisine based on much more than the simple fulfillment of nutritional needs, that they did actively supplement their food supply, and that their masters did pay close attention to their dietary desires" (McKee 1988:39). According to Phillip Morgan, the personal subsistence activities of slaves were important not only because of the food they supplied but because of the role that these activities played in establishing and strengthening the slave position in the plantation system (Morgan 1982:596).

Most of the historic documents referring to slave subsistence are based on coastal plantations where task labor systems were probably in use and much of the archaeological work with plantation subsistence has concentrated on very large plantations situated in very specialized locations on the barrier sea islands and immediate hinterlands of the Southern Atlantic Coast. Excavations at King's Bay provided a glimpse at middle sized plantations of the mainland, but there are still only a few inland slave habitation sites which have been investigated. Among these are the Hermitage in Middle Tennessee (Smith 1976) and the Mabry Plantation in East Tennessee (McKelway 1993). New data from inland plantations such as these provide the opportunity to investigate geographical variability in plantation faunal assemblages from the American South.

CHAPTER 3

RESEARCH DESIGN

The notion that slaves subsisted entirely on a diet of cornbread and bacon is rapidly disappearing because of recent archaeological and historic research. Slaves are no longer considered to have been passive consumers of meager plantation rations but instead are now viewed as active hunters and collectors of wild resources as well as small scale farmers. While this emerging view is receiving more and more support, it still cannot be said that slave foodways in all parts of the American South corresponded to this pattern. For a variety of reasons, such as the location of the plantation, the labor system in use on the plantation, and the relationship between the slave and the planter, a great deal of variability in slave subsistence practices can be expected. A growing body of literature now supports the idea that there was no universal slave subsistence pattern (Adams 1987; Walker 1988) and that a more ecological framework is needed to investigate regional variability in slave foodways (Fairbanks 1984; Otto 1984; Reitz 1987; Walker 1988).

This thesis investigates two particular aspects of slave foodways. Primarily, it examines how plantation diet and in particular how slave faunal assemblages vary with environmental setting and geographical location. Additionally, it investigates how different slave faunal samples from the same plantation compare with each other as well as how they compare with planter faunal assemblages from that plantation.

Hypotheses and Expectations

Most of the historic literature and archaeological data pertaining to slave foodways are derived from plantations of the southeastern coastal United States. Until recently, most archaeological investigations of slavery were restricted to plantations which were situated on the portion of the Coastal Plain extending south from Maryland to Florida and then west to Louisiana. It is well established that slaves of the Coastal Plain were fairly diversified in their subsistence exploits (Adams 1987); however, data from the Upland South have not yet established this trend. It remains to be seen if the pattern of diversity in subsistence practices seen on coastal plantations is also identifiable on plantations in other areas of the South. Given the environmental, agricultural and historical variability of plantation settings, there should be distinct regional differences among plantations of the American south. If, on the other hand, there was some type of universal slave culture which was manifest in subsistence practices, then certain aspects of slave diet should be evident in slave faunal assemblages from all parts of the American South.

Recent investigations of coastal plantations have shown that both planters and slaves practiced a wide variety of food procurement strategies. Faunal assemblages from coastal sites which were created by a variety of food producing exploits are characterized by the remains of a wide range of wild species as well as numerous specimens from domesticated animals (Reitz 1987). Diversified food producing exploits should also have produced a similar pattern in other regions of the South. If however, procurement strategies were more simplistic, faunal assemblages should be smaller in size and they should not be composed of a wide variety of different species. Slave faunal assemblages should consist mostly of wild species because most of the typically cited rations, such as bacon, do not contain bones.

Other recent research has emphasized the vast amount of natural food resources which were available on coastal plantations and faunal reports from coastal slave sites indicate a fairly uniform diet where remains from both wild and domesticated fauna are common (Fairbanks 1984). The procurement of estuarine and marine resources was a very important aspect of both planter and slave subsistance practices at coastal plantations, and these marine resources did much to enhance the diversity of diet on coastal plantations. Although streams and rivers were present, the absence of estuarine and marine environments on inland plantations should have caused diet on inland plantations to be less diverse than it was on coastal plantations. Because of differences in the environment, both planter and slave assemblages from coastal sites should be significantly more diverse than either planter or slave assemblages from Upland South sites. Here, it is very important to differentiate between environmental availability and actual accessibility. While a variety of resources were certainly available in the environment, the particular circumstances of a plantation dictated whether or not a slave had access to these resources.

The type of labor system used on a plantation was one element which would have had great impact on a slaves ability to acquire local resources. The task labor system which was used at Cannon's Point and Kingsley plantations allowed slaves considerable free time to exploit a variety of wild resources (Otto 1984; Walker 1988). Faunal assemblages created under the task as oposed to the gang labor system are comprised of fauna from a wide range of habitats, some of which required a considerable investment of time for exploitation. If slaves in the Upland South were also managed by the task system or something similar, faunal assembalges from these sites should also be characterized by a variety of resources from all or most of the different habitats which were locally available on and around the plantation.

Historic and archaeological literature about coastal plantation sites indicate that there were distinct differences between the diets of planters and slaves. Given the differences in social status and the implications of this factor for personal freedom and mobility, there should be a distinct difference in diet between the two groups. These differences should be recognizable in the faunal assemblages of plantation sites and should be measurable in three distinct ways. First, one might expect planter assemblages to be more diverse than slave assemblages. Second, one might also expect the higher status planter to exploit more costly resources from a wider variety of habitats. Finally, one might expect the planter diet to be dominated by high quality cuts of meat while slaves utilize lower quality cuts more extensively.

The dichotomy between planter and slave faunal assembalges was defined using data from coastal sites (Fairbanks 1984; Otto 1984), but this pattern has not yet been documented in the Upland South. If planter-slave relations in the Upland South are similar to relations on coastal plantations , there should be a distinct dichotomy between planter and slave faunal assemblages at the Mabry Plantation. The planter assemblage from the Mabry plantation should exhibit the same three characteristics which were defined for planter assemblages on the coast. If the differences between planter and slave faunal assemblages are not seen at the Mabry Plantation, this may indicate a difference in planter-slave relations in the Upland South whereby life was more equitable between the different social classes.

Historians and archaeologists have suggested that there may be a pattern of slave subsistence which is unique to the Upland South region. These researchers have also suggested that slave diet in this region may be of better quality than the diet of slaves in other regions. A faunal assemblage which may be considered to represent a high quality diet should be composed of a wide variety of wild species (Reitz 1987) and the higher meat yield portions of domesctic animals such as pig and cow (Fairbanks 1984; Otto 1984).

Both the Mabry Plantation and the Hermitage are situated in the Upland South region as defined by Otto (1989). However, the Mabry Plantation is a good example of the Upper South plantation type described by Andrews and Young (1992), while the the agricultural base and number of slaves at the Hermitage make it more similar to coastal plantations. The Upland South region is heavily dissected by river valleys, some of which are very wide in places. The topography of some of these wide river valleys may have allowed plantations situated on them to ressemble coastal plantations in that large numbers of acres were dedicated to the production of single crops. This may be the case at the Hermitage; although it is located in the Upland South geographic region (Otto 1989), its economic and agricultural pattern is more similar to coastal plantations than to the Upper South pattern defined by Andrews and Young (1992).

Differences between these two types of Upland South plantations may be recognizable in the slave faunal assemblages from the Mabry Plantation and the Hermitage. If there is a distinct Upper South slave subsistence pattern, the slave faunal assemblage from the Mabry Plantation should have a higher diversity of species represented and a higher proportion of high yield meat cuts than the slave assemblages from the Hermitage.

Materials

The plantation faunal samples which were selected to investigate variability in slave subsistence patterns all date to the period between the 1790s and the 1860s, so differences due to temporal factors should be minimized. Data from four plantations were chosen to represent a variety of environmental settings. Cannon's Point and Kingsley plantations represent the large and extremely wealthy plantations which were situated on the barrier islands of the southern Atlantic Coast. Andrew Jackson's First Hermitage and the Mabry Plantation represent plantations of the Upland South. The Mabry Plantation represents the only diversified Upper South slave habitation site which has been excavated in the Upland South.

Mabry Plantation

The Mabry site, located in west Knox County near Knoxville Tennessee, was excavated from 1990-1991. In the decades just before the Civil War, the Mabry farm was an excellent example of the diversified Upper South plantation as defined by Andrews and Young (1992). According to the U.S. Agricultural Schedule of 1850, the Mabry family owned over 1200 acres where they raised sheep, cattle, horses and swine and where they grew corn, oats, wheat, flax, sweet potatoes and hay (U.S. Agricultural Schedule 1850). The U.S. Slave Census indicates that the Mabrys had 18 slaves in 1850 and 8 in 1860 (U.S. Slave Census for 1985 and 1860).

Archaeological testing of the Mabry site revealed the remains of two structures located about 100 meters south of the ruins of the Mabry mansion. Artifacts date the structures between the 1830s and the 1860's and this corresponds to documentary evidence that the Mabrys owned slaves at this time. These two slave dwellings have provided an array of artifacts and architectural information which offer a glimpse of Upper South slave life and allow a preliminary comparison with data from other slave cabin investigations. The lower levels of a stratified midden area associated with the Mabry mansion also yielded some artifacts which pre-date the Civil War providing the chance to examine planter-slave relations in the Upper South.

The ante-bellum faunal assemblage from the Mabry site included 722 specimens. Slave cabin 1 contained 389 specimens while slave cabin 2 had 109 specimens. Both cabins were dated to the period between the 1830's and the 1860's, and the entrances to the structures lay less than ten feet apart on the landscape (McKelway 1992). For these reasons it was plausible to combine the assemblages from the two slave cabins into one larger sample. Thus, the combined slave sample from the Mabry site consisted of 498 specimens and the remaining 224 of the 722 specimens were derived from the stratified midden deposit located adjacent to the Mabry mansion.

Though the Mabry faunal sample is small, nearly 55% of it is identifiable to at least a size category within a vertebrate class and the assemblage is still comparable to other plantation samples (Reitz 1987).

Kingsley Plantation

The Kingsley Plantation, home of Zepheniah Kingsley, was located on Fort George Island in Duval County, Florida. A sale advertisement from <u>The Florida Republican</u>, dated March 18, 1857 indicated that the plantation consisted of 1060 acres of high land as well as a large body of marshland. A sugar mill, planter's house and outbuildings, and homes for 60 slaves were located on the property (Walker 1988:28).

The first slave quarters excavated in the southeastern United

States are located on this plantation and are commonly referred to as the Kingsley cabins (Fairbanks 1968). Later excavations at cabins W-3 and W-6 (Bostwick 1981) provided the faunal assemblages which were examined by Walker (1988) and used in this thesis. These remains were identified and quantified at the Florida State Museum under the direction of Dr. Elizabeth Wing. None of the invertebrate faunal remains were quantified despite the fact that they were noted to be abundant in the field (Bostwick 1981).

The sample is comprised of 5,344 bone fragments, of which 50.2% were not identifiable beyond Phylum Vertebrata. MNI was calculated for each cabin using Grayson's (1978:123-126) "minimum distinction method", in which all of the proveniences from a site are lumped as a single cultural component. A MNI of 85 was calculated for the combined sample and this estimate represents the most conservative estimate possible (Wing and Brown 1979:125). Thirty different taxa were identified as food resources and four taxa were considered to be non-food animals. These animals, which included the Old World rat (Rattus spp.), hispid cotton rat (Sigmodon hispidus), the corn or rat snake (Elaphe spp.) and the mako shark (Isurus spp.), were excluded from MNI and biomass calculations. Although Walker (1988) combined the faunal samples from cabins W-3 and W-6 for her discussion of resource use and habitat exploitation, the samples were kept separate in this analysis.

The Hermitage

The Hermitage, home of President Andrew Jackson, is located in Davidson County, about 30 miles from Nashville, Tennessee. During the antebellum years, the Hermitage was the site of large scale short staple cotton production. Archival research indicates that the Jacksons owned over a hundred slaves who lived in both log and brick homes scattered about the property. Unfortunately, the kitchen deposits associated with the mansion were disturbed and ante-bellum strata could not be separated from later deposits (Larry McKee, personal communication 1993). For this reason, no comparison between planter and slave was possible for the Hermitage data.

Archaeological excavations have produced faunal data from two separate slave habitations. One data set comes from the remains of a cabin, referred to as the yard cabin site, situated in the yard behind the Hermitage mansion. Artifacts indicate that the cabin was occupied from the 1820's until sometime around the 1860's or 1870's. The proximity of this cabin to the mansion suggests that this cabin was the home of slaves whose work involved kitchen and house duties. The second data set comes from the KES site, a slave cabin located in the cluster of dwellings known as the field quarter. It is believed that the field quarter structures were occupied from the 1800's to the 1820's and were the homes of slaves assigned to field duties (Larry McKee, personal communication 1993). Though the KES site predates the yard cabin site, it was still used because it provides the opportunity to investigate potential status differences between field and house slaves at the Hermitage.

The yard cabin site yielded 1,990 specimens of bone and shell of which 893 represented 110 different individuals. The KES site contained 3,805 specimens of bone and shell and 32% of these were identified to taxon (Breitburg 1990).

Cannon's Point Plantation

Cannon's Point Plantation was owned and operated by the John Couper family from 1794 to 1861. The Couper plantation was located on the northern border of the Cannon's Point peninsula on St. Simon's Island in Glynn County, Georgia. Excavations in the summers of 1973 and 1974 yielded deposits from planter, overseer and slave contexts. Faunal assemblages from the planter's kitchen and midden and from the northern slave cabin #3 are used in this analysis. The faunal assemblages were identified by John Otto using the zooarchaeological laboratory at the Florida State Museum (Otto 1984:). The slave sample was comprised of 4,005 specimens; 936 of these specimens represented 69 individuals. The planter assemblage contained 10,034 specimens of which 2,712 were from 182 different individuals.

Recovery Methods

The methods used to recover the faunal samples during excavation may cause some biases in this analysis. At three of the four sites, a 1/4" mesh size was used for screening and thus the samples from these three sites are biased against specimens which are less than 1/4" in size such as small mammals and fish (Thomas 1969). Therefore, the assemblages from Mabry, Kingsley and the Hermitage are all comparable in this respect. The Cannon's Point samples were the only ones recovered using 1/8" screen size and thus this sample is more representative of the smaller animals which are present in the assemblage. Despite the use of a different screen size, data from Cannon's Point was still used because of the important role which this plantation has played in defining patterns of planter and slave foodways.

There was a small sample of material from the Mabry Plantation which was recovered using 1/16" water screen. However, the number of identified specimens was so small (n=3 , see Appendix A) that the specimens from this 1/16" fraction were quantified along with the 1/4" samples from Mabry. Though the recovered 1/16" sample was small, it still provides the opportunity to see what smaller specimens would have been recovered if a smaller mesh size was used at Mabry.

While these differences in screen size may effect the results of the diversity analysis, different mesh sizes should not have a great effect on the examination of habitat exploitation. The skeletal portion analysis should also be unaffected by different mesh sizes because the remains of large mammals are adequately recovered by both screen sizes.

CHAPTER 4

ASSEMBLAGE DIVERSITY

Historians make many references to dietary diversity, and historical documents commonly describe diet in terms of low and high diversity (Boles 1984; Olmsted 1856). Large plantations were often noted for the diversity of foods which graced the tables at mealtime (Olmsted 1856). Archaeological studies of plantation subsistence also make reference to diet diversity and archaeologists believe that there are significant social connotations associated with the species chosen for consumption. Just as status may be inferred from the frequencies of meat cuts of different values (Schulz and Gust 1983; Lyman 1987), different values are also assigned to different types of animals which were consumed (Reitz 1987:114-116).

Archaeological plantation studies in particular have used faunal diversity. Most efforts to evaluate variability in the kinds of animals which were exploited have focused on the use of wild versus domestic species (Adams 1987; Reitz 1987) but only a few researchers have investigated differences in habitat exploitation (Otto 1984:55; Walker 1988:148). Many anthropologists seem to agree that dietary diversity may be a good status marker if it is used with caution (Reitz 1987:116). Reitz (1987) suggests that primary dependence on domestic taxa may indicate low, not high, status. On the other hand, the use of rare and costly taxa may indicate high status. "If diversity was prized, and expensive to obtain, than [sic] it can be expected that high status diets might have both a greater diversity of domestic taxa, as well as a greater diversity of wild taxa" (Reitz 1987:112).

Species diversity may be a useful status marker and it may also be indicative of diet quality, and this in turn can be useful for interpretations about slave lifeways. Thus, species diversity is a factor which needs to be measured, compared across sites, and explained. Although Reitz (1987) indicates that diversity could be a useful status marker, she also notes that statistical diversity scores were not calculated because of small sample sizes. If the problems associated with sample sizes could be circumvented, then diversity could be an excellent measure of status in plantation assemblages.

Statistical Diversity Measures

Diversity analyses in archaeology have been on the rise since the early 1970's. The concept of diversity was originally defined and discussed in the field of ecology where a diversity index was used to describe variability in natural populations or ecological communities (Pielou 1975:6). The concept was adopted by archaeology because it was useful for describing relationships and interactions between different types of artifacts. Because of this, measures of assemblage diversity can assist in efforts of pattern recognition on many levels and in many situations (Bobrowsky and Ball 1989:12).

The concept of diversity consists of two distinct components (Leonard and Jones 1989:2). Taxonomic richness refers to the number of categories or classes of data which occur in a population, while evenness refers to the frequency and distribution of specimens within these classes. The concept of diversity has been mistaken as a synonym of variation, but in reality it is a measure of variation. It refers to the structural properties of a population which is composed of varying quantities of distinct categories.

Many different diversity indexes have been proposed and used, but not all indexes provide consistent and comparable information. However, there are two formal properties for conceiving and discussing the concept of diversity and these can be applied regardless of the particular diversity index being used (Patil and Taillie 1982). The first of these, simply put, is that the assemblage with the greater number of categories or classes represented is the most diverse with respect to richness. The second property refers to the evenness of distribution of specimens between categories. The sample which is most evenly distributed is the most diverse. Thus, one can say that one assemblage is more diverse than another if it has more categories represented and the elements in these categories are more evenly distributed (Leonard and Jones 1989:2).

Assemblages being compared with diversity indexes must have been categorized using classification procedures which are themselves comparable. For instance, all elements of an assemblage must be unambiguously classified into one and only one category. Thus, the categories of classification must be "mutually exclusive, exhaustive, and composed at the same classificatory level" (Leonard and Jones 1989:3). Secondly, the samples or assemblages being compared must be either randomly selected or somehow representative of the population from which they were drawn (Pielou 1975:6-7).

Many commonly used diversity indexes combine the measures of richness and evenness into a single value. The Shannon Index (Shannon and Weaver 1949) was proposed as a measure of information content and it is used especially in the mathematical theory of information. The Simpson Index (Simpson 1949) measures the concentration or dominance of a community in which many species exist. This measure of concentration is the probability that two randomly and independently picked individuals will belong to the same species. The lower the diversity of an assemblage the greater the chance that the two picked individuals will belong to the same species (Pielou 1975:8-9). Several researchers have pointed out that indexes which combine measures of richness and evenness are inappropriate for most archaeological studies (Leonard and Jones 1989:7; Bobrowsky and Ball 1989:12). Combined measures are of limited use because they provide indexes which are very hard to interpret if not completely misleading. In combined scores, one of the two components, either richness or evenness, may be determining the overall index. This is especially detrimental when assemblages are being compared. Two assemblages with completely different properties of richness and evenness, may have identical diversity indexes (Leonard and Jones 1989:2). For example, an assemblage with many, unevenly represented taxa may have the same diversity index as an assemblage with only a few, evenly represented taxa. Thus, it is very important to distinguish between these two aspects of diversity (Pielou 1975:14-15).

Bobrowsky and Ball (1989) discuss the applications and shortcomings of a variety of different diversity indexes. They suggest that most diversity indexes are of little value in archaeological comparisons because of differing sample sizes. As Grayson (1984:131) has indicated, assemblage richness is highly correlated with the number of identified specimens in an assemblage. Bobrowsky and Ball (1989), do however, mention several indexes which they consider to be suitable for archaeological research containing samples of different sizes. Among these, Kintigh's Diversity Program (1984) is referred to as one solution which has been offered to circumvent the problems of variable sample sizes (Bobrowsky and Ball 1989:12).

Kintigh's program (1984) is an effort to get away from combined measures of diversity. He proposes a method which effectively deals with samples of different sizes and at the same time allows one to determine a significance level for a given score. According to Kintigh (1984:45), this method allows one to answer the question of whether one assemblage is more or less diverse than another assemblage, given the differences in sample sizes. To do this, Kintigh uses Monte Carlo Simulation to develop an expected diversity score for each assemblage based on the size of that particular assemblage. He then compares assemblage diversity scores, not to each other, but to these derived, expected diversity scores.

In order to generate these expectations, it is necessary to develop a model of the way in which the object or category being studied is produced and deposited in the archaeological record. For this model, Kintigh suggests that it is possible to use either a theoretically derived distribution, or one which is estimated from available data. In many cases, it is necessary to use the combined frequencies of elements in the different categories for all of the assemblages as the underlying frequency distribution. Despite the complexity of the forces which create the archaeological record, Kintigh believes that the model he proposes provides a simple, yet plausible set of expectations against which observed data can be compared. In this way, Kintigh's model provides a random baseline which can be used to interpret assemblages. The program then uses this model to simulate a large number of expected diversity scores for assemblages of varying sizes.

After a large number of simulations have been run, a mean and standard deviation can be calculated for the random choice model for a sample of that size. In this way, confidence intervals are determined around the mean expected scores and significance levels can be ascertained. The mean diversity scores for each assemblage size can be plotted along with curves which represent a predetermined confidence limit. Thus, if a significance level of .05 is set, the curves bordering the mean score curve will be wide enough to include 95% of the randomly generated trials.

These simulated expectations are then compared with actual data. When observed diversity scores are plotted with expected ones on the same graph, it is possible to determine whether the observed diversity scores are a function of the size of the sample. All assemblages which plot outside the limits are considered significantly different from what is expected for an assemblage of that size; in other words, the diversity scores are not sample size dependent. Plots above the upper limit are said to have significantly higher than expected diversity, while plots below the lower limit are said to have lower than expected diversity.

Diversity Analysis

The eight faunal assemblages used in this analysis were compared using the Kintigh Diversity Program. The data used in this analysis appear in Appendix B. Curves representing the expected richness scores and a 95% confidence interval about this expected curve are plotted along with the observed richness scores for the eight different assemblages in Figure 4.1. All eight observed richness scores occur outside the 95% confidence interval indicating that there are real differences in the richness of these eight assemblages. In other words, the observed richness scores are not sample size dependent. The planter assemblage from Cannon's Point was the most diverse with a richness score of 41. It was followed by the slave assemblage from Cannon's Point (29), the Kingsley W-6 slave assemblage (24), the Kingsley W-3 and Hermitage domestic slave assemblages (each with 22), the Mabry slave assemblage (19), the Hermitage field slave assemblage (16) and finally

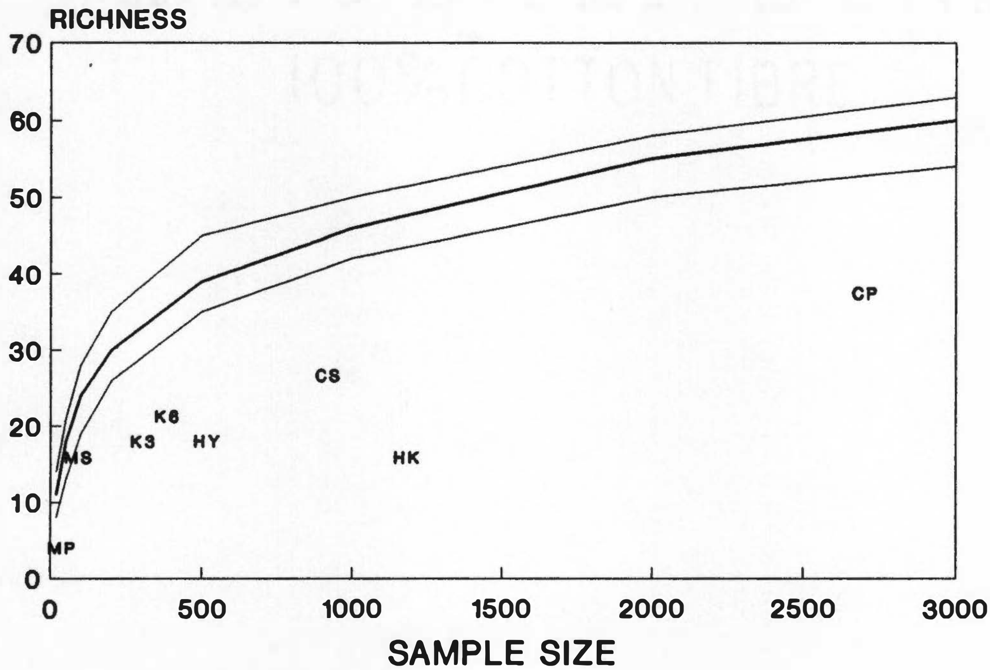


Figure 4.1 Expected and Observed Richness in Plantation Assemblages

Note: MS= Mabry slave, MP= Mabry planter, CS= Cannon's Point slave, CP= Cannon's Point planter, K3= Kingsley slave cabin W-3, K6= Kingsley slave cabin W-6, HY= Hermitage domestic slave, HK= Hermitage field slave the Mabry planter assemblage (5). Interestingly, all eight assemblages also plotted below the lower confidence limit and thus all have lower than expected richness scores for samples of their sizes. Of primary importance, this graph indicates that all of the assemblages are different in composition because each assemblage plotted in a unique position on the graph outside the 95% confidence interval.

A similar graph was created to represent the expected and observed evenness scores (Figure 4.2). All eight observed scores plotted outside the 95% confidence interval indicating that, like the observed richness scores, the observed evenness values are not sample size dependent. Again, all observed scores were lower than expected given the sample sizes. This time, the Cannon's Point slave assemblage was the most evenly distributed (.6003) followed by the Cannon's Point planter assemblage (.5894). The Cannon's Point assemblages were succeeded by deposits from the Kingsley W-6 slaves (.5119), the Mabry slaves (.5097), the Kingsley W-3 slaves (.5050), the Hermitage domestic slaves (.3949) and the Hermitage field slaves (.2303). Again, the Mabry planter assemblage had the lowest score (.1581).

The Kintigh analysis was valuable for this study because it allowed a comparison of diversity in plantation diet despite differing sample sizes. It has now been established that the eight assemblages under investigation exhibit differences in diversity which require further investigation. However, this analysis does not indicate what these differences are.

The next step was to investigate where the significant differences between assemblages occur. Historical, archaeological and environmental data suggested logical places to look for significant differences. A series of two sample t-tests were performed on both the richness and the evenness scores to help isolate the differences. Different groups of

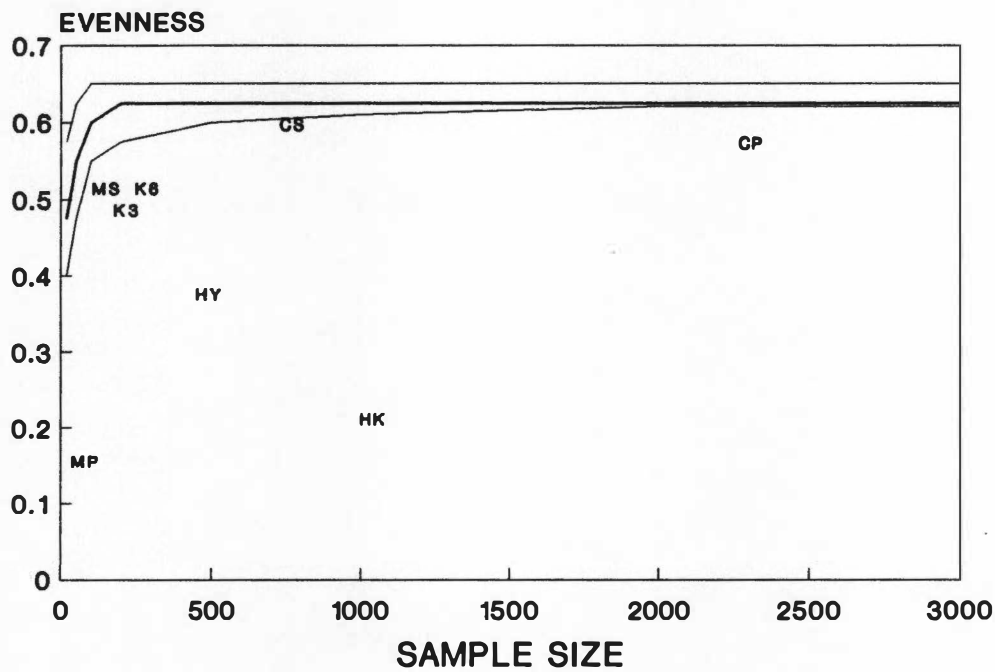


Figure 4.2 Expected and Observed Evenness in Plantation Assemblages

Note: MS= Mabry slave, MP= Mabry planter, CS= Cannon's Point slave, CP= Cannon's Point planter, K3= Kingsley slave cabin W-3, K6= Kingsley slave cabin W-6, HY= Hermitage domestic slave, HK= Hermitage field slave plantation assemblages were tested for significant differences in dietary composition. The null hypothesis for each test was that there is no difference between the groups. The goal of this analysis is to identify similarities and differences in slave subsistence patterns, thus a significance level of .10 was chosen.

Six sets of t-tests were conducted and in each set, both richness and evenness were compared between the groups. The six sets of tests included: 1) all coastal assemblages compared to all inland assemblages, 2) all planter assemblages compared to all slave assemblages, 3) coastal slave assemblages compared to inland slave assemblages, 4) the Mabry assemblages compared to all other assemblages 5) the Hermitage assemblages compared to the Mabry assemblages and 6) the Cannon's Point assemblages compared to the Kingsley assemblages.

In all cases except one, significant differences occurred when assemblages from different environmental settings were compared (Table 4.1). In both richness and evenness, the test of all coastal assemblages versus all inland assemblages revealed significant differences. Assemblage richness for coastal slave sites was significantly different from inland slave sites, however evenness was not different. The richness test of the Mabry assemblages versus all others was very close to the significance level with a p-value of .106675. The one exception to the environmental differences was seen when coastal sites were compared with each other. Cannon's Point and Kingsley had significantly different evenness. Interestingly, there were no significant differences between planter and slave assemblages nor were there any differences between the Upland assemblages from the Hermitage and the Mabry Plantation.

These results indicate that differences in plantation assemblage diversity relate largely to environmental factors. Lack of significant

Table 4.1 Results of Two Sample T-tests in Comparisons of Assemblage Richness and Evenness

Assemblage Comparison	Probability Value
<u>Richness scores</u>	
Mabry vs all others	.1066750
Coastal vs Inland	.0540558*
Planter vs Slave	.9161200
Inland slave vs Coastal slave	.0910520*
Mabry vs Hermitage	.4550510
Cannon's Point vs Kingsley	.1872570
<u>Evenness scores</u>	
Mabry vs all others	.3390960
Coastal vs Inland	.0337193*
Planter vs Slave	.5668080
Inland slave vs Coastal slave	.1372810
Mabry vs Hermitage	.9226410
Cannon's Point vs Kingsley	.0052721*

Note: * indicates significance at level of .10

differences between different social groups in the same environmental setting suggest that there may be a basic structure of plantation subsistence which is evident in faunal assemblages. Cultural similarities may have shaped the structure of the subsistence practices but it is still likely that the local environment shaped the actual diet. Patterns of food procurement may be similar while the actual types of animals which are exploited differ considerably. Now that differences in diversity have been isolated for the assemblages being used in this study, it is important to establish which aspects of assemblage composition are causing these differences.

Animal Group Use

As a final step in this diversity analysis, differential usage of major animal groups was compared to examine the types and abundances of animals which were present in plantation assemblages from different regions. Relative abundances of animal groups are used to compare assemblage composition at the different sites because the types of animal groups which were exploited may provide valuable clues about differential access to resources.

In plantation studies, several researchers have examined animal use patterns using relative abundances. Often, these studies have focused on the use of domesticated versus wild species. Otto (1984:57) demonstrated differences in animal use patterns by the different groups at Cannon's Point Plantation. He outlined a pattern in which the planter assemblage had a lower percentage of domesticated fauna than wild fauna while the overseer and slave assemblages had greater percentages of domesticated than wild fauna.

Moore (1981:339-340) used Otto's data to calculate biomass estimates based on skeletal mass allometry. Using biomass estimates, the differences in animals used by planters versus slaves were not as significant. Moore then compared the Cannon's Point data with Sinclair, Pike's Bluff and the Jones Settlement and concluded that variation in wild versus domestic animal use could be related to plantation size.

Later, Walker (1988) added the Kingsley assemblage to this comparison and suggested that recovery technique, rather than plantation size may be the factor determining the relative abundances of wild versus domestic fauna. Walker noted an inverse relationship between screen size and the percentage of wild species. As screen size decreases, the percentage of wild species increases. Walker further suggests that trends in slave animal use must be reexamined using samples obtained by similar recovery techniques.

In this analysis, animal group use was not measured in terms of biomass but was instead compared using relative abundances of the different animal groups. Walker (1988:143) divided the vertebrate fauna from Kingsley into macro-ecological groupings. Walker's groups included domestic animals, terrestrial animals, aquatic reptiles and fish. In this analysis, vertebrate fauna were divided into seven different groups: domestic mammals, wild mammals, domestic birds, wild birds, fish, reptiles and amphibians. Invertebrate remains were not quantified on the coastal sites and thus there is no category for them despite the fact that they were probably a significant food resource. Also, non-food species such as rats, mice and shrews were excluded from this analysis because their inclusion would have falsely inflated wild mammal representation. All specimens identified to taxonomic level of genus were grouped into one of these seven categories.

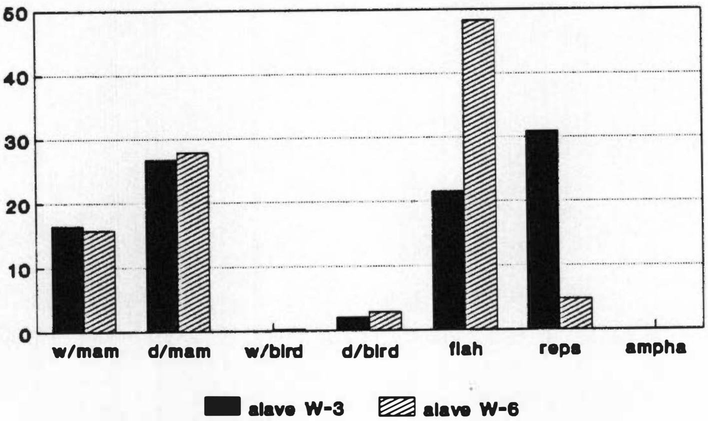
All of the assemblages from coastal plantation contexts were similar in their overall pattern of animal group use. Faunal assemblages from both Cannon's Point and Kingsley plantations were dominated by aquatic species of fish and reptiles.

Both the planter and slave assemblages from Cannon's Point are dominated by fish specimens while the second most important animal group was reptiles (Figure 4.3). Fifty-one percent of the planter faunal remains were fish and 39.7% were reptiles. Mammalian remains comprised a little over 8% and 75% of these were domesticated. Less than 1% of the fauna were bird and amphibian. The slaves at Cannon's Point were also exploiting fish and reptiles extensively. Fish specimens comprised 67.7% of the assemblage and reptiles were at 14.9%. Mammals were the next most represented group; 9.1% were domestic species and 7.2% were wild. Again, birds and amphibians comprised less than 1% of the sample.

Like the assemblages from Cannon's Point, the two slave assemblages from Kingsley also show that fish and reptiles were exploited fairly extensively. However, the two groups of slaves utilized fish and reptiles in varying degrees. Almost 50% of the assemblage from Kingsley cabin W-6 was fish while reptiles comprised only 4.8% of the sample. The assemblage from Kingsley cabin W-3 contained mostly reptiles (32.9%) while fish only made up 21.6% of the sample. A major difference between the Kingsley and Cannon's point samples was in the representation of mammalian species. Unlike Cannon's Point, the Kingsley samples contained large numbers of mammal specimens; both of the Kingsley groups appeared to utilize domestic and wild species similarly. Cabin W-6 contained 26.8% domestic mammal specimens and 16.5% wild mammal. Cabin W-3 contained 27.9% domestic mammal and 15.8% wild mammal. Both groups used a few domestic birds and very few wild birds or amphibians.

The faunal assemblages from Upland plantations exhibited a pattern of animal group use which was distinctly different than the pattern seen in coastal plantation assemblages. While coastal assemblages were

Kingsley Plantation



Cannon's Point Plantation

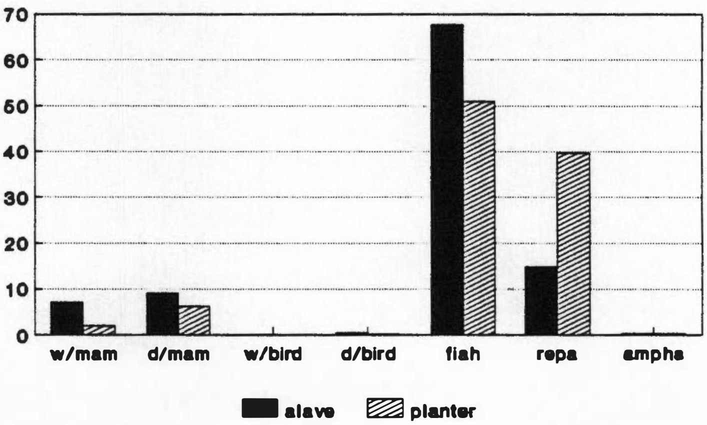


Figure 4.3 **Animal Group Use on Coastal Plantations**

Note: w/mam= wild mammal, d/mam= domestic mammal, w/bird= wild bird, d/bird= domestic bird, reps= reptiles, amphs= amphibians

dominated by specimens from fish and reptiles, upland assemblages were dominated by mammalian specimens (see Figure 4.4). Both assemblages from the Mabry site were dominated by domestic mammals, however differences between planter and slave were fairly distinct. The planter assemblage was dominated by domestic mammal (89.1%) while wild mammals and birds were barely represented. In the slave assemblage, domestic mammals dominated (52.4%) but wild mammals (23.2%) and domestic birds (18.3%) were also well represented. Wild bird, fish, reptile and amphibian remains were either rare or absent in both assemblages.

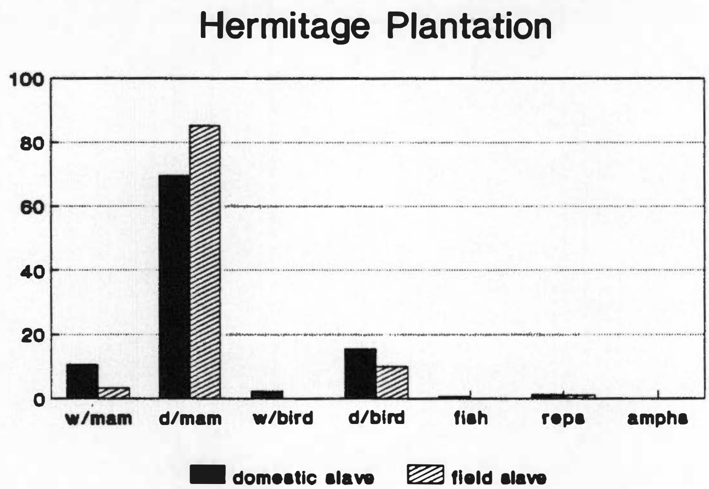
Similarly, the two slave assemblages from the Hermitage were dominated by domestic mammals. The field slave sample had a slightly higher percentage (85.2%) than the house slave sample (69.5%). Wild mammals and domestic birds were the next most abundant animal groups represented in both assemblages. As at the Mabry site, wild bird, fish, reptile and amphibian remains were very rare.

Discussion

Diversity measures are relevant for plantation studies because of their implications for foodways. In the study of plantation subsistence patterns, it is important to determine exactly what resources are being procured by the different status groups which inhabited the system. Differences in procurement strategies may reveal status and ethnic differences which were not recorded in the historic literature.

This analysis of diet diversity in plantation assemblages does not seem to support the historical viewpoint that planter diet is more diverse than slave diet. Differing social status between planter and slave does not appear to effect the diversity of their diets. Regional environmental differences however, do seem to effect dietary diversity.

Distinct dietary differences between coastal and inland



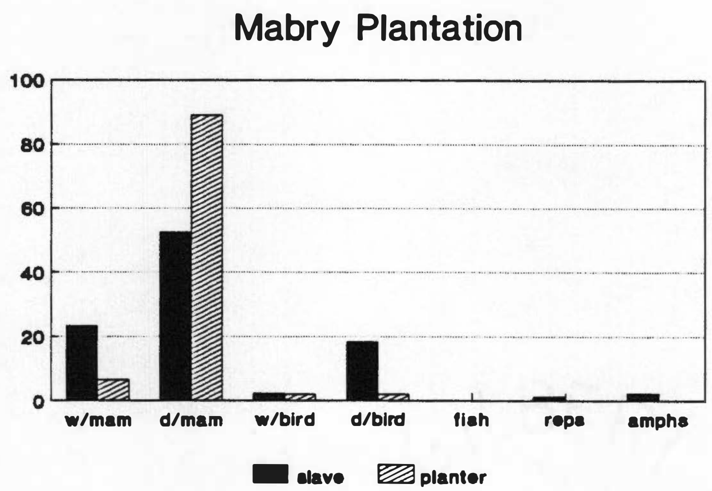


Figure 4.4 Animal Group Use on Upland Plantations

Note: w/mam= wild mammal, d/mam= domestic mammal, w/bird= wild bird, d/bird= domestic bird, reps= reptiles, amphs= amphibians plantations are evident in this analysis. Residents of coastal plantations relied most heavily on aquatic animals such as fish and reptiles while mammalian species were less abundant. The opposite is seen on inland plantations where the assemblages are dominated by mammals, while fish and reptiles are practically non-existent. Amphibians and birds do not appear to be important resources in either region, but when they do occur, domestic birds are the most represented.

There does seem to be one similarity in the plantation assemblages which does not seem to be effected by environmental setting. With the exception of the Kingsley slaves, most of the assemblages seem to exhibit a focal subsistence pattern in which a few types of animals are heavily exploited while other animals are used but not nearly as extensively (Cleland 1966:45). Residents of coastal plantations utilized aquatic resources almost exclusively while residents of upland plantations focused almost entirely on woodland and domestic mammals. The faunal assemblages used in this study seem to reveal an underlying structural pattern which transcends status. The assemblages from coastal plantations were comprised mainly of fish and reptiles while assemblages from inland plantations were composed of mostly domestic mammals. Though the focal animal groups differed, the underlying structural pattern is the same. All of the groups, except the Kingsley slaves, appear to have been focusing on one major animal group. The significant difference in evenness between Cannon's Point and Kingsley is probably explained by these data. Residents of Cannon's Point relied almost exclusively on fish and reptiles while the Kingsley slaves utilized mammals almost as heavily as fish and reptiles.

Human groups usually have a core diet of some reliable staples, but they may often go to great expense to bring variety into their diet. Most groups try to increase the amount of uncommon or different foods they consume because these special foods are the ones which have the greatest social significance (McKee 1988:37). This analysis clearly supports the idea of different subsistence patterns for coastal and inland plantations. While the analysis does not support a distinct Upper South subsistence pattern, future work in the region may do so. More work needs to be undertaken in this part of the South to clarify faunal assemblage patterning.

CHAPTER 5

ENVIRONMENTAL SETTING AND HABITAT EXPLOITATION

An examination of environmental setting and habitat exploitation can add another dimension to the analysis of plantation subsistence. Resource availability is probably the most influential factor in subsistence practices, and the environmental zone in which a site is located has major impact on the type and abundance of food which is available for human exploitation. This, however, does not automatically imply that all persons have equal access to these resources. Factors such as wealth, free time, and status will effect the resources which a person or group of persons are actually able to exploit. Still, the parameters of the local environment must provide the framework from which subsistence practices are investigated.

The plantation sites compared here are from three different geographical regions and each has unique environmental circumstances which influence the people living in the region. The environmental differences between the three regions must be considered in order to compare subsistence patterns between the sites.

The Sea Island Region

The sea island region of the southeastern United States provided a unique and dynamic setting for plantations of the antebellum era. Tidal action continually fed and altered the tidal creeks and marshes which characterized the region. Climatically, the region enjoyed mild winters with frost free conditions approaching 300 days a year. Summers were warm and humid with an average rainfall of 45-50 inches per year

(Mathews et al. 1980:39).

The sea island region supported maritime forest communities consisting of a variety of salt tolerant species. Some of these species include live oak (Quercus virginiana) and cabbage palmetto (Sabal palmetto) that grow nearest to the ocean; a wider variety of species including magnolia (Magnolia grandiflora), laurel oak (Quercus laurifolia), saw palmetto (Serenoa repens) and several varieties of pine occur as one moves further away from the coast (Mathews et al. 1980:65-71; Sandifer et al. 1980:120-123).

The mammalian fauna which inhabited these maritime forests in antebellum times included numerous large species such as the white-tailed deer (Odocoileus virginianus), feral hog (Sus scrofa), bobcat (Lynx rufus), black bear (Ursus americanus) and gray wolf (Canis lupus). Smaller mammals found there included the gray squirrel (Sciurus carolinensis), fox squirrel (Sciurus niger), marsh rabbit (Sylvilagus palustris), cotton mouse (Peromyscus gossypinus), raccoon (Procyon lotor) and opossum (Didelphis virginiana). While most of these species, such as the opossum, were distributed widely throughout the islands, other species such as the gopher tortoise (Gopherus polyphemus) were restricted to Cumberland and Fort George islands. Many domestic mammals were introduced to the islands during the historic period and many of these were free-ranging. These mammals included cattle (Bos taurus), sheep (Ovis aries), goats (Capra hircus), and pigs (Sus scrofa) (Sandifer et al. 1980:155-157).

Estuaries, or semi-enclosed bodies of water connected with the open sea but heavily diluted with freshwater runoff from surrounding terrestrial areas, are numerous in the region. These areas provide protective habitats and nursery areas for many vertebrate and invertebrate species. Coastal estuaries are divided into different zones based on salinity level and these zones decrease in salinity as one moves away from the mouth, through the lower, middle and upper reaches, to the head and finally, the river Both seasonal variation and salinity level cause species composition to vary among the zones, but generally the highest species diversity and abundance occur in the high salinity zones (Sandifer et al. 1980:159).

Estuarine ecosystems are divided into subtidal and intertidal subsystems. Subtidal systems are composed of sounds, bays, tidal rivers and streams, while intertidal systems include beaches, bars, flats, oyster bars and marshes. The vertebrate and invertebrate species found in these two subsystems differ in important ways; however, the oyster (Crassostrea virginica) bars which characterize both subtidal and intertidal systems have important similarities. Over successive years of reproduction and growth, extensive clusters of dead shells accumulate, creating a habitat for a host of other organisms. Among these organisms are the scorched mussel (Brachidontes exustus), impressed odostome (Odostomia impressa), snapping shrimp (Alpheus spp.), barnacles (Balanus spp.), oyster toadfish (Opsanus spp.), mud crabs (Panopeus herbstii), Neopanope sayi), fiddler crabs (Uca pugnax) and numerous species of gobiid and bleniid fishes (Bahr and Lanier 1981:42-48; Wells 1961:247-249).

Other invertebrate species are common in estuarine ecosystems. One, which frequently occurs alongside the oyster is the hard clam (Mercenaria mercenaria). On subtidal creek bottoms, clusters of dead oyster shells protect hard clams from predators such as the blue crab (Calinectes sapidus). Invertebrate species which are found in the marsh areas of the intertidal systems include marsh periwinkle (Littorina irrorata), Atlantic ribbed mussel (Geukensia demissa) and mud snail (Ilyanassa obsoleta) (Sandifer et al. 1980:227).

Fishes are also very common in the estuarine environments of the sea island region. Sciaenids dominate the composition including species such as stardrum (Stellifer lanceolatus), Atlantic croaker (Micropogonias undulatus), spot (Leiostomus xanthurus), silver perch (Bairdiella chrysoura), sea trouts (Cynoscion spp.), and kingfishes (Menticirrhus spp.). Other species include American shad (Alosa sapidissima), spotted hake (Urophyeis regius), blackcheek tonguefish (Symphurus plagiusa), sea catfish (Ariopsis felis), white catfish (Ictalurus catus), flounders (Paralichthys spp.) and menhadens (Brevoortia spp.) (Sandifer et al. 1980:196).

The avian, mammalian and reptilian fauna of the two estuarine subsystems are dictated by the unique environmental circumstances of the individual system. The open-water subtidal estuarine environment is characterized by birds such as gulls and terns (Laridae), pelicans (Pelecanidae), mergansers and canvasbacks (Anatidae). Marshlands of the intertidal subsystem are the major feeding grounds of wading birds such as herons and egrets (Ardeidae), ibises (Threskiornithidae) and clapper rails (Rallus longirostris). Certain mammals also depend on marshlands as feeding grounds and these include the marsh rabbit (Sylvilagus palustris), raccoon and marsh rice rat (Oryzomys palustris). The diamondback terrapin (Malaclemys terrapin) is the one true estuarine reptile known in the region (Sandifer et al. 205, 254-255, 259-260).

Environmental Setting of the Kingsley Plantation

The Kingsley Plantation was located on Fort George Island in Duval County, Florida and this has important implications for subsistence activities. Extensive marshlands and tidal creeks were present, as were two major waterways, the St. John's River and the Fort George River. In the antebellum era, the Kingsley Plantation was situated on the northeastern border of the island where it was directly adjacent to two major food producing ecosystems. First, the plantation sat next to an estuary which was fed by three different tidal creeks. In this location, plantation residents would have access to the diverse fauna which characterize both the subtidal and intertidal estuarine ecosystems. The open water provided abundant fish and avian fauna and the tidal creeks and associated marshlands were home to numerous invertebrate species such as shellfish and crabs.

Fort George Island was also home to a diversified floral community and maritime forest. Both temperate hammock and upland temperate hammock ecosystems would have been available to the residents of Kingsley Plantation. Today, these woodlands are occupied by numerous avian and mammalian species. Mammalian inhabitants are dominated by eastern gray squirrel, eastern cottontail rabbit, opossum, raccoon and nine-banded armadillo (Dasypus novemcinctus). White-tailed deer are absent now, but during the antebellum era they were common, as were large colonies of gopher tortoises (Walker 1988:32).

Wild plants may also have provided an important food resource to the inhabitants of Fort George Island. Though plant foods are not the focus of this research, they do bear mentioning. Edible wild plant species included acorns and nuts, wild grapes and wild greens, and fruits from the saw palmetto and cabbage palms (Pruitt 1985).

Environmental Setting of Cannon's Point Plantation

Cannon's Point Plantation was located on the northern border of St. Simon's Island in Glynn County, Georgia. Location of the plantation on a sea island meant that resource availability was very similar to that at the Kingsley Plantation. In the late antebellum years, St. Simon's Island had few standing forests, but the cultivated areas of the island were probably home to many of the smaller woodland species. The Cannon's Point peninsula was bordered by marshlands on all sides and tidal creeks and streams were numerous. A large tidal creek, Jones Creek, was situated on the northwestern side of the peninsula. The large, Hampton River was directly adjacent to the northern border of St Simon's Island, thus providing access to many freshwater species. Altamaha Sound, with its abundance of estuarine environments and fauna, was about one mile north of the island (Otto 1984:22).

The Nashville Basin of Tennessee

The Nashville Basin covers 5,900 square miles in the central portion of Tennessee. The city of Nashville is on the northwestern edge of the basin which extends approximately 65 miles east-west and 105 miles north-south. This area was once a low anticline which then eroded into a smooth interior lowland or basin.

The basin is divided into an outer and an inner portion, but it is the outer portion which is of relevance to this study. Much of the outer portion of the basin consists of very steep slopes and narrow valley floors, while the areas adjacent to the inner portion are smoother and not as deeply dissected as the outer portions. The inner portions of the outer rim are undulating to hilly and the relief does not exceed 200 feet above sea level.

A network of streams and rivers drain the outer rim of the basin. Some of the largest rivers include the Duck, Harpeth, Elk and Cumberland, and they range from 250 to 1,200 feet in width. The floodplain soils of these rivers are loamy with a clayey subsoil ranging in depth from 2 to 10 feet. The floodplains along these rivers and other large streams are well to moderately well drained and most of the soils have a moderate to high phosphorus content and are fairly productive agriculturally.

Before the basin was settled in the late eighteenth century, much of the outer rim was covered in deciduous hardwoods including American beech (Faqus grandifolia), shagbark hickory (Carya ovata), white oak (Quercus alba), black walnut (Juglans nigra) and many others. Early travellers in the region reported the presence of game such as buffalo and deer, but many other species were certainly present.

Climate in the basin is Humid Mesothermal and precipitation averages 45-54 inches per year. Average yearly temperatures are 59-60 degrees and the number of frost free days range from 189 to 224 (Edwards, Elder and Springer 1974:2-9).

Environmental Setting of the Hermitage

The Hermitage Plantation, Davidson County Tennessee, is located in the outer rim of the Nashville Basin where it is surrounded by several small streams and springs and it is located approximately one and a half miles from the Cumberland River. These springs and streams probably attracted a wide variety of game animals of all sizes and were also an important source of certain fish and invertebrate species. The Cumberland River was also accessible from the Hermitage and thus a wide variety of fish, reptilian and avian fauna would have been seasonally available to the residents of the plantation. Deer, cottontail rabbit, squirrel, opossum and raccoon were also known to frequent cleared farmlands which were most certainly abundant about the Hermitage.

The Uplands of East Tennessee

East Tennessee is comprised of the Blue Ridge and the Ridge and Valley physiographic provinces. The Ridge and Valley Province was created by a series of folding and faulting events in the late

Paleozoic. At that time, sediments were formed into high narrow mountains which later eroded, leaving low sandstone ridges. Presently, the topography of the Ridge and Valley Province consists of alternating ridge tops and valley floors. Numerous rivers, which drain the area and then flow into the Tennessee River, have cut valleys throughout the province (Fenneman 1938:265-269; 196).

The Ridge and Valley Province is characterized by temperate deciduous forests (Dice 1943:16-18). The oak-chestnut climax forest dominated the area up until the early twentieth century when the chestnut was destroyed by lumbering and the chestnut blight. Black oak and white oak are now the dominant hardwoods but chestnut oak, tuliptree and other species are also present (Braun 1950:238).

The forests and rivers of the Ridge and Valley province were home to a large variety of terrestrial and aquatic species. Mammalian species included white-tailed deer, black bear, gray fox (Urocyon cinereoargenteus), bobcat, raccoon, groundhog (Marmota monax), beaver (Castor canadensis), squirrel, rabbit (Sylvilagus floridanus) and a host of others animals (Kellogg 1939:257-297). Aquatic species included catfish (Ictalurus spp.), sunfish (Lepomis spp.), suckers (Catostomidae), freshwater drum (Aplodinotus grunniens), snapping turtle (Chelydra serpentina), mud turtle (Kinosternon subrurum) and spiny soft-shell turtle (Trionyx spiniferus) (Kuhne 1939:19-115). Birds such as wild turkey, passenger pigeon (Ectopistes migratorious), osprey (Pandion haliaeetus), hawks (Accipitridae) and owls (Strigidae) were also present (Ganier 1933:7-43).

Environmental Setting of the Mabry Site

The Mabry Plantation was situated in west Knox County, just outside Knoxville, Tennessee and within the Ridge and Valley

Physiographic Province. Mixed woodlands and farmland were abundant in the area and the Tennessee River was approximately three miles to the south of the plantation. A large creek which flows into the Tennessee River was about 1.5 miles away and a small pond was located adjacent to the Mabry mansion. These waters were home to a variety of both vertebrate and invertebrate species which would have been accessible to the residents of the Mabry Plantation. The typical woodland and farmland species would also have been available. These waters would also have attracted a fair number of birds and reptiles.

Habitat Exploitation

Environmental setting is one of the most important elements which effects the diet and subsistence practices of a group of people, but clearly, it is not the only factor. Often, the cost involved with acquiring a resource will make it inaccessible even if it is locally available.

The cost required to obtain a resource is a very complicated factor and it involves things such as time, effort, expense of technology, and opportunity. Species which are easily obtained will be heavily exploited but not prized very highly. Species requiring great effort and high risk but which have high yield will be highly prized. A wealthy household can afford high procurement expense more often than a poor household, and thus great cost to obtain an animal may correlate with high social status (Reitz 1987:115).

The environmental location of a site determines which resources are available. However, true environmental availability is a function of personal freedom and opportunity, technological capacity and marketing opportunity (Reitz 1987:105). Patterns of habitat exploitation may reveal valuable clues about slave lifeways and subsistence practices.

Habitat Exploitation on Coastal Plantations

Walker (1988:148) defined ten major habitats for the coastal region; these included high pinelands, wooded lands, farming areas, domestic, freshwater, brackish water, estuary, marshlands, swamp and saltwater. All ten habitats defined by Walker were utilized by the Kingsley slaves. Woodland and farm area species included opossum, raccoon, deer, cottontail rabbit and gopher tortoise. Pigs, cows and chickens comprised the domesticated animal group. The marshes were represented by raccoons, egrets, alligators and diamondback terrapins. Many of the fish recovered could have been procured throughout the estuarine environment, but some species are known to favor certain areas. Freshwater species include bowfin (Amia calva), freshwater catfish (Ictaluridae), soft-shell turtles (Trionyx spp.) and sliders (Chrysemys spp.). Red drum (Sciaenops ocellata), black drum (Pogonias cromis) and grouper (Epinephelus spp.) are common in the deep waters of the sound while sheepshead (Archosargus probatocephalus) usually frequent dock areas. Sea turtle (Cheloniidae) and flounder (Paralichthyes spp.) represent beach and surf zones.

Otto (1984:55) examined the habitats which were exploited by the Cannon's Point slaves. Opossum, raccoon, rabbit, woodrat and mink were collected from forests and marsh fringes. The clapper rail was probably shot in the marsh. Artifacts revealed that the slaves were fishing extensively using both hook-and-line and cast net. Because slaves would have had to travel great distances by canoe, Otto concluded that most of the fish taken by slaves were procured from the banks of tidal streams. From these creeks, slaves could have fished from the bank and procured most of the species seen in the assemblage. According to Otto, these taxa included sturgeon, stingray, gar, silver perch, sea trout, kingfish, croaker, mullet, marine catfish, sheepshead and flounder. Freshwater animals included soft-shell turtles, leopard frogs and possibly sturgeon. Interestingly, the slave assemblage also contained bones from the red drum and the black drum, both of which are commonly found in the deeper waters of the sound, thus indicating that slaves also had access to some distant and hard to obtain species. Though turtles and mammals were procured, fish were the most important resource by far (Otto 1984:55-56).

Wild game was also very common in the planter assemblage from Cannon's Point. Mammals such as raccoon, opossum, rabbit and deer were procured from the wooded lands, but fish and turtles were much more important than these mammals. Outlying areas such as sounds were heavily represented in the planter diet and animals from this habitat included spots (Leiostomas xantharus), jacks (Caranx cf. hippos), bumpers (cf. Chloroscombrus chrysurus), red drum (Sciaenops ocellatus) and black drum (Pogonias cromis). Mainland marshes and freshwater streams contained snapping, mud and soft-shell turtles. Marine turtles were taken from beach areas and salt marshes while tidal streams yielded the diamondback terrapin, the most commonly eaten of all turtles (Otto 1984:146).

Habitat Exploitation at the Hermitage

Despite the fact that a variety of aquatic resources were available to the slaves at the Hermitage, these resources were not heavily exploited. Two reptiles, Trionyx spiniferus and Terrapene carolina were represented, indicating that both river and woodland habitats were used. Four genera of fish were identified and these included Lepisosteus (gar), Aplodinotus (drum), Micropterus (bass) and

Ictiobus (buffaloefish). These indicate that the Cumberland River and its smaller tributaries were also being exploited.

Avian fauna, both wild and domestic, appeared to be much more important resources than fish or reptiles. Six genera of wild birds were represented: Anas, Branta, Strix, Zenaida, Turdus and Melanerpes. This indicates that both aquatic and terrestrial habitats were exploited for birds. Both turkey and chicken were also represented, but chicken remains were clearly the most abundant of all the birds.

Mammals were the most important meat source for the Hermitage slaves. While pig dominated both assemblages, cow and sheep were also well represented. Remains of opossum and eastern cottontail rabbit were frequently represented, but raccoon, mole and gray squirrel were also present.

Habitat Exploitation at the Mabry Site

As was the case at the Hermitage, the Mabry samples were dominated by mammalian fauna with domestic animals much more abundant than wild species. In the slave assemblage pig remains were the most abundant, but cow, sheep and goat were also present in limited numbers. Eastern cottontail rabbit was the most abundant wild mammal, but opossum, raccoon, woodchuck, mole and gray squirrel were also represented. Planter diet was comprised mainly of pig, but cow and rabbit were also utilized. All of the wild animals could have been procured in the cleared farmlands and woodlands which were located on and around the Mabry Plantation.

Domestic birds were more common than wild birds; only one native bird was represented. The mourning dove, Zenaida macroura, was utilized by both planter and slave. One reptilian species, Terrapene carolina was identified but this may have been from a modern specimen.

Amphibians were represented by two Rana specimens, but these may not represent a food resource either. Both of these animals could have been procured around the pond fringe or in the woods. No fish remains were recovered from either planter or slave assemblages.

Discussion

The higher diversity of coastal plantation assemblages is not readily explained by this consideration of environmental setting and habitat exploitation. While the sea island region offered a tremendous variety of habitats to the residents of coastal plantations, varied water sources were also available to the residents of the two inland settings examined here. Various aquatic resources were locally accessible from each of the four plantations, yet only the residents of the coastal plantations incorporated these resources into their subsistence routines to any great extent.

The estuarine and marine environments of the sea islands are home to an incredible number of fish, reptile and invertebrate species in addition to the mammalian and avian fauna which are typical of woodland and riverine environments. While there may have been a greater number of species inhabiting estuarine and marine waters, there were also many species present in the Tennessee and Cumberland rivers. Differences in species availability do not totally explain the greater species diversity in coastal versus upland plantation assemblages, although environmental differences are certainly a very important factor. Other factors seem to have been affecting the use of aquatic resources on inland plantations.

Aquatic animals such as turtles and fish are barely represented in the assemblages from the upland plantations, despite the fact that water sources are locally available. The absence of aquatic species in the

Mabry assemblages can possibly be explained by a consideration of the environmental setting of the plantation. It may have been that a distance of approximately three miles to the Tennessee River was too great to allow easy or frequent access. The slaves at the Hermitage also were not exploiting the various aquatic resources which were locally available to them and the distance to the Cumberland River was only about one and a half miles. The Hermitage slaves appear to have been limited in their subsistence exploits and this may be related to the economics of the plantation. It is not known which type of labor system was employed at the Hermitage, but McKee (1993) thinks that a gang labor system was employed. If so, this would have severely restricted both slave free time and access to available resources.

The use of 1/4" screen size in the recovery of specimens does not seem to be the cause for the differences in representation of fauna between coastal and inland plantation assemblages. The Kingsley assemblages were recovered with 1/4" mesh screen and fish are very well represented in both of those assemblages. There were very few aquatic specimens present in the Hermitage assemblages and none were present in the Mabry assemblages, in either the 1/4" or in the 1/16" samples. While aquatic resources were available in the environment, the distance to them or the labor system in use on the plantation may have made them inaccessible to residents on interior plantations.

Subsistence practices on coastal plantations appear to have been much different. Considering the diversity of the habitats exploited by both the Kingsley and Cannon's Point slaves, it appears that these particular slaves had a greater latitude in their subsistence pursuits. Some of the outlying estuarine habitats which were exploited by the slaves from these plantations, in particular the deep sounds and beach zones, would have required considerable effort for exploitation. Walker

(1988:150) compared the use of habitats at Kingsley and Cannon's Point. At Kingsley, 11 species (19% of the sample) were procured from outlying habitats while at Cannon's Point only four species (9% of the sample) came from outlying habitats. Slave quarters at the two plantations were about the same distance from these resources but the Kingsley slaves appeared to use these areas more than the slaves at Cannon's Point (Walker 1988:150). Still, the slaves at both coastal plantations were utilizing a greater variety of species from a wider range of habitats than were the slaves from inland plantations.

On the other hand, there appears to have been a considerable difference in habitat exploitation between the slaves at Cannon's Point and their owners. Planter assemblages are vastly different in terms of habitat exploitation than are slave assemblages. The species present in the planter assemblage indicate that much time and effort was spent for their procurement. Outlying areas such as sounds, beaches and mainland marshes were heavily exploited in addition to the nearby woodlands, streams and salt marshes. Even though the diversity analysis did not reveal significant differences between planter and slave diet at Cannon's Point, a consideration of habitat exploitation indicates that an important difference did exist between the two. The slave assemblage did have a few outlying resources represented but not nearly as many as were present in the planter assemblage.

It is also important to note that even though the diversity of the Mabry assemblages was low, both planter and slave assemblage composition indicate similar resource exploitation. Both wild mammals and birds were procured from the surrounding woodlands and cultivated areas and it is notable that the planter assemblage from the Mabry site did not contain any wild species which were not present in the slave assemblage. The Mabry planter diet was actually less diverse than the Mabry slave diet; however, both groups appeared to have been exploiting the same types of habitats to acquire these resources. Differences between planter and slave subsistence practices are not supported by the data from the Mabry Plantation.

This consideration of habitat exploitation may provide some support for the existence of a distinct Upper South pattern. The slaves at Cannon's Point experienced a very diverse diet, but it was not nearly as costly as planter diet. When the cost of procurement is considered, there is a distinct difference between planter and slave diet at Cannon's Point. At the Mabry Plantation, this was not the case. Assemblages from the Mabry Plantation indicate that planter and slave expended about the same amount of effort in their subsistence practices. This similarity in resource use may indicate that planter-slave relations on some plantations in the Upland South were different than they were the coastal areas of the Deep South.

CHAPTER 6

SKELETAL PORTION UTILIZATION

In the final part of this analysis, differential skeletal portion representation is examined between assemblages. Many other studies have used similar analyses in attempts to investigate and interpret economic and social relationships. In these analyses, the quantification of different skeletal portions has been a fruitful endeavor (Schulz 1979; Schulz and Gust 1983).

Schulz (1979) compares the frequencies of different beef cuts among three western sites and uses the abundances of the different cuts to determine economic and ethnic status of the different sites' occupants. Schulz and Gust (1983) present an analysis of faunal remains from nineteenth century Sacramento in which four faunal assemblages each represented a different socioeconomic position in Sacramento society. They were able to use archival research to organize the data into retail meat cuts which were ranked according to economic value. Schulz and Gust (1983:44-45) use the abundances of the different value meat cuts to determine how well the socioeconomic positions of the site inhabitants were reflected in the assemblages of beef remains recovered from the sites.

While commending the efforts of Schulz and Gust, Lyman (1987) offers an elaboration of their model which allows one to asses the cost-efficiency of meat purchases. As Lyman points out, the economic ranking they use does not consider the yield, or actual pounds of edible meat, on the cut. Both "the proportion and absolute amount of edible meat yield per type of beef cut vary, and neither of these variables correlates with the economic rank" (Lyman 1987:61). Lyman notes that a buyer with limited purchasing power should buy cuts which will maximize returns at a minimal cost. He notes that in this case, cultural preferences will be waived in order to obtain the cut with the most meat.

The studies of Schulz and Gust (1983) and Lyman (1987) demonstrate that faunal remains can be useful for identifying diets which differ economically. Schulz and Gust compare cost per pound of meat and Lyman modifies the comparison to consider the amount of edible meat yield per cut; still, both analyses use faunal remains as economic indicators. While the relative abundances of different meat cuts clearly reflect purchasing power, they do not necessarily reflect social status. It is believed that the approaches taken by these authors can be further modified to analyze dietary differences in the plantation setting. It is important to keep in mind that the previous applications involve market situations where only portions of an animal were purchased. This market situation may not be analogous to the plantation setting because most of the fresh meat consumed on a plantation was also butchered there. Because most meat was butchered on the plantation, it is not appropriate to rank the meat cuts based on the retail prices of that time period. By classifying different element portions into categories based on the relative meat yield of that portion, it is possible to examine how access to different meat yield carcass portions is related to status.

A major characteristic of complex social organization is that persons of different status have differing access to food resources. Fried (1967) identifies unequal access to basic resources as the defining feature of stratified society. In the plantation setting, slaves were at the bottom of the social and economic spectrum where the power to control their diet was clearly limited. If they had any control over the items they consumed, it would have been most practical for them to choose foods which maximized returns at a minimal cost or investment of time. Food items which maximized returns for slaves would definitely have included high meat yield portions of both pig and cow. On the other hand, plantation owners controlled most plantation resources and access to the best cuts of meat. Faunal evidence, such as the relative abundances of different carcass portions, can be an excellent source of information about diet and social life (Schulz and Gust 1983:51) because it can be used to identify which meat cuts were being consumed by different segments of society. Thus, differences in skeletal portion representation may be useful in interpretations about the lifestyles and subsistence practices of different status groups. The plantation setting offers an excellent opportunity to examine how status is related to differential carcass utilization.

Skeletal Portion Analysis

The two species used in this analysis are pig (*Sus scrofa*) and cow (*Bos taurus*). All identified pig and cow specimens were classified into different element categories. The number of identified specimens (NISP) of each element was recorded for both pig and cow.

NISP was recorded for these specimens despite the fact that there are problems associated with the use of NISP as a measure of abundance (Grayson 1984). One major problem is the potential interdependence of bone specimens, or the likelihood that two fragments from the same bone will be counted separately and not as a single element. Lyman suggests that the use of another measure, such as the minimum number of each beef cut (MNBC), may circumvent the problems associated with NISP. However, there are also problems which can result from the use of measures such as MNBC or minimum number of individuals (MNI). A primary problem is the fact that MNBC and MNI can be calculated in a variety of different ways. When using data from different analysts, it is very difficult to find assemblages which have been quantified in identical ways. Since the initial identifications were performed by four different analysts, it was decided that it would not be feasible to try to reconstruct numbers of meat cuts from the available data. NISP is a straightforward measure of abundance which can be used to compare assemblages with a certain degree of confidence. For these reasons, NISP is used as the measure of abundance in this analysis.

Sus elements are quantified by site in Table 6.1. The assemblages from the Hermitage stand out in comparison with the other sites by reflecting a clear pattern of whole body representation. All of the different element groups (except the radius in the Hermitage domestic slave sample) are well represented in both assemblages. The other six assemblages, including coastal and inland, planter and slave contexts, are dominated mostly by elements of the head and feet while the meatier portions of the legs and body are only sparsely represented. The planter deposits from Cannon's Point do not differ greatly from the Cannon's Point, Kingsley or Mabry slaves.

It should also be noted that isolated teeth are the most abundant elements in six of the eight Sus assemblages. In the other two Sus assemblages, isolated teeth are the second most abundant element category. The great abundance of this element category is probably related to the extraordinary identifiability of Sus dental fragments. Very small fragments of pig teeth can often be identified and this could easily inflate NISP in the isolated teeth element category.

Bos elements were quantified in Table 6.2. Beef specimens were not heavily represented in any of the assemblages, but they appear to be

Table 6.1 Distribution of *Sus* Elements in the Samples

Element/Group	MS	MP	CS	CP	K3	K6	HY	HK
Cranial fragments	7	4	1	3	1	3	9	107
Mandibular fragments	7	10			2		5	28*
Isolated teeth	11	19	48	25	52	54	49	131
Cervical vertebrae							2	29
Thoracic vertebrae							9	32
Lumbar vertebrae							8	29
Caudal vertebrae							1	3
Vertebrae indeterminate			1	1			21	79
Ribs and Sternum			1	3			68	162
Scapula		1	1				4	6
Pelvis (incl sacrum)					1		10	11
Humerus				1		5	11	9
Radius		1	2					7
Ulna				1		2	7	16
Femur	1			1		1	7	20
Tibia and Patella	1			5	1	1	9	24
Fibula	1		3				10	19
Carpals/Tarsals		1	2	5	2	1	6	26
Metapodials	1			2	9	8	14	67
Phalanges and Sesamoids	1	2	1	14	4	20	30	97
Total	30	38	60	61	72	95	280	902

Note: MS= Mabry slaves, MP= Mabry planter, CS= Cannon's Point slave, CP= Cannon's Point planter, K3= Kingsley cabin 3, K6= Kingsley cabin 6, HY= Hermitage domestic cabin, HK= Hermitage field cabin

Note: column values represent NISP
*includes 1 hyoid bone

Table 6.2 Distribution of *Bos* Elements in the Samples

Element/Group	MS	MP	CS	CP	K3	K6	HY	HK
Cranial fragments	2	1	1	3			2	
Mandibular fragments							2	
Isolated teeth	2		3	2	11	2	14	
Cervical vertebrae				1				2
Thoracic vertebrae	1		1					3
Lumbar vertebrae							2	
Caudal vertebrae								
Vertebrae indeterminate			4				2	1
Ribs and Sternum	5	1	2	10			3	3
Scapula			1	4				
Pelvis (incl sacrum)			1	2			3	
Humerus							2	
Radius		1		2				
Ulna				1				
Femur	1			1	2	1	4	
Tibia and Patella				4			1	1
Carpals/Tarsals				2			2	2
Metapodials				1		1		
Phalanges and Sesamoids				6			7	2
Total	11	3	13	39	13	4	44	15

Note: MS= Mabry slaves, MP=Mabry planter, CS= Cannon's Point slaves, CP= Cannon's Point planter, K3= Kingsley cabin 3, K6= Kingsley cabin 6, HY= Hermitage domestic cabin, HK= Hermitage field cabin

Note: column values represent NISP

slightly more common in the Cannon's Point planter and the Hermitage domestic slave assemblages. No elements were clearly more abundant than the others, although isolated teeth and rib fragments were a bit more frequent than other elements.

All of the identified pig and cow specimens from each assemblage were quantified according to the meat yield of the particular element. Due to the nature of the plantation economy, where most domestic animals were home grown and butchered, the units of analysis are not based on nineteenth century butchery units and ranking of the units do not correspond to market values of that period. Instead, the units of analysis are based on the meat yield of the different pig and cow elements. While the marrow and grease content of these bones was very important from a nutritional standpoint, analysis of those factors was beyond the scope of this study.

All elements from the pig and cow skeletons were assigned to one of three ordinal categories which correspond to the element's relative meat yield. These three categories comprise the analytical units used in this analysis and are referred to as Low, Middle and High meat yield categories. Every identified element from each of the two species was then assigned to one of these three categories. The same classification scheme was used for both pig and cow despite the differing cultural attitudes toward the two species. This was done because the purpose of this analysis is to discern if different status groups used skeletal portions differently in patterns which correspond to the meat yield of a particular portion.

The three categories used here were defined following the work of Lisa O'Stein (Garrow and Wheaton 1986) on the fauna from the Oxon Hill Plantation in Maryland. The High meat yield portions include the loin (lumbar vertebrae), pelvis (innominate), upper legs (femur and humerus), and rib cage (thoracic vertebrae, ribs and sternum). The Medium meat yield portions include the neck (cervical vertebrae), fore and hind shanks (radius, ulna, tibia and fibula on the pig), head and jaw (cranium and mandible). The Low meat yield category includes all elements of the feet (carpals and metacarpals, tarsals and metatarsals, and all phalanges).

The Kolmogorov-Smirnov two sample test was used to compare differences in frequency and distribution of the three different meat yield categories between assemblages. This test was chosen because it allows comparisons of samples from different populations and it is good for classificatory data which are ranked but the exact differences between categories are unknown. While there are differences in the meat yield of the three categories, the exact meat yield of each category was not quantified. Like all nonparametric tests, the Kolmogorov-Smirnov test provides probability statements which are the exact probability that the results of the test were due to chance (Siegel 1956:32).

Two series of Kolmogorov-Smirnov tests were performed to determine if any significant differences between assemblages occur, and if so where the differences occur. In Series 1, all element groups were assigned to one of the three meat yield categories. In Series 2, the isolated teeth element group was excluded in order to determine if this potentially inflated group was a major influence in the results of the Series 1 tests. In both the first and second series, a test was performed on every combination of the different Sus assemblages, and then on every combination of the different Bos assemblages.

Series 1 Test Results

Only six of the twenty-eight tests using Sus data were significant at the .10 level of significance (Table 6.3). Four of these tests

TABLE 6.3 Results of Komolgorov-Smirnov Two Sample Tests: Sus Data, Series 1

Comparison	DMax	Probability
MS vs MP	0.0123	1.0000
MS vs CS	0.0158	1.0000
MS vs CP	0.2833	0.3401
MS vs K3	0.1417	0.9895
MS vs K6	0.2386	0.7464
MS vs HY	0.4184	0.5205
MS vs HK	0.2935	0.9992
MP vs CS	0.0281	1.0000
MP vs CP	0.2711	0.1932
MP vs K3	0.1294	0.9710
MP vs K6	0.2263	0.5763
MP vs HY	0.4254	0.2591
MP vs HK	0.3005	0.9872
CS vs CP	0.2992	0.0081*
CS vs K3	0.1575	0.4898
CS vs K6	0.2544	0.0896*
CS vs HY	0.4178	0.0305*
CS vs HK	0.2930	0.8173
CP vs K3	0.1417	0.6107
CP vs K6	0.0447	1.0000
CP vs HY	0.3684	0.0703*
CP vs HK	0.2435	0.9378
K3 vs K6	0.0969	0.9192
K3 vs HY	0.4378	0.0031*
K3 vs HK	0.3130	0.5359
K6 vs HY	0.3886	0.0006*
K6 vs HK	0.2637	0.4388
HY vs HK	0.1249	0.2699

Note: MS= Mabry slave, MP= Mabry planter, CS= Cannon's Point slave, CP= Cannon's Point planter, K3= Kingsley slave cabin W-3, K6= Kingsley slave cabin W-6, HY= Hermitage domestic slave, HK= Hermitage field slave

* significant at the level .10

involved the data from the Hermitage domestic slave cabin assemblage. This assemblage was significantly different than all four of the coastal assemblages including the planter assemblage from Cannon's Point. It was not significantly different than either of the Mabry assemblages, nor was there a significant difference between the domestic and field slave assemblages from the Hermitage. The remaining two significant tests involved the slave assemblage from Cannon's Point. This assemblage was significantly different from the planter assemblage at Cannon's Point and also from the slave assemblage from Kingsley cabin W-6.

Only one of the twenty-eight tests using the beef data were significant at the .10 level of significance (Table 6.4). The Cannon's Point planter assemblage was significantly different than the assemblage from Kingsley cabin W-3. Three other tests which very close to this level of significance included the tests between the Mabry slaves and both of the Kingsley slave cabins and the test between Cannon's Point planter and Kingsley cabin W-6.

Eight histograms were created to provide a visual representation of these differences in skeletal portion representation in the different Sus and Bos assemblages. These histograms portray an ordinal ranking of the data in terms of low, middle and high yield meat cuts. The distributions for both series of tests appear on the same page to facilitate comparison of results between the two series of tests. These graphs facilitate a comparison of the different portions of pork and beef which are represented in the various diets and indicate where the differences between assemblages occur.

The histograms which show the distribution of pork cuts in Figures 6.1, 6.2, 6.3, and 6.4 reveal a trend which is common to all of the assemblages except one. Seven of the eight distributions, including

TABLE 6.4 Results of Komolgorov-Smirnov Two Sample Tests: *Bos* Data, Series 1

Comparison	DMax	Probability
MS vs MP	0.3030	0.3417
MS vs CS	0.0808	1.0000
MS vs CP	0.2308	0.9969
MS vs K3	0.4825	0.1325
MS vs K6	0.3864	0.1364
MS vs HY	0.3030	0.9526
MS vs HK	0.2857	0.7489
MP vs CS	0.2222	1.0000
MP vs CP	0.2308	1.0000
MP vs K3	0.1795	1.0000
MP vs K6	0.2500	0.9999
MP vs HY	0.2143	1.0000
MP vs HK	0.2857	1.0000
CS vs CP	0.2308	0.9997
CS vs K3	0.4017	0.4775
CS vs K6	0.3056	0.5234
CS vs HY	0.2222	0.9999
CS vs HK	0.2857	0.8807
CP vs K3	0.2821	0.0149*
CP vs K6	0.1859	0.1545
CP vs HY	0.1026	0.9842
CP vs HK	0.0641	0.9997
K3 vs K6	0.2500	0.5010
K3 vs HY	0.2143	0.9954
K3 vs HK	0.3462	0.3621
K6 vs HY	0.0833	1.0000
K6 vs HK	0.2500	1.0000
HY vs HK	0.1667	0.3169

Note: MS= Mabry slave, MP= Mabry planter, CS= Cannon's Point slave, CP= Cannon's Point planter, K3= Kingsley slave cabin W-3, K6= Kingsley slave cabin W-6, HY= Hermitage domestic slave, HK= Hermitage field slave

* significant at the level .10

those from both planter and slave assemblages, are dominated by middleyield meat cuts. In all except one of these seven assemblages, low yield cuts are the second most abundant. The Hermitage domestic slave assemblage was the only one to have more high than low yield portions.

The Hermitage domestic slave assemblage exhibits a distribution which differs from all other assemblages and this difference probably explains the results of the significant Kolmogorov-Smirnov tests (Figure 6.1). This is the only assemblage in which the abundances of the different pork portions increase from low to high. In this one assemblage, there were more high yield meat portions than either middle or low portions.

The pork distributions from Cannon's Point also yielded some interesting results. The test between the planter and slave assemblages indicated a significant difference between the two. Interestingly, both assemblages were dominated by middle yield portions; the difference between the assemblages lies in the proportions of low and high yield portions (Figure 6.2). The slave assemblage was comprised mainly of middle portions and low and high portions were represented only minimally. The planter assemblage had mostly middle yield portions, followed by a good number of low yield portions, and finally a few high yield portions.

Another test revealing a significant difference between Sus assemblages was between the Cannon's Point slaves and Kingsley cabin W-6. The difference here appears to lie in the abundance of low yield portions. The slave assemblage at Kingsley had a much greater abundance of low yield portions than did the slaves assemblage from Cannon's Point.

Both slave assemblages from Kingsley revealed a similar pattern

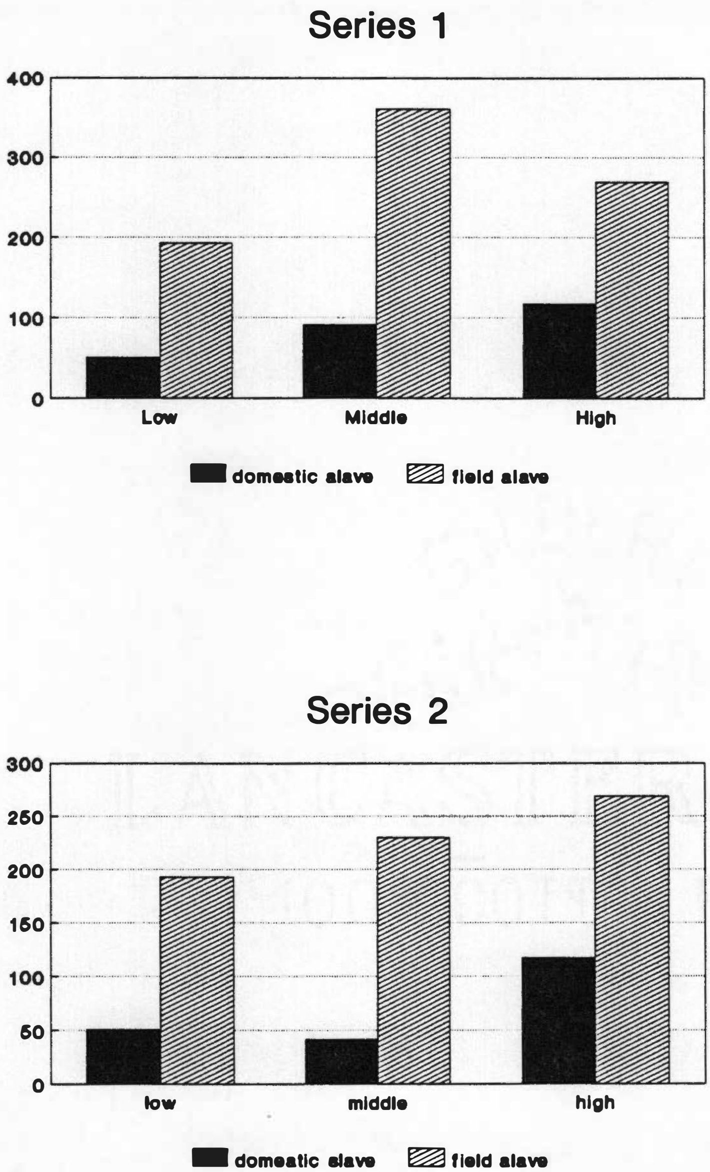


Figure 6.1 Distribution of _Sus_ Carcass Portions in the Hermitage slave cabin assemblages.

Note: values are percentage of NISP

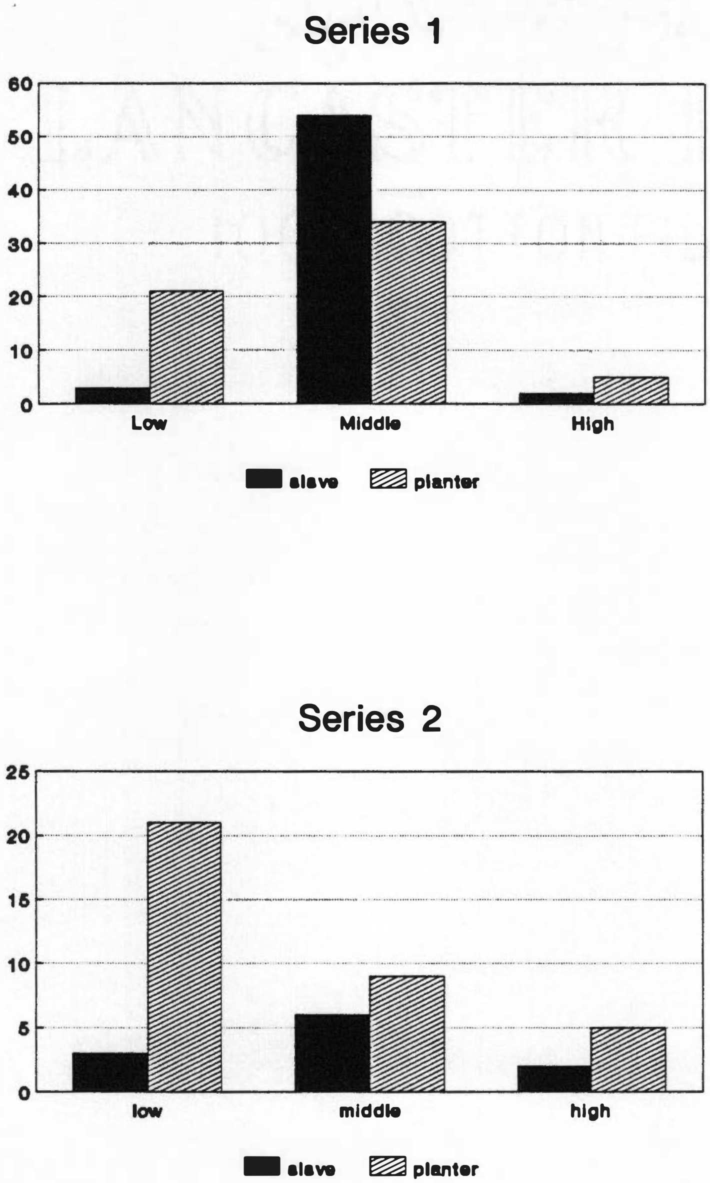
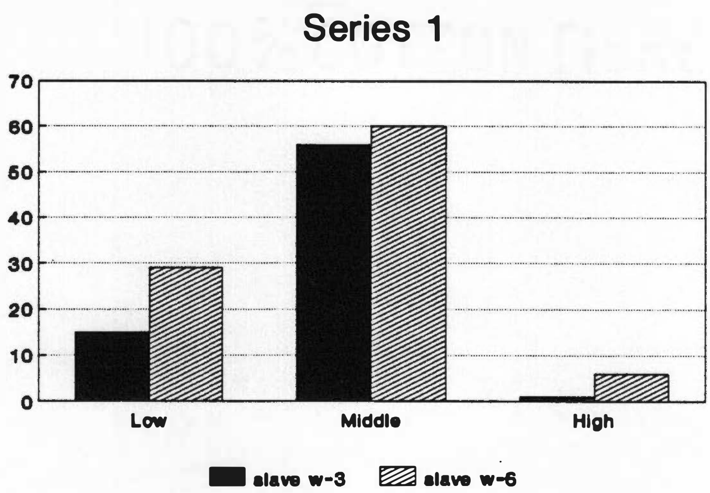


Figure 6.2 Distribution of <u>Sus</u> Carcass Portions in Cannon's Point Plantation assemblages.

Note: values are percentage of NISP



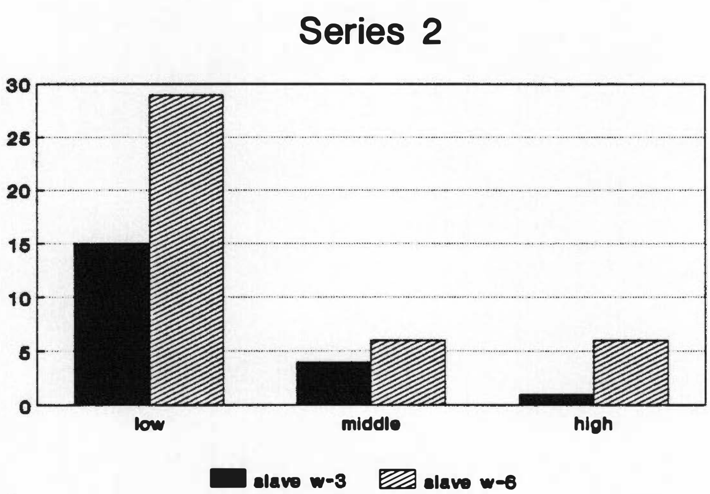


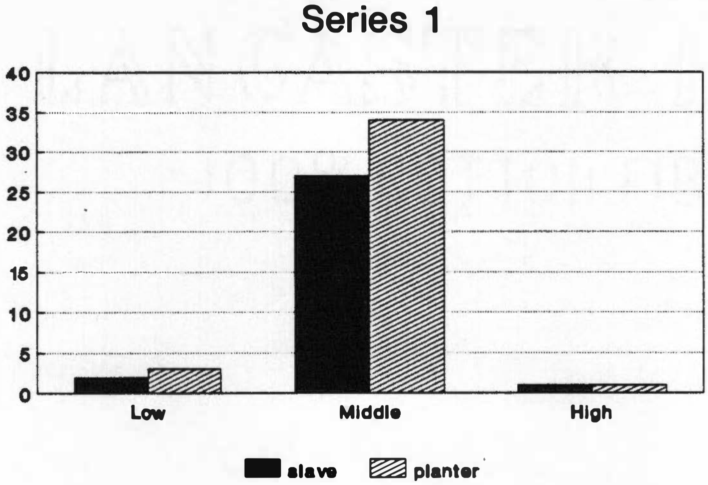
Figure 6.3 Distributions of Sus Carcass Portions in the Kingsley Plantation slave cabin assemblages.

Note: values are percentage of NISP

(Figure 6.3). Middle yield portions, mostly from the head, dominated the assemblages and low yield elements of the feet were the next most abundant. High yield portions were rare in both assemblages but they were a bit more common in the Kingsley W-6 sample. Similarly, both the planter and slave assemblages from the Mabry plantation were dominated by middle yield portions while both low and high yield portions were rare (Figure 6.4). At Mabry, there was no significant difference between the planter and slave assemblages.

Histograms diagraming the distribution of beef cuts in the assemblages indicate that beef carcass utilization was much more variable than was pork use. The planter assemblage from Cannon's Point was the only one in which the distribution showed a decrease in abundance from high down to low yield portions (Figure 6.5). This may explain why a test involving this planter assemblage was the only test which revealed a significant difference. The slave sample from Cannon's Point had about equal numbers of middle and high yield portions but low yield portions were not represented.

The histogram for the assemblages from Kingsley (Figure 6.6) shows that cabin W-3 had quite a few middle yield portions and only a few of high yield while the assemblage from cabin W-6 had low numbers of all three categories. Both assemblages from the Hermitage (Figure 6.7) were similar in that all three categories were fairly well represented, though the beef assemblage for the domestic slaves was considerably larger than the assemblage from the field quarters. The Mabry samples were interesting because the slave assemblage had a greater abundance of beef cuts than the planter assemblage (Figure 6.8). While neither assemblage had any low yield portions, the slave assemblage actually had more high than middle yield portions and the planter assemblage only had a few middle and even fewer high.



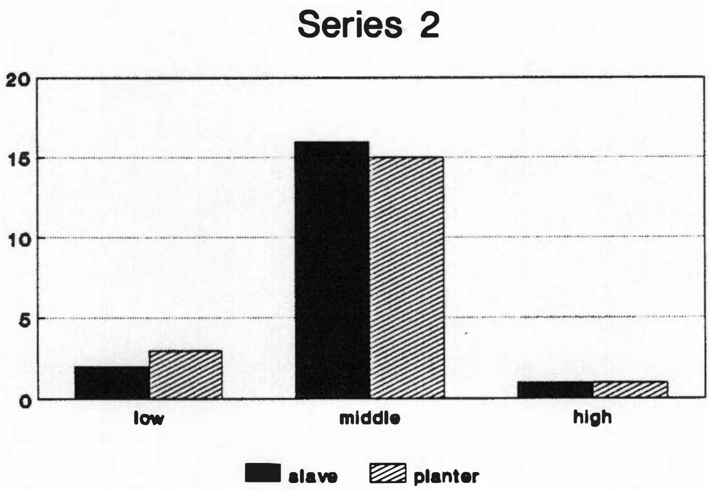
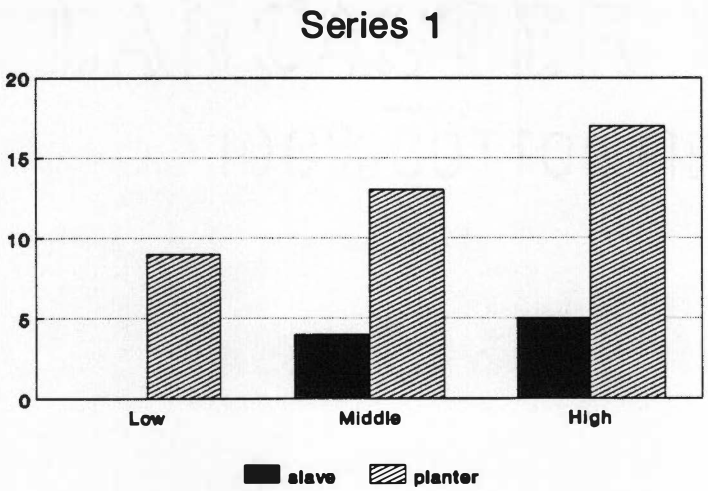


Figure 6.4 Distribution of Sus Carcass Portions in the Mabry Plantation assemblages.

Note: values are percentage of NISP



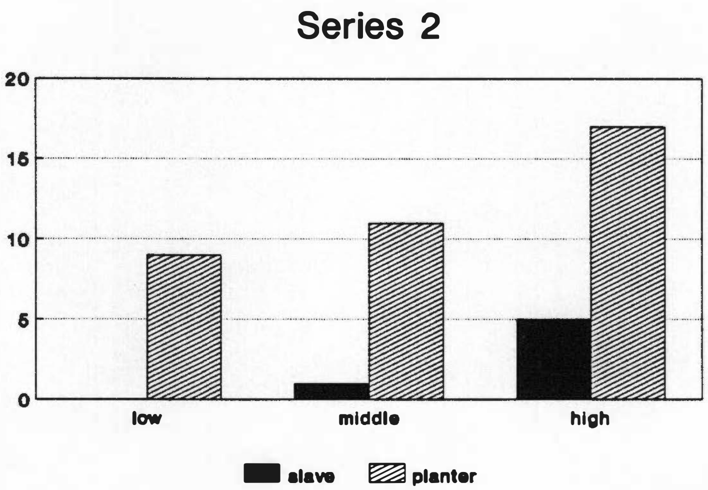
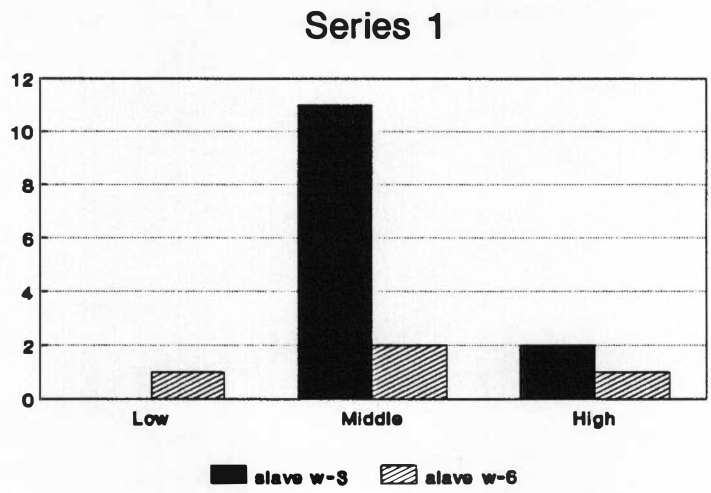


Figure 6.5 Distribution of Bos Carcass Portions in the Cannon's Point Plantation assemblages.

Note: values are percentage of NISP



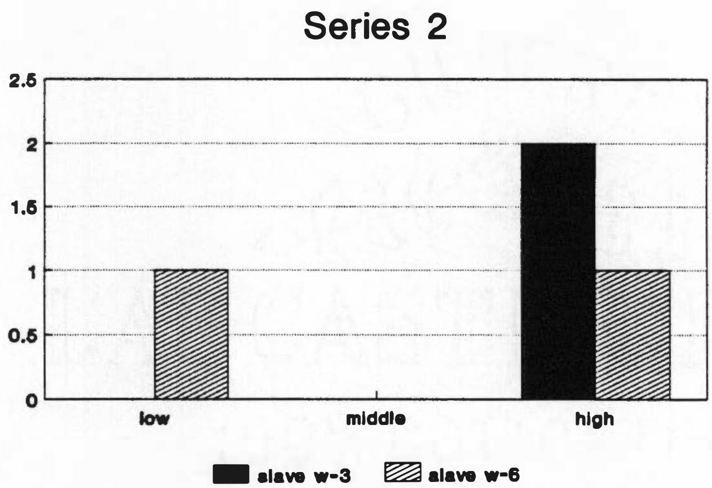
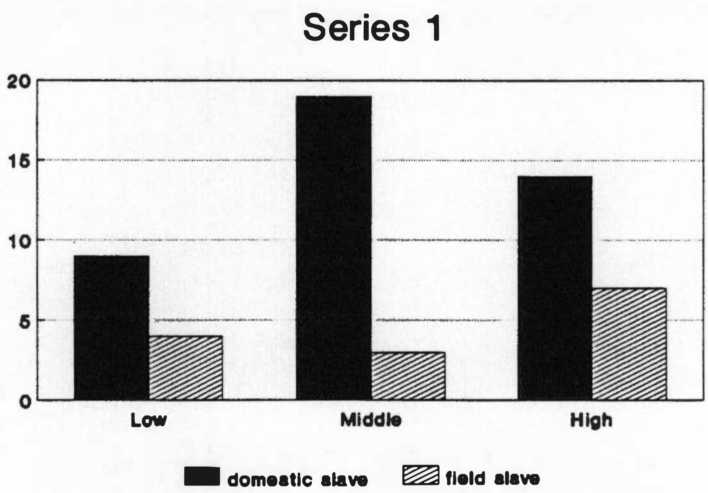


Figure 6.6 Distribution of Bos Carcass Portions in the Kingsley slave cabin assemblages.

Note: values are percentage of NISP



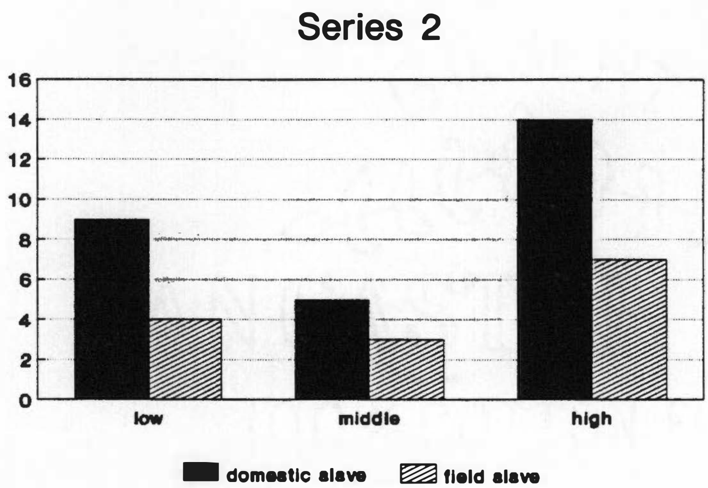


Figure 6.7 Distribution of Bos Carcass Portions in the Hermitage slave cabin assemblages.

Note: values are percentage of NISP

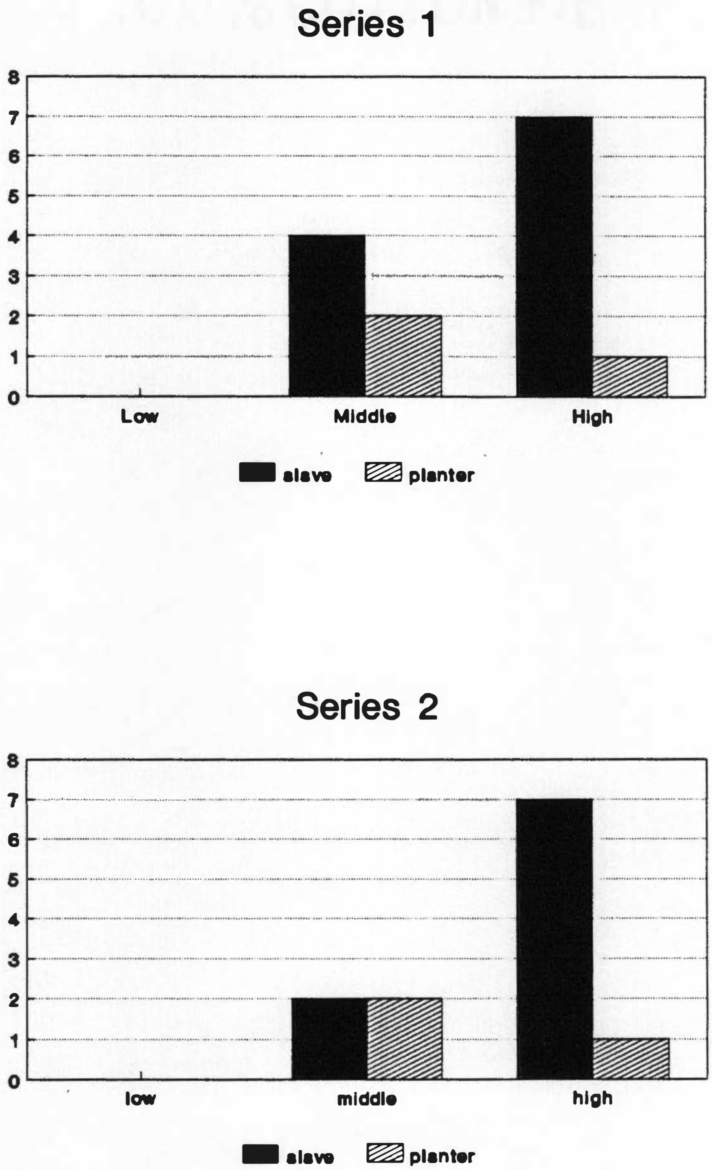


Figure 6.8 Distribution of <u>Bos</u> Carcass portions in the Mabry Plantation assemblages.

Note: values are percentage of NISP

Series 2 Test Results

The results of the tests run in the second series were substantially different than the results of the Series 1 tests. Seven of the twenty-eight tests involving the *Sus* data were significant at the .10 level, but only one of these seven tests involved a pair of assemblages which were also significantly different in the Series 1 tests. Five pairs of assemblages which were significantly different when the isolated teeth category was included are no longer significant when this category is excluded from the analysis, and six new pairs of assemblages which were not significantly different before, are now. These results indicate that the isolated teeth element category was indeed a major influence on the results of the Series 1 tests involving the *Sus* data.

Seven of the twenty-eight Series 2 tests using the *Sus* assemblage data were significant. The results of this series of Komolgorov-Smirnov tests appear in Table 6.5.

Only one pair of assemblages were significantly different in both the Series 1 and Series 2 tests. This test involved data from the Hermitage domestic slaves and Kingsley slave cabin W-6. In Series 2, the Hermitage domestic assemblage had mostly high yield portions followed next by low yield and finally by middle yield portions (Figure 6.1). This pattern differed from the Kingsley W-6 assemblage which had mostly low yield elements and only a few middle and high yield elements (Figure 6.3). Though this pair of assemblages was significantly different in both series of tests, the distributions of the meat yield portions differed considerably.

The other six tests which were significant in Series 2 *Sus* tests all involved data from the Mabry assemblages. Both the Mabry planter

TABLE 6.5 Results of Komolgorov-Smirnov Two Sample Tests: *Sus* Data, Series 2

Comparison	DMax	Probability
MS vs MP	0.0526	1.0000
MS vs CS	0.1675	0.8558
MS vs CP	0.4947	0.0496*
MS vs K3	0.6447	0.0004*
MS vs K6	0.6021	0.0139*
MS vs HY	0.5045	0.6471
MS vs HK	0.3361	0.9999
MP vs CS	0.1292	0.9808
MP vs CP	0.4421	0.1044*
MP vs K3	0.5921	0.0015*
MP vs K6	0.5494	0.0319*
MP vs HY	0.5045	0.6471
MP vs HK	0.3361	0.9999
CS vs CP	0.3273	0.8744
CS vs K3	0.4773	0.2424
CS vs K6	0.4346	0.6332
CS vs HY	0.3753	0.9988
CS vs HK	0.2069	1.0000
CP vs K3	0.1500	0.6619
CP vs K6	0.1073	0.9884
CP vs HY	0.4143	0.2738
CP vs HK	0.3211	0.9740
K3 vs K6	0.0963	1.0000
K3 vs HY	0.5071	0.5904
K3 vs HK	0.4711	0.9759
K6 vs HY	0.4645	0.0765
K6 vs HK	0.4284	0.6587
HY vs HK	0.1684	0.1120

Note: MS= Mabry slave, MP= Mabry planter, CS= Cannon's Point slave, CP= Cannon's Point planter, K3= Kingsley slave cabin W-3, K6= Kingsley slave cabin W-6, HY= Hermitage domestic slave, HK= Hermitage field slave

* significant at the level .10

and slave assemblages (Figure 6.4) were significantly different than the Cannon's Point planter assemblage and both of the slave assemblages from the Kingsley plantation. Only the two Mabry assemblages and the Cannon's Point slave assemblage maintained the pattern of middle meat yield dominance which had characterized seven of the eight assemblages in Series 1 (Figure 6.2 and 6.4). This middle yield dominance now causes the two Mabry assemblages to differ from the other three which all decrease in abundance from low down to high yield portions.

The Series 2 tests using the Bos data were not substantially different than the Series 1 tests although there were a few additional tests which proved significant (Table 6.6).

The one test which was significant in Series 1 was also significant in Series 2 even though the distribution of carcass portions was changed by the exclusion of the isolated teeth element category. This test involved data from the Cannon's Point planter assemblage and from Kingsley slave cabin W-3. The planter assemblage from Cannon's Point exhibits a pattern in which the abundances of the different portions decrease from high down to low yield portions. In Series 1, this Kingsley assemblage was dominated by middle yield portions, but the middle yield category was emptied when the isolated teeth element group was excluded. While both of the assemblages now have mostly high yield portions, the difference between the two appears to lie in the fact that there are no middle or low yield portions in the Kingsley assemblage. The Cannon's Point planter assemblage also differed from the other Kingsley slave cabin assemblage. In this Kingsley assemblage there were both low and high yield portions but there were none in the middle yield category (Figures 6.5 and 6.6).

The Mabry slave assemblage was involved in the other two tests which were significant. Like the Cannon's Point planter assemblage, the

TABLE 6.6 Results of Komolgorov-Smirnov Two Sample Tests: <u>Bos</u> Data, Series 2

Comparison	DMax	Probability
MS vs MP	0.4444	0.0985*
MS vs CS	0.0556	1.0000
MS vs CP	0.3183	0.9717
MS vs K3	0.2222	0.8093
MS vs K6	0.5000	0.0322*
MS vs HY	0.3214	0.9343
MS vs HK	0.2857	0.8807
MP vs CS	0.5000	0.8438
MP vs CP	0.2432	1.0000
MP vs K3	0.6667	0.2401
MP vs K6	0.5000	0.5906
MP vs HY	0.3214	1.0000
MP vs HK	0.2857	1.0000
CS vs CP	0.3739	0.9922
CS vs K3	0.1667	0.9986
CS vs K6	0.5000	0.1442
CS vs HY	0.3333	0.9948
CS vs HK	0.3333	0.9539
CP vs K3	0.5405	<0.000*
CP vs K6	0.2568	0.0157*
CP vs HY	0.0782	0.9992
CP vs HK	0.0425	1.0000
K3 vs K6	0.5000	0.8438
K3 vs HY	0.5000	0.9978
K3 vs HK	0.5000	0.9945
K6 vs HY	0.1786	1.0000
K6 vs HK	0.2143	1.0000
HY vs HK	0.0357	1.0000

Note: MS= Mabry slave, MP= Mabry planter, CS= Cannon's Point slave, CP= Cannon's Point planter, K3= Kingsley slave cabin W-3, K6= Kingsley slave cabin W-6, HY= Hermitage domestic slave, HK= Hermitage field slave

* significant at the level .10

Mabry slave assemblage exhibited a pattern in which the abundances of meat yield portions decreased from high down to low. The Mabry planter assemblage differed because it had mostly middle yield, a few high yield and no low yield portions (Figure 6.8). Kingsley slave cabin W-6 differed because this assemblage had a few low and high yield portions and no middle yield portions.

Discussion

This analysis of differential skeletal portion utilization was conducted to determine if there are indeed patterns in the use of domestic animal portions which correspond to status differences. Supposedly, the status of a group or person will greatly effect their access to food resources. Indeed, this differential access is considered to be a defining characteristic of stratified society (Fried 1967). If this is the case, then clearly there should be distinct differences in plantation diet which correspond to the differing social statuses of planters and slaves.

Rather than indicating distinct differences between planter and slave assemblages, all of the assemblages indicate a much greater dependence on pig than on cow, and this trend is common throughout the southeast (Reitz 1987). This is probably due to the fact that pigs required less maintenance than cows and were often able to forage for food on their own.

The distributions of pork in the planter and slave assemblages at Cannon's Point were different but not as suggested by Otto (1984). He indicates a pattern whereby the planter assemblage was dominated by high cuts such as steaks and roasts, but this pattern is not supported by the analysis presented here. These data suggest that middle and low yield *Sus* portions were much more common in planter diet than the high yield steaks and roasts.

Otto also indicated that slave diet consisted mostly of low cuts such as heads and feet and these data do seem to support this idea. Though isolated teeth were the most abundant elements in the slave assemblage, portions in the middle yield category were still more abundant than in the low and high yield categories even when the isolated teeth element category was excluded in the Series 2 tests. While Otto considered the head to be a low quality portion, it was classified in the middle yield category for this analysis. Thus, the slave Sus assemblage from Cannon's Point does seem to conform to the pattern described by Otto while the planter Sus assemblage does not.

There were no significant differences in the planter and slave Bos assemblages from Cannon's Point. In both Series 1 and Series 2, both Bos assemblages decreased in abundance from high down to low yield portions.

At Mabry, there was no significant difference between the planter and slave Sus assemblages; both assemblages were dominated by middle yield portions in both the Series 1 and the Series 2 tests. However, the Mabry test using Bos data was significant at the .10 level. The Bos data suggest that the slaves at Mabry utilized more higher yield beef portions than did the Mabry's themselves. While the Mabry's may have been distributing these high quality portions of beef, it is more likely that the slaves were raising domestic animals on their own. If the Mabry slaves did have any control over the portions they consumed, it would have been most practical for them to choose these high quality portions in order to maximize their returns.

While there was no significant difference in portion distribution between the Sus assemblages from the two Hermitage slave contexts, it is interesting how much more abundant pork was in the field slave assemblage than it was in the domestic slave assemblage. Pork was also much more abundant in the two Hermitage assemblages than it was in any of the other assemblages. This abundance may indicate that the Hermitage slaves were raising and butchering pigs quite extensively.

Though the tests involving the Hermitage Bos assemblages were not significant at the .10 level, it is still important to note that high yield beef portions dominated the distribution and were as abundant in the Hermitage domestic slave cabin assemblage much as they were in the Cannon's Point planter assemblage. The greater abundance of beef in these two assemblages is some evidence that the use of beef was associated with higher status groups or was more accessible to groups with higher status. Beef was harder to preserve than pork and thus the greater presence of it on these two sites is potentially meaningful. Clearly the planter at Cannon's Point was better able to access this difficult resource. The domestic slaves at the Hermitage may have had better access to it because of their association and proximity to the Jackson mansion.

If status was indeed causing differences in access, then one might expect the Mabry planter assemblage to also have a greater abundance of beef. That this was not the case, may be another indication that slave and planter life at the Mabry site was more equitable than it was on coastal plantations such as Cannon's Point.

Neither the Sus nor the Bos assemblages from the two Kingsley slave contexts were significantly different from each other, suggesting that both groups of slaves had equal access to plantation meat resources.

The results of the tests run in the second series were substantially different than the results of the Series 1 tests; however, there are some trends which are apparent whether the isolated teeth element category is used or not. An important pattern which seems to emerge from this analysis is that the diet of the various status groups was not vastly different in terms of the carcass portions which were utilized. Clearly, the middle yield carcass portions were a substantial part of both planter and slave diet.

The distribution of pork portions appear to contradict the pattern of differential usage described by both Otto and Fairbanks, but the distribution of beef portions lends better support to the idea. The use of beef provides some evidence to support the idea that higher status or association with those of higher status, may effect one's ability to acquire high investment food resources. These data also seem to support the notion of a distinct upper south plantation pattern in which planter and slave subsistence patterns are more equitable than they are on coastal plantations.

CHAPTER 7

SUMMARY AND CONCLUSIONS

Archaeologists have identified patterns in the archaeological record of plantation sites which they attribute to the status differences of the plantation inhabitants; however, most of these investigations have been restricted to the coastal areas of the deep South. This thesis compared eight faunal assemblages from four plantations, two coastal and two inland contexts, in order to investigate whether inland plantations exhibit the same patterns which have been identified on coastal plantations.

Faunal assemblages from coastal plantations have revealed a fairly consistent pattern in which a lot of wild species of animals from a wide variety of habitats are represented. There are also consistent differences noted between planter and slave assemblages. Slave assemblages contain a lower diversity of species than planter assemblages although both seem to exploit most of the habitats which are locally available. Slave assemblages are also dominated by head, back and foot portions of pig and cow while planter assemblages are comprised of meatier portions such as steaks, roasts, hams and chops (Fairbanks 1984).

The diversity program used here indicated that there was no significant difference in species diversity between planter and slave assemblages at Cannon's Point. There was also no significant difference in diversity between the two coastal sites. The assemblages from both Cannon's Point and Kingsley plantations exhibit a similar pattern of animal group use; people relied most heavily on aquatic animals such as fish and reptiles while mammalian species were used considerably less.

One major difference between the two plantations was the fact that the residents of Cannon's Point relied almost exclusively on fish and reptiles while the Kingsley slaves utilized mammals almost as heavily as fish and reptiles.

Animal group use on inland plantations is practically the opposite of that on coastal plantations. Assemblages from inland plantations are dominated by mammals, while the remains of fish and reptiles are practically non-existent. Neither the Mabry slave assemblage nor the assemblages from the Hermitage had many aquatic species represented, but wild terrestrial species were fairly well represented. Amphibians and birds do not appear to be important resources in either coastal or inland contexts, but when they do occur, domestic birds are the most represented.

This analysis suggests that faunal assemblages from the inland sites do not fit the pattern decribed on coastal plantations. In general, the inland assemblages contained fewer taxa from fewer habitats. Slave assemblages from the coastal plantations were even more diverse than the planter assemblage from the Mabry site. The distinct environmental difference between inland and coastal plantations is probably the key to the differences in subsistence patterns between the two regions. The coastal environment offers a much greater selection of aquatic food resources than do the inland settings. This study suggests that species diversity is probably not a good status indicator when assemblages from differing geographical regions are compared.

Although there was no significant difference in species diversity between planter and slave at Cannon's Point, there was a difference in habitat utilization. Both the planter and slaves procured a variety of animals from most of the habitats which were available, but, the two status groups exploited these habitats to varying degrees. The species represented in the planter assemblage indicate that great time and effort was spent for their procurement. Outlying areas such as sounds, beaches and mainland marshes were heavily exploited in addition to the nearby woodlands, streams and salt marshes. The diversity analysis did not reveal significant differences between planter and slave diet at Cannon's Point, but consideration of habitat exploitation indicates that a significant difference did exist between the two (Otto 1984). The slave assemblage did have a few outlying resources represented but not nearly as many as were present in the planter assemblage.

While resource availability is certainly necessary for exploitation, access or the opportunity to exploit the resources is also necessary. The slaves from Cannon's Point and Kingsley obviously had the opportunity to hunt and fish in a variety of different locations, and this is evidenced by the variety of habitats which they were able to exploit. The slaves from the Hermitage did not seem to have the same degree of opportunity in their subsistence exploits. Numerous aquatic environments were locally available to the slaves at the Hermitage, yet the remains of aquatic resources are practically nonexistent in the Hermitage assemblages.

Differential access to available resources may be related to the type of labor system in use on the particular plantation. Cannon's Point and Kingsley probably operated under the task system while the Hermitage may have utilized gang labor (Larry McKee, personal communication 1993). If so, this would have severely restricted the free time of the Hermitage slaves, and this could easily have caused the differences in diversity and habitat exploitation which are exhibited in the faunal assemblages. The Hermitage slave assemblages indicate that the slaves did not utilize all of the environments which were locally available to them. The use of 1/4" screen size during recovery does not seem to be the cause for the differences in representation of fauna because the Kingsley assemblages were excavated with 1/4" screen size and fish are very well represented in those assemblages. Consideration of the species present in the Hermitage faunal assemblages supports the idea that this plantation employed the gang labor system.

The assemblages from the Mabry Plantation exhibited the lowest diversity of all. This low diversity can probably be explained by a consideration of the local setting of the plantation. A small pond was located on the plantation but this may not have been available for slave use. The next closest water source was a creek approximately one and a half miles away and the Tennessee River was nearly three miles away from the plantation. The distance to the Tennessee and the small size of the other creek could have limited the number of habitats and likewise, the number of species which were available to the residents of the plantation. It should be noted however, that even though the diversity of the Mabry assemblages was low, both planter and slave assemblage composition indicated that wild mammals and birds were procured from the surrounding woodlands and cultivated areas. It is also notable that the planter assemblage from the Mabry site did not contain any wild species which were not present in the slave assemblage. The Mabry planter diet was actually less diverse than the Mabry slave diet, however both groups appeared to have been exploiting the same types of habitats to acquire these resources. This consideration of habitat exploitation at the Mabry Plantation may provide support for the existence of a distinct Upper South pattern. The slaves at Cannon's Point experienced a very diverse diet, but it was not nearly as costly to procure as was the planter diet. When the cost of procurement is considered, there is a distinct difference between planter and slave diet at Cannon's Point. At the Mabry Plantation, this was not the case.

Assemblages from the Mabry Plantation indicate that planter and slave expended about the same amount of effort in their subsistence practices. This difference in habitat exploitation may be explained by the availabilty of aquatic resources, but it may also indicate a difference in planter-slave relations. It may be that slave life at Upper South plantations was more equitable with planter life, at least in terms of diet. This trend may yet appear in other Upland South plantation contexts. A distinct upland pattern may exist, but obviously more work needs to be done on other plantations of the Upland South and on other Upper South plantations such as the Mabry Site.

The analysis of differential skeletal portion utilization was conducted to determine if there are indeed patterns in the use of domestic animal portions which correspond to status differences. All of the assemblages indicate a much greater dependence on pig than on cow, however, this trend is common throughout the southeast (Reitz 1987). Beef was most common in the Cannon's Point planter and the Hermitage domestic slave assemblages. The greater abundance of beef in these two assemblages may be some evidence that the use of beef was associated with higher status groups or was more accessible to groups with higher status. Beef was harder to preserve than pork and thus the greater presence of it in these two assemblages may be meaningful. Clearly the planter at Cannon's Point was better able to access this difficult resource. The domestic slaves at the Hermitage may have had better access to it because of their association with and proximity to the Jackson mansion. If status was indeed causing differences in access to beef, then one might expect the Mabry planter assemblage to also have a greater abundance of beef. This, however, was not the case.

Some have suggested that differential access may be indicated by the portions of domestic animals which are represented in the diets of people with differing status (Schulz and Gust 1983). Archaeological and historical data suggest that higher status people should have diets dominated by high quality portions of both pig and cow (Fairbanks 1984; Otto 1984). The distributions of pork in the planter and slave assemblages at Cannon's Point were different but not as was suggested by Otto (1984). He indicated a pattern whereby the planter assemblage was dominated by high cuts such as steaks and roasts. This analysis of the Cannon's Point data suggests that middle and low yield portions of the pig carcass were much more common in planter diet than the high yield hams and chops. Otto also indicated that slave diet consisted mostly of low cuts such as heads and feet and these data do seem to support this idea. Though isolated teeth were the most abundant elements in the slave assemblage, portions in the middle yield category were still more abundant than in the low and high yield categories even when the isolated teeth element category was excluded in the Series 2 tests. Thus, the slave Sus assemblage from Cannon's Point does seem to conform to the pattern described by Otto while the planter Sus assemblage does not.

At Mabry, there was no significant difference between the planter and slave Sus assemblages; both assemblages were dominated by middle yield portions in both the Series 1 and the Series 2 tests. However, the Mabry test involving Bos data was significant. The Bos data suggest that the slaves at Mabry utilized more higher yield beef portions than did the Mabry's themselves. While the Mabry's may have been distributing these high quality portions of beef, it is more likely that the slaves were raising domestic animals on their own. It is also possible that the planter assemblage from the Mabry Plantation is not well preserved and thus it may not be a good indicator of the Mabry diet. The high numbers of teeth in the assemblage suggest it was poorly preserved or perhaps that the assemblage is dominated by butchery waste.

The distribution of pork portions in the different assemblages appear to contradict the pattern of differential usage described by both Otto and Fairbanks, but the distribution of beef portions does support the idea a bit better. An important pattern which seems to emerge from this analysis is that the diet of the different status groups was not vastly different in terms of the carcass portions which were utilized. Clearly, the middle yield carcass portions were a substantial part of both planter and slave diet. However, there was still some evidence to support the idea that higher status may effect one's ability to acquire higher yield portions. Clearly, more work needs to be done to determine if carcass portions can be a reliable status indicator in the plantation setting.

This study suggests that skeletal portion representation may not be a good status indicator in the plantation setting. Assemblages created where animals are home grown and butchered appear to be fundamentally different than assemblages created in a market system. This study suggests that the geographical location and the labor system of a plantation did more to influence slave life than the social position of the slave in the plantation setting. Species diversity and especially habitat exploitation appear to be much more fruitful avenues of investigation. Additional research should be developed to incorporate data involving plantations which vary economically and geographically so that differences in species use, habitat exploitation and carcass portion utilization can be better understood.

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APPENDIXES

APPENDIX A

FAUNAL REMAINS FROM THE ANTE-BELLUM DEPOSITS AT THE MABRY PLANTATION (40KN86)

Introduction

The Mabry Plantation (40KN86) was situated in Knox County, about 10 miles west of Knoxville, Tennessee. The plantation was owned and operated by the Mabry family from circa 1823 until 1872 when the farm was repossessed because of debt. Prior to the Civil War, however, the Mabry Plantation was a very productive operation. In 1850, the Mabry holdings included over 1200 acres and 18 slaves. Numerous crops were produced such as corn, wheat, sweet potatoes, oat, flax and hay, and various livestock were raised including pigs, cows, horses and sheep (U.S. Agricultural Census, 1850; U.S. Bureau of the Census, 1850). This plantation was an excellent example of what Andrews and Young (1992) have called an Upper South Plantation because of the low number of slaves and the extremely diversified agricultural base.

Phase II and Phase III archaeological work was conducted at the Mabry Plantation between May, 1990 and June, 1991. These excavations uncovered the architectural remains of two slave quarters, and a stratified midden deposit, outbuildings and privies associated with the Mabry family mansion.

One of these slave quarters, Structure 1, was a two pen building approximately 16 ft by 36 ft with a central hearth. A builder's trench, Feature 5, was defined around the perimeter of this hearth. Feature 5 was intruded on the northern edge of the chimney base by a shallow, irregular depression, Feature 20, which was about 2.5 ft by 1.5 ft and about 1 foot deep. Feature 20 may have been a "hidey hole" or some other type of underground storage facility. Both Feature 5 and Feature 20 were overlain by a shallow scatter of refuse around the perimeter of the central hearth. This layer of refuse was designated as Feature 3. A very large root cellar, Feature 1, was identified beneath the western pen of the structure. This cellar was approximately 10 ft. by 10 ft. and the artifacts recovered from it date to the middle of the nineteenth century (McKelwy 1992:7). Other excavations around Structure 1 included a series of 1x1 m units across the area beneath the floor of the building and several lines of shovel test pits around the outer edges of the structure (Hank McKelway, personal communication 1993).

The second slave quarter, Structure 2, was a single pen building approximately 18 ft by 24 ft. This structure had a single end chimney but none of the features associated with the construction of this hearth were defined during excavation. A root cellar, Feature 6, about 4 ft by 6 ft in size was located on the eastern edge of the building (McKelway 1992:7). As with Structure 1, a series of 1x1 m units were excavated across the area which would have been beneath the floorboards of Structure 2 and lines of shovel test pits were excavated around the outside of the building.

Excavations around the main house revealed several different features associated with the Mabry mansion. A stratified midden deposit was located adjacent to the mansion and it yielded artifacts dating from circa 1840 through to the turn of the century (McKelway 1992:10).

Methods

Two different recovery procedures were employed during excavations at the Mabry Plantation. Most of the soil from features, excavation units and shovel tests was water screened through 1/4" mesh, but samples from each feature and from each 1x1 m unit were processed by floatation. Approximately 10 liters of soil were floated from every level of each feature and the midden and from every level of the two lines of excavation units which intersected Structures 1 and 2 (Hank McKelway, personal communication 1993).

This recovery strategy resulted in two different types of faunal samples. While flotation allowed 100% recovery of the faunal specimens contained in the soil samples, the other sample recovered using 1/4" mesh is known to be biased against animals such as small mammals and fish (Thomas 1969). All faunal specimens from each of the samples were size graded through 2", 1", 1/4" and 1/16" nested screens and recombined to create two new samples of specimens. All specimens from float samples which were greater than 1/4" in size were combined with all of the specimens recovered using the 1/4" water screen. Floated specimens less than 1/4" in size were kept separate from the other specimens. This resulted in two samples from the site: one sample of specimens greater than 1/4" in size and one sample of specimens less than 1/4" in size.

All specimens were separated into one of two categories: unidentifiable and identifiable. Unidentifiable specimens were considered to be too fragmentary to be assigned to any category beyond vertebrate or invertebrate. Specimens were considered to be identifiable when a particular skeletal portion was recognizable to at least the class level. All identifiable bones were described to the most specific taxonomic level possible (e.g. class, family, genus or species).

Specimens which could only be assigned to the class level were grouped into one of several indeterminate subcategories which were based on the size of the animal. The large mammal category is composed of animals whose live weight is greater than 30 kg such as pig, cow, horse, sheep or goat. The medium mammal category included animals the size of raccoon, opossum and rabbit while the small mammal category includes animals the size of a squirrel or other small rodent. All indeterminate bird bones were grouped into one category and invertebrate remains were classified as either indeterminate Gastropod or Pelycypod. An additional category was created for the remains of medium sized mammals or birds which could not be assigned to either class.

Elements and element portions were identified, sided and aged when possible, using dental eruption or epiphyseal closure. Several different types of cultural and non-cultural modification were quantified. All specimens were examined for evidence of cooking such as blackening or calcination and all burned specimens were grouped into a single category. Polishing and other specialized working or modification was reported. Evidence of butchery such as cut marks, saw marks, chop marks or individual steak cuts was recorded. Each bone was also inspected for signs of non-cultural modification such as weathering and carnivore and rodent tooth marks. All specimens from each of the different proveniences were counted and weighed to the nearest tenth of a gram.

Taxonomic classifications were made by comparison with Vertebrate Skeletal Comparative Collection housed at the University of Tennessee in Knoxville. Information was recorded using a faunal coding format developed by Sarah Niesius at the Indiana University of Pennsylvania Archaeological Research Center. Data were entered into a database using Paradox 3.5. All faunal specimens are being curated by the University of Tennessee Transportation Center.

Discussion

Antebellum deposits yielded a total of 724 faunal specimens. Structure 1 contained 390 specimens and 165 of them (73.9g) were unidentifiable. Forty-five (19g) of the 110 specimens in Structure 2 were unidentifiable. There were 224 specimens in the antebellum deposits of the stratified midden area and 120 of these (65.2g) were unidentifiable.

Only three of the identified specimens from antebellum deposits came from the less than 1/4" sample. The 1x1m units beneath Structures 1 and 2 yielded one shorttail shrew specimen, one pine vole specimen and one specimen from the house mouse.

Feature 1

Pig and cow were the most commonly identified animals in Feature 1 but goat, rabbit, opossum, groundhog and chicken were also identified. In Feature 1, ten specimens (77.3g) were cut and three were sawn (3.3g). Cut marks were found on pig, goat and rabbit indicating that each of these animals were butchered and probably eaten by the slaves living at the Mabry site. Though the cow, chicken, opossum and groundhog did not exhibit any signs of butchery, it is believed that they also served as food sources. Other cut marks and saw marks were identified on indeterminate animals of both the large and medium size groups.

Only five weathered bones (92.8g) were recovered from the entire site and three of these (16.8g) were from Feature 1 of Structure 1. This may provide some support for the idea that the cellar was back-filled with refuse from yard cleaning. While some small accidental creatures such as the mouse, pine vole and frog were found in the root cellar, there were no terrestrial gastropods in the deposit. The lack of gastropods in the deposit may indicate that there was not a lot time for these animals to accumulate because the cellar was backfilled rather quickly.

Feature 20

A total of 51 specimens was recovered from Feature 20 and most of these were unidentifiable. One pig and one squirrel specimen were identified as were an additional 14 specimens of indeterminate vertebrate species. There was not a lot of bone recovered from Feature 20, and this is probably explained by the fact that the pit, or "hidey hole" was not dug to provide a convenient place to dump the remains of meals.

Feature 20 was filled in while the cabin was in use because there was additional time for refuse to accumulate over top of it. Therefore, it is also possible that some food remains were intentionally dumped in the pit. The few bones which were recovered were very small and fragmentary and could represent food scraps which fell through the floor cracks.

A high number of terrestrial gastropods were recovered from Feature 20. Twenty-four of the fifty-one specimens recovered from the feature came from animals which accumulate naturally in open pit areas. It has been shown that these types of animals are usually able to escape from these pits unless they become buried by deposits which are dumped on them (Whyte 1988:88). Thus it seems that the pit, or "hidey hole" was open for some period of the cabin occupation, but it was then filled in while the cabin was still in use. The gastropods in this feature were probably trapped by the food remains and dirt which were dumped on top of them while the hole was filled in.

Feature 3

Feature 3 was a ring of refuse located around the central hearth of Structure 1. Most of the bone recovered from this feature was either unidentifiable or was small fragments of indeterminate animals or bird eggs. It is likely that most of this bone represents food remains which fell through the cracks between the floorboards and the hearth of

Structure 1.

Feature 5

Feature 5, the builder's trench for the hearth of Structure 1, yielded three bones which should not be associated with the occupation of Structure 1. However, these bones were recovered from units which were intruded by a large tree root, and it is therefore believed that these specimens became mixed with the contents of Feature 5 during the growth of this root.

Structure 1 Floor Units

There was a lot of bone recovered from the units excavated across the area beneath the floor of Structure 1. Pig and chicken were the most abundant animals represented but other food animals such as cow, sheep, rabbit, chipmunk and an indeterminate Pelycypod were also identified. One sheep specimen had been sawn and one rabbit specimen had cut marks. Most of these specimens probably represent food remains which either fell or were swept through the cracks between floorboards. There were also quite a few specimens which probably accumulated by natural causes. These include house mouse, shorttail shrew, pine vole, box turtle, frog, indeterminate gastropods and a single dog tooth. One weathered specimen came from a unit beneath Structure 1 and it could have been deposited there by numerous different activities.

Structure 1 Shovel Tests

There were not a lot of specimens recovered from the shovel tests around the perimeter of Structure 1 but it is not very likely that many specimens would be recovered unless the test pits were placed in a midden area. One rabbit specimen had cut marks and this would seem to indicate that the fauna which were recovered probably do represent food remains which were abandoned or tossed out into the yard area.

Structure 2

Neither the root cellar, Feature 6, nor the shovel tests around the perimeter of Structure 2 yielded very many faunal specimens. There was one sawn specimen from an unidentifiable animal in Feature 6 and 3 unidentifiable specimens in the shovel tests.

The units across the floor area of the structure provided a much better understanding of the diet of the slaves in this cabin. A good variety of animals was represented but not as many as were found in and around Structure 1. Pig, rabbit, chicken, mourning dove and opossum were fairly evenly represented. Both rabbit and indeterminate large mammals exhibited cut marks. There were quite a few indeterminate birds, eggshells and large mammals identified in these units as well as two indeterminate fish bones and an indeterminate Anseriformes. Several different rat and mice species were identified but they are not considered to be food items. Two of the bones found beneath Structure 2 had been chewed by carnivores, and 11 of these 15 bones which had been chewed by rodents came from the 1x1m units located beneath the floorboards of the two slave cabins. These data seem to indicate that dogs and rodents may have been two important agents contributing to the faunal refuse beneath the slave cabins.

Stratified Midden Deposit

Pig was easily the most commonly identified species in the antebellum levels of this deposit. Cow, rabbit, chicken and mourning dove were also represented; however, indeterminate large mammal and medium sized animals clearly outnumbered these other identified specimens. Though there was only one identified chicken element, 22 pieces of eggshell were recovered indicating that eggs may have been an important food source. While this deposit is definitely a dump area associated with the Mabry mansion, the quality of the preservation in the midden is questionable. All but four of the 38 identified pig specimens were teeth. Teeth may be most common because they are hardy elements which survive better than most elements. However, it is also possible that these elements actually represent butchering refuse, in which case this deposit would provide a pretty good indication of the antebellum Mabry diet. This would suggest that the Mabry's relied most heavily on pig, but also supplemented their diet with other wild and domesticated fauna.

A wide variety of animals was recovered from the excavations at the Mabry site and these animals included both wild and domesticated species. Pig, cow, chicken and rabbit were the most abundant but opossum, raccoon, groundhog and squirrel were also present. Very small animals such as the house mouse, shorttail shrew and the pine vole were identified but they are not considered to be food resources.

The diets of both planter and slave appeared to be fairly similar at the Mabry site. Both groups relied heavily on domesticated species but they also supported their diets with various wild species. Pig was the most important animal in the diet of both social groups. The different carcass portions utilized by the two groups were also fairly similar. In both groups, head elements were the most abundant but meatier portions of the leg were also identified.

The fauna from the Mabry site provide an interesting glimpse of diet on an Upper South plantation. While the Mabry site cannot be considered representative of all Upper South plantations, it does provide an opportunity for preliminary interpretations of diet in the upland regions of the south. More work on these types of Upland South plantations needs to be conducted before any patterns associated with life in this part of the South can be identified.

Summary of Identified Specimens

Structure 1, Feature 1

<u>Procyon lotor</u> raccoon NISP=1
- 1 R upper canine

<u>Sus scrofa</u> pig NISP=8
- 2 mandibles, 1L and 1R
- 1 L upper incisor
- 1 L lower canine
- 2 ind. canines
- 1 R femur, cut
- 1 L tibia, cut

<u>Bos taurus</u> cow NISP=9
- 1 upper premolar 1
- 1 indet. molar
- 5 ribs
- 1 thoracic vertebra
- 1 L femur

<u>Capra hircus</u> goat NISP=1
- 1 L innominate, cut

<u>Sylvilagus floridanus</u> E. cottontail rabbit NISP=2
- 1 R humerus, cut
- 1 L tibio-fibula

<u>Didelphis virginiana</u> opossum NISP=1
- 1 R zygomatic

<u>Marmota monax</u> groundhog NISP=1
- 1 R lower incisor

<u>Gallus gallus</u> chicken NISP=3
- 1 indet. vertebra
- 2 tibiotarsae, 1L and 1R

<u>Rana</u> sp. frog NISP=1
- 1 L femur

indet. large mammal NISP=14
- 6 ribs, 2 cut
- 4 diaphyses, 1 cut, 1 sawn
- 1 epiphysis
- 1 lumbar vertebra, cut
- 2 indet. phalanges

indet. small mammal NISP=1
- 1 long bone

indet. mammal/bird NISP=6
- 6 diaphyses, 2 cut

indet. bird NISP=3
- 1 tarsometatarsus
- 1 ulna
- 1 long bone articular surface

indet. turtle NISP=1
- 1 indet. vertebra

Structure 1, Feature 20

<u>Sciurus carolinensis</u> E. gray squirrel NISP=1
- 1 R humerus

<u>Sus scrofa</u> pig NISP=1
- 1 R upper incisor

indet. large mammal NISP=6
2 ribs
1 flat bone
3 diaphyses
indet. small mammal NISP=1
1 humerus
indet. bird NISP=7
1 tarsometatarsus
6 eggshell
indet. Gastropod NISP=24

Structure 1, Feature 3
Microtus pinetorum pine vole NISP=2
1 L mandible
1 maxilla
indet. large mammal NISP=3
3 diaphyses
indet. small mammal NISP=5
1 innominate
1 R femur
2 radius
1 L tibio-fibula
indet. mammal/bird NISP=11
3 diaphyses
7 flat bone
1 rib

indet. bird NISP=11
1 tarsometatarsus
7 sternum
3 eggshell
indet. Gastropod NISP=10

Structure 1, Feature 5
Gallus gallus chicken NISP=1
1 R humerus
indet. large mammal NISP=1
1 diaphysis

Structure 1, shovel tests
Sus scrofa pig NISP=1
1 lower incisor
Sylvilagus floridanus E. cottontail rabbit NISP=1
1 innominate, cut
Sciurus carolinensis E. gray squirrel NISP=1
1 L ulna
indet. large mammal NISP=2
2 diaphyses
indet. small mammal NISP=1
1 metatarsal/metacarpal
indet. mammal/bird NISP=1
1 diaphysis

Structure 1, 1x1m units

- *Sus scrofa* pig NISP=16
  - 1 petrous portion
  - 1 terminal phalanx
  - 1 fibula
  - 1 upper premolar 4
  - 1 lower incisor 2
  - 1 upper canine
  - 1 lower molar 2
  - 1 lower incisor 1
  - 1 upper molar 2
  - 2 indet. incisors
  - 2 indet. canines
  - 3 indet. molar/premolars
- *Bos taurus* cow NISP=2
  - 1 upper molar
  - 1 indet. tooth
- *Ovis aries* sheep NISP=1
  - 1 R humerus, sawn
- *Canis* sp. dog NISP=1
  - 1 L lower molar 1
- *Sylvilagus floridanus* E. cottontail rabbit NISP=4
  - 1 indet. vertebra
  - 1 L mandible
  - 2 tibio-fibulas, 1 cut
- *Tamias striatus* chipmunk NISP=1
  - 1 R radius
- cf. *Didelphis virginiana* opossum NISP=1
  - 1 rib
- *Mus musculus* house mouse NISP=1
  - 1 L mandible
- *Blarina brevicauda* shorttail shrew NISP=1
  - 1 R mandible
- *Microtus pinetorum* pine vole NISP=1
  - 1 R mandible
- *Gallus gallus* chicken NISP=8
  - 2 R scapula
  - 2 R tarsometatarsae
  - 3 humeri, 2L and 1 ind.
  - 1 mandible
- *Terrapene carolina* E. box turtle NISP=1
  - 1 scute
- *Rana* sp. frog NISP=1
  - 1 L tibio-fibula
- indet. large mammal NISP=16
  - 3 flat bones
  - 7 diaphyses
  - 4 ribs
  - 2 ind. teeth
- indet. small mammal NISP=2
  - 2 ribs
- indet. mammal/bird NISP=5
  - 5 diaphyses, 1 cut

indet. bird NISP=7
- 3 eggshell
- 1 ulna
- 1 tibiotarsus
- 2 long bones

indet. Gastropod NISP=13
indet. Pelycypod NISP=1

Structure 2, 1x1m units

<u>Sus scrofa</u> pig NISP=5
- 1 occipital
- 1 metapodial
- 3 indet. teeth

<u>Didelphis virginiana</u> opossum NISP=1
- 1 indet. incisor

<u>Sylvilagus floridanus</u> E. cottontail rabbit NISP=4
- 1 L innominate
- 2 humeri, 1L and 1R (cut)
- 1 R tibio-fibula, cut

<u>Peromyscus</u> sp. mouse NISP=1
- 1 L mandible

<u>Sigmodon hispidus</u> cotton rat NISP=1
- 1 tibio-fibula

Muridae (Old World rats and mice) NISP=1
- 1 R tibio-fibula

<u>Mus musculus</u> house mouse NISP=2
- 2 mandibles

Anseriformes NISP=1
- 1 coracoid

<u>Gallus gallus</u> chicken NISP=3
- 1 scapula
- 2 tarsometatarsae

<u>Zenaida macroura</u> mourning dove NISP=2
- 1 R humerus
- 1 L tarsometatarsus

indet. large mammal NISP=12
- 6 diaphyses
- 1 phalanx
- 1 metapodial
- 1 indet. vertebra
- 1 indet. tooth
- 1 rib, cut
- 2 flat bones, sawn

indet. small mammal NISP=4
- 1 R humerus
- 2 indet. incisors
- 1 indet. molar

indet. mammal/bird NISP=3
- 3 diaphysis

indet. bird NISP=17
- 12 eggshell
- 3 long bones
- 1 furculum
- 1 quadrate

indet. fish NISP=2
indet. Gastropod NISP=4

Stratified midden deposit, antebellum

<u>Sus scrofa</u> pig NISP=38
- 1 R radius
- 1 L scapula
- 1 long bone
- 1 carpal/tarsal
- 1 terminal phalanx
- 1 upper incisor
- 4 lower canines
- 2 upper molar 2
- 1 lower molar 2
- 2 lower incisors
- 1 lower incisor 1
- 3 upper canines
- 1 lower molar 3
- 9 indet. molars
- 9 indet. teeth

<u>Bos taurus</u> cow NISP=3
- 1 rib
- 1 L radius, distal epiphysis
- 1 upper premolar 2

Bovidae, sheep/goat size NISP=1
- 1 R mandible

<u>Sylvilagus floridanus</u> E. cottontail rabbit NISP=3
- 3 metatarsals

<u>Gallus gallus</u> chicken NISP=1
- 1 L scapula

<u>Zenaida macroura</u> mourning dove NISP=1
- 1 R humerus

indet. large mammal NISP=25
- 12 diaphyses
- 3 indet. teeth
- 1 indet. incisor
- 1 scapula
- 5 phalanges
- 1 terminal phalanx
- 1 indet. vertebra
- 1 rib

indet. mammal/bird NISP=8
- 8 diaphyses, 1 cut

indet. bird NISP=22
- 22 eggshell

indet. Gastropod NISP=1

indet. Pelycypod NISP=1

APPENDIX B

SUMMARY OF DATA USED IN ANALYSIS:

NUMBER OF IDENTIFIED SPECIMENS PER GENUS

Genus	MS	MP	CS	CP	K3	K6	HY	HK
Bos	11	3	16	48	13	4	44	15
Sus	30	38	60	61	75	100	280	902
Ovis	1	0	10	63	0	0	17	9
Capra	1	0	0	0	0	0	0	0
Odocoileus	0	0	0	4	6	0	0	1
Procyon	1	0	14	20	41	25	3	0
Didelphis	2	0	32	5	7	28	23	11
Marmota	1	0	0	0	0	0	0	1
Canis	1	0	0	0	0	0	0	0
Mustela	0	0	3	8	0	0	0	0
Sylvilagus	11	3	12	19	0	6	21	12
Tamias	1	0	0	0	0	0	3	1
Sciurus	2	0	0	0	0	0	3	10
Oryctolagus	0	0	4	0	0	0	0	0
Neotoma	0	0	3	2	0	0	0	0
Equus	0	0	0	0	0	0	1	0
Felis	0	0	0	0	0	0	2	0
Microtus	3	0	0	0	0	0	0	0
Mus	3	0	0	3	0	0	0	0
Peromyscus	1	0	0	0	0	0	0	0
Sigmodon	1	0	0	0	0	2	0	0
Rattus	0	0	0	9	3	0	19	113
Gallus	15	1	5	6	7	11	72	99
Meleagris	0	0	0	0	0	0	5	11
Zenaida	2	1	0	0	0	0	0	2
Turdus	0	0	0	0	0	0	2	0
Melanerpes	0	0	0	0	0	0	1	0
Anas	0	0	0	0	0	0	4	0
Branta	0	0	0	0	0	0	4	0
Strix	0	0	0	0	0	0	1	0
Casmerodius	0	0	0	0	0	1	0	0
Rallus	0	0	1	0	0	0	0	0
Culuber	0	0	0	1	0	0	0	0
Trionyx	0	0	2	96	2	0	6	2
Terrapene	1	0	0	0	0	0	0	10
Gopherus	0	0	0	0	101	10	0	0
Malaclemys	0	0	137	918	3	2	0	0
Alligator	0	0	0	5	1	5	0	0
Elaphe	0	0	0	4	1	0	0	0
Chrysemys	0	0	0	39	0	1	0	0
Chelydra	0	0	0	3	0	0	0	0
Kinosternon	0	0	0	5	0	0	0	0

APPENDIX B: (continued)

Genus	MS	MP	CS	CP	K3	K6	HY	HK
Bufo	0	0	0	11	0	0	0	0
Hyla	0	0	2	0	0	0	0	0
Rana	2	0	1	2	0	0	0	0
Dasyatis	0	0	2	45	0	0	0	0
Acipenser	0	0	4	81	0	0	0	0
Lepisosteus	0	0	92	167	0	0	1	0
Arius	0	0	75	265	0	0	0	0
Bagre	0	0	93	305	6	11	0	0
Archosargus	0	0	6	97	25	112	0	0
Bairdiella	0	0	24	20	0	0	0	0
Cynoscion	0	0	10	5	1	2	0	0
Menticirrhus	0	0	7	7	0	0	0	0
Micropogon	0	0	15	17	0	0	0	0
Pogonias	0	0	147	81	21	14	0	0
Sciaenops	0	0	6	5	0	3	0	0
Mugil	0	0	138	75	7	12	0	0
Paralichthys	0	0	15	12	2	3	0	0
Rhinoptera	0	0	0	114	0	0	0	0
Brevoortia	0	0	0	76	0	0	0	0
Caranx	0	0	0	1	0	1	0	0
Chloroscombros	0	0	0	1	0	0	0	0
Leiostomus	0	0	0	4	0	0	0	0
Isurus	0	0	0	0	1	0	0	0
Carcharhinus	0	0	0	0	2	0	0	0
Amia	0	0	0	0	1	0	0	0
Ariopsis	0	0	0	0	5	19	0	0
Elops	0	0	0	0	0	1	0	0
Epinephelus	0	0	0	0	0	1	0	0
Lagodon	0	0	0	0	0	1	0	0
Aplodinotus	0	0	0	0	0	0	1	0
Micropterus	0	0	0	0	0	0	0	1
Ictiobus	0	0	0	0	0	0	1	0

Note: Eight column headings designate eight assemblages: MS= Mabry slaves, MP=Mabry planter, CS= Cannon's Point slaves, CP= Cannon's Point planter, K3= Kingsley cabin 3, K6= Kingsley cabin 6, HY= Hermitage domestic cabin, HK= Hermitage field cabin

VITA

Amy Lynne Young was born on December 18, 1967 in Portsmouth, Virginia. She lived there until she graduated from Churchland High School in June of 1986. During high school, she lettered in softball and basketball, participated in the Villagers Show Choir and was a member of the Virginia Honors Chorus. She was also Vice President of her senior class and a member of the National Honor Society.

In the fall of 1986, Amy started college at University of Virginia in Charlottesville, Virginia where she completed forty-three hours of general studies courses and sang in the University of Virginia Women's Chorus. In January of 1988, Amy transferred to James Madison University in Harrisonburg, Virginia. She achieved a Bachelor's Degree in May, 1990 with a major in Anthropology and a minor in Geology. She graduated Magna cum laude and was a member of the Golden Key National Honor Society.

Amy began graduate school at the University of Tennessee, Knoxville in August 1990 where she focused her studies on zooarchaeology, cultural resource management and the Indians of the Southeast. She received a Department of Anthropology Fellowship in 1991 and was a graduate assistant in the Anthropology Department for the 1992-1993 school year. She achieved her Master's Degree with a Major in Anthropology in August, 1993.