AFRICAN SLAVE SUBSISTENCE: THE FAUNAL REMAINS FROM BRIMSTONE HILL, ST. KITTS

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Archaeological excavations at Brimstone Hill were supported by the Brimstone Hill Fortress National Park Society and the University of Tennessee. Faunal remains from the 1996 and 1997 excavations were transported to the University of Tennessee where they were identified with the aid of modern comparative collections maintained by the Department of Anthropology. The loan of these materials to the University of Tennessee was made possible by the Honorable G. A. Dwyer Asaphan, Minister of Tourism, Culture, and the Environment, St. Kitts; Mr. Larry Armony, Site Manager, Brimstone Hill Fortress National Park; and Mr. Cecil Jacobs, President, Brimstone Hill Fortress National Park Society. Dr. Gerald F. Schroedl, University of Tennessee, serves as Director of the Brimstone Hill Archaeological Project.
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BRIMSTONE HILL, ST. KITTS

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Archaeological investigations on the eastern Caribbean Island of St. Kitts have been initiated by the University of Tennessee to evaluate the role of African slaves in the construction and maintenance of the Brimstone Hill Fortress. The fort was built by the British starting in 1690 and they occupied it until the mid-eighteenth century. During a brief period in 1782 and 1783 the French took over Brimstone Hill. Most of the archaeological fieldwork undertaken by the University of Tennessee has focused on an area just outside the defensive wall in between the Oriflion and Magazine bastions. This area has been designated as BSH 2 and is located on the west side of the Fortress. Based on a 1791 British military engineers map, this area was the location of four buildings used by slaves and "artificers," or slave craftsmen. The association of this area with slave occupation is indicated by the presence of Afro-Caribbean pottery and British manufactured ceramics with geometric patterns scratched on the bases of vessels. These designs are similar to those found in African and North American slave contexts. Temporally diagnostic artifacts date to the late eighteenth century and the faunal remains are well preserved, with small fish scales often being recovered.
During the late seventeenth and eighteenth centuries, many islands in the Caribbean were focused on the growing of sugar cane for export of sugar, molasses, and rum. Little if any land was set aside to provide subsistence for the slaves working in the fields. In 1793 the St. Kitts colonial government enacted a law requiring planters to set aside land to feed their slaves. However, much of the meat for slaves was imported from England and the North American colonies. In 1793, slave owners were required to provide a weekly allotment of "... one pound and one quarter of herring, shad, or mackerel, or other salt provisions, or double the quantity of fresh fish or other fresh provisions...". One significant import used to feed the growing slave population was that of northern Atlantic cod. Most of this cod was termed "refuse" cod, as it was poorly cleaned and preserved and not suitable to be shipped to European markets. It should be noted that some local provisions were being produced. Historical accounts for the area state "Except for Irish beef salted, Ham, Bacon, pickled Salmon, Sturgeon, and Oysters (all of which were brought from Europe and the North American colonies), we breed our own Provisions, such as Rabbits, Pork, Veal, Mutton, Turkeys, Geese, Ducks, and Fowls, except such as are brought from Boston".

Specific historical evidence relating how the British military organized and maintained their African slaves at Brimstone Hill is incomplete at best. It is known that the colonial government had to provide the labor to construct and maintain the military installations and the local plantation owners were to provide
the slaves. Some accounts indicate that the military was then responsible for providing the necessary provisions for the slaves.

FAUNAL REMAINS FROM BRIMSTONE HILL

Faunal remains reported on here were recovered during the 1996 and 1997 field seasons. Approximately 20 cubic meters of deposits were hand excavated, mainly with trowels and dustpans, and dry-screened through one-quarter inch hardware cloth. Field sorting of the artifact classes occurred in St. Kitts, and through arrangements with the Brimstone Hill Fortress National Park Society and the Minister of Culture, Tourism, and Environment, faunal remains were transported to the University of Tennessee zooarchaeological laboratory for identification.

Faunal remains from BSH 2 include 6222 animal bones and bone fragments: 1037 have been modified in the process of artifact manufacture, 1229 are identifiable to a taxonomic level below class, while the remaining 3955 are too fragmentary for identification. Over 80 percent of the identifiable bones are domestic pigs, cattle, sheep and goats (Figure 1). Fish and reptile constitute an additional seven percent and birds make up one percent of the assemblage. Additionally, 313 marine mollusk shells have been identified, with 280 being attributable to a taxonomic level below class. The dominant species identified include the West Indian Top-Shell (Cittarium pica) and the Green Snail-Shell
Figure 1: BSH 2
1996/1997 Faunal Assemblage
(NISP=1229)

Other 17%
Cattle 25%
Caprines 14%
Pigs 44%
(Astraeus tuber), both of which occur on coral reefs and rocky outcrops in the intertidal zone.

SUBSISTENCE

The domestic species remains at Brimstone Hill provide insight as to how the slave population was provisioned. Food utility studies for bovids show that feet and heads have relatively low nutritional value (low utility) while the axial and upper limb portions are higher in potential human nutrition (high utility). Roughly 50 percent of the bones in the bovid skeleton (i.e. cattle, sheep, and goats) reflect high utility portions (Figure 2). Therefore, if we assume that meat was transported to Brimstone Hill in the form of barreled meat, we would expect to see high utility bones occurring in abundance in the archaeological record.

For the purposes of this analysis, head and feet elements have been collapsed into a low utility category. Axial and upper limb bones have been combined into a high utility category.

Ninety percent of the cattle bones from BSH 2 are those of high utility. Cattle remains compare closely with skeletal part frequencies expected if these portions were transported to the Fort as barreled meat (Figure 3). This contrasts with the caprine bone which is predominantly of low utility (58 percent) (Figure 4). The relatively even proportions of high and low utility caprine bones suggests that sheep and goats were slaughtered at or near Brimstone Hill and not transported large distances as carcasses or preserved meat.
Figure 2: Model Bovid Carcass (ca. 195 teeth and bones)

- 32% Head
- 19% Axial
- 42% Long Bone
- 7% Feet

- High Utility 50%
- Low Utility 50%
Figure 3: BSH 2 Cattle (1996/1997 n=365)

□ Head ■ Axial □ Long Bone ■ Feet

BSH 2 Cattle (1996/1997 n=365)

Low Utility 10%
High Utility 90%
Figure 4: BSH 2 Caprini
(1996/1997 n= 161)

- Head
- Axial
- Long Bone
- Feet

BSH 2 Caprini
(1996/1997 n=161)

High Utility 42%
Low Utility 58%
Pig remains from BSH 2 are those of high utility (68 percent). A direct comparison cannot be made between suid and bovid skeletal frequencies because of the larger number of low utility bones present in the suid skeleton, roughly 67 percent (Figure 5). Additionally, the head portion in suids has more nutrition associated with it than bovids. In barreled salt pork of the nineteenth century, the hogs' head was often included. With the anatomical makeup of the suid skeleton and the fat and meat associated with the head, pig remains at BSH 2 probably indicate the transport of pork to Brimstone Hill as barreled meat. Lower leg bones, which make up roughly 50 percent of the suid skeleton, are relatively absent from the BSH 2 remains, with only three percent of the remains coming from this skeletal portion (Figure 6).

Skeletal part frequencies for fish remains at Brimstone Hill also reflect transport to BSH 2 as preserved meat. Eighty-six of the fish bones are from the head, vertebral column, and the pectoral/pelvic girdles. Local reef and pelagic taxa, for example parrotfish (Scaridae) and needlefish (Belonidae), are represented primarily by bones of the head and vertebrae (Figure 7). Atlantic cod (Gadus morhua) that inhabit the colder waters of the North Atlantic are represented by caudal vertebrae. Historic accounts of cod preservation indicate that all bones were removed in the process of cleaning except for the caudal vertebrae, before salting and drying. Because this species does not occur in the warm waters of the Caribbean, this strongly indicates that some of the fish at BSH 2 were also shipped to the island as preserved meat.
Figure 5: Model Suid Carcass
(ca. 270 teeth and bones)

- Head [ ] Axial [ ] Long Bone [ ] Feet

High Utility: 33%
Low Utility: 67%
Figure 7: BSH 2 Fish 1996/1997

**Tropical**

- Vertebræ 48%
- Head 50%
- Girdles 2%

**Cod**

- Vertebræ 93%
- Girdles 7%
Marine mollusk remains were also numerous at BSH 2. A total of 280 fragments were identified, and a minimum of 62 individuals were present. Terrestrial mollusks were also recovered, however it is likely that these are intrusive to the contexts and were not utilized as a food resource, as all sizes of the snails are present. Marine species are dominated by gastropods, with both sandy and muddy bottom and coral and rocky bottom species represented. West Indian Top-Shell and Green Star-Shells predominate the assemblage (Figure 8). Diversity and equitability indices calculated for the Brimstone Hill shell indicate many taxa being utilized, however a normal or even pattern of distribution exists.

It is likely that these larger gastropods were used as a food resource by the inhabitants at Brimstone Hill. Several accounts exist for prehistoric and modern day use of these species as food. Several 'removal holes' exist in the complete specimens similar to what others have observed for the removal of the larger Queen Conch snail. It is recognized that natural taphonomic processes could be responsible for these perforations. However, due to the large numbers of complete and semi-complete shells of these genera, as well as numerous fragments, it is not hard to imagine slaves at Brimstone Hill utilizing these gastropods as a protein food source. The possibility of slaves gathering this readily available coastal resource while being allowed to fish and supplement their diet is conceivable.

The spatial patterning of the shells recovered from Brimstone Hill shows two areas of high concentration. The first concentration is located along the east wall of Structure 1, which has been identified as a possible hospital. The second concentration is associated with the south wall of Structure 1 and the north wall of
Figure 8: BSH 2 Marine Mollusk Shell
(1996/1997 n= 213)

29%
71%

■ West Indian Top-Shell and Green Star-Shell □ Other
Structure 2, an artificer’s building. It is likely that shellfish refuse was dumped in between these two structures. Judging from their associations with ceramics, these concentrations were likely produced in the late eighteenth or early nineteenth centuries. Their association with African slaves and the areas they worked in is evidenced by the presence of Afro-Caribbean ware sherds and also with the presence of bone button discs and manufacturing debris. This may be a problematic interpretation, as the area possibly was used as a dumping location for items used by the British military as well.

Variations in skeletal part frequency of vertebrates indicate that animal remains from BSH 2 reflect a combination of provisioning strategies. Atlantic cod, beef and pork appear to have been transported to the fortress as preserved meat. Reef and pelagic tropical fish, marine mollusks, and sheep and goats appear to have been obtained locally. If the British military were indeed responsible for providing food for the slaves, they were obtaining at least some of the food locally.

BONE ARTIFACTS AND MANUFACTURING DEBRIS

One of the interesting aspects of the BSH 2 faunal assemblage is the frequency of modified bone. Over 16 percent of the recovered bone (1037 of 6222) represents debris from the manufacture of bone discs. These probably were used in similar proportions. Cattle ribs, followed by scapulae, were most
frequently selected for disc manufacture. Chelonid (sea turtle) bones used were also ribs, the costal bones of the carapace. Ribs of both cattle and turtle were modified extensively prior to the manufacture of the discs. Cattle ribs were trimmed along the cranial border with some sort of heavy-bladed implement that often left cut marks on the cortical surface of the bone. Rib heads were chopped off and many of the rib segments were chopped into rectangular segments. These segments were then split lengthwise through the cancellous bone leaving two, thin, flat rectangular segments; each of which had exposed cancellous bone and unmodified cortical bone. The trabeculae in the bone are elliptical in shape, helping with identification.

Ribs of sea turtles were also used to make the molds. The preparation of the rib occurred in much the same way. Trabeculae in turtle shell are spherical in shape.

Cattle scapulae were modified the least prior to manufacture. The articular end was chopped free and the bone used as is or was split. Most fragments identified as scapulae had exposed trabeculae, indicating they were split prior to manufacture.

Disc debris mainly consisted of successful removal of the disc leaving a piece of bone with circular holes or fragments with only semicircles present. Failed attempts to extract bone discs at Wriststone Hill indicate that a hand-held brace and button bit were used. Bone discs produced at BSH 2 varied considerably in size. Manufacturing debris was used to estimate disc diameter. The totals for the diameters show three dominant size clusters. Turtle costal bone
discs are characterized by 12, 13, and 14 mm size range, with most falling in the
13 mm diameter range. A smaller cluster occurs at 19-22 mm. Discs made from
cattle ribs and scapulae occur in three separate clusters (9, 10 mm; 12-14 mm; and
16-18 mm). Disc function likely is a contributing factor to these distributions.

SUMMARY AND CONCLUSIONS

There is clear evidence that the inhabitants at BSH 2 were relying heavily
on domestic animals for subsistence. Differences in skeletal part frequency of
domestic taxa suggests that the pigs, cattle, caprines, and fish were obtained quite
differently. Utility studies indicate beef and pork were likely brought to
Brimstone Hill as butchered carcasses, most likely in the form of barreled meat,
or in the case of Atlantic cod, boxed. Skeletal parts of sheep and goats suggest
caprines were raised locally and brought to the site live or as complete carcasses.
This also seems to be the case with reef and tropical pelagic fish. It is highly
likely that marine mollusks were also being exploited on the local level as a food
resource.

African slave craftsmen engaged in bone disc manufacture left evidence of
their activities in the form of bone artifacts. Ribs and scapulae of domestic cattle
and the carapace bones of sea turtles were extensively used in the manufacture of
bone discs used as fabric covered buttons. Cattle remains likely were food refuse
further modified in the process of artifact manufacture. However, sea turtle
carapace bones were specifically sought out for characteristics of the costal bones themselves.

Bibliography
