**Paleoethnobotanical Remains from the Topper Site (38AL23)**

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**Introduction:**
During the summers of 2015 and 2016, the University of Tennessee, Knoxville ran archaeological field schools at the Topper Site (38AL23) with the goal of excavating the Woodland Period (ca. 2000 to 1000 cal yr B.P.) and Mississippian Period (ca. 1000 to 400 cal yr B.P.) occupations at the site (Figure 1). The majority of the previous work at the Topper Site has targeted the extensive Paleoamerican occupations (ca. 21,000 to 11,000 cal yr B.P.) (Anderson et al. 2015; Goodyear et al. 2009).

The new focus at the Topper Site will provide much needed data regarding the late Prehistoric period in the Southeast, a time when intensive maize agriculture and complex societies, characterized by ceremonial inequalities, monumentalism, and intensive warfare, emerged. The strong and controlled among these developments are not well studied in the region, something this project hopes to help address.

Macon's arrival in North America accompanied significant changes to the social and political landscape of the Paleoindian economic landscape (Emerson et al. 2005). Maize did not become a significant food resource in the Southeast until A.D. 1000 and was not widespread until A.D. 1000. Whether its appearance in the middle Savannah River Valley relates to population growth and the emergence of complex societies remains unclear.

**Materials and Methods:***

Weights and volumes were recorded for all samples prior to processing and all information was recorded in a centralized database. Samples from nine features from Woodland Block East were selected for analysis. All samples were processed using a modified SNAP-type flotation machine (Maschner and Chippindale 2005) with a 1.09 mm netting used for heavy fractions and a 0.033 mm mesh for light fraction. Upon drying, samples were taken to the Analytical Research Laboratory (ARL) in Knoxville, Tennessee for analysis.

All samples were analyzed using paleoethnobotanical standards (Preuss 2000). Samples were weighed to the nearest 0.01 gram on an electronic scale, and then processed through 2 mm, 1.4 mm, and 0.71 mm U.S.D.A. geologic sieves. Using a low powered stereomicroscope all carbonized macrobotanical materials were analyzed. Uncarbonized plant materials were not counted. Both the feature and assemblages were identified with identifications. The macrobotanical remains were sorted into type then counted, weighed, and bagged.

**Results:**
Table 1 displays the counts and weights of plant remains identified from the feature. A clear distinction can be noticed dividing the assemblages and locations of the features. Figure 3 displays the weight of the total plant weight divided by the volume of the feature. Figure 4 displays the density values of maize and nutshell fragments divided by the volume of soil floated. Surprisingly, nearly two thirds of the samples contained maize (Zea mays) (Figure 4). Figure 5 displays the location of the features and the features containing maize. Multiple components of maize were identified, including the glume, cupules, and kernels (Figure 5). Little evidence of hulls was found among the assemblages, although mazamay (Passiflora incarnata) and blackcattail (Typha angustifolia) seeds were identified. Hickory (Carya sp.) and acorn (Quercus sp.) nutshell were identified in the majority of features. The macrobotanical remains found illustrate a portion of the foodways and the relationships present between plants and prehistoric Native Americans.

Based upon the ceramics assemblage recovered from the site, the features that were examined in this study, and thus the identified maize and botanicals, appear to be associated with Woodland Period occupations, yet intense maize agriculture is usually associated with the Mississippian Period (Sassaman and Maschner 2009). This project represents the first steps towards understanding not only the human activity at the site but also how the Topper Site fits into the story of the spread of intensive maize agriculture in the Southeast. For more conclusive results, future analyses are needed on the sample of the other three hundred and forty excavated features. Even from this limited initial assessment we can definitively state that maize is present at the Topper Site, which once dated can help better explain the trajectory of its arrival into the region. Funds are currently being sought to precisely date the material features as well as to date the carbonized botanical remains, specifically maize, that have been identified in the assemblages recovered. Obtaining such dates will allow for the examination of the presence of both ceramic technology and use and the spread maize within the Southeastern United States.

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**References:**