



Physical Anthropology Section – 2006

H61 Observations of Decomposition in Southern Coastal North Carolina

*Midori Albert, PhD**, Department of Anthropology, University of North Carolina Wilmington, 601 South College Road, Wilmington, NC 284035907; *Jeffery K. Tomberlin, PhD*, Department of Entomology, Texas A&M University, 1229 North U.S. Highway 281, Stephenville, TX 76401; and *Christina Johnson, BA*, Department of Sociology and Criminal Justice, University of North Carolina Wilmington, 601 S College Road, Wilmington, NC 28403-5978

The goal of this presentation is to allow attendees to gain information on decomposition rates and patterns during early spring in a southeastern coastal U.S. region. These findings can be used to more accurately assess the postmortem interval specifically in this type of geographical location.

This presentation will impact the forensic community and/or humanity by increasing knowledge of rates and patterns of decomposition in a southeastern U.S. subtropical microclimate allowing for more accurate assessments of time since death.

The authors hypothesized that in a coastal microclimate; there would be similarities in the overall pattern of decomposition, but differences with regard to rates of decomposition and entomological findings due to variations in temperature, humidity, and or rainfall when compared to other locales.

Inasmuch as pig carrion is an acceptable substitute for human cadavers, eight pigs ranging from 18-50 pounds were used in this study. For protection from possible scavenging, five of the pig carcasses were placed on the surface of the ground inside a chain link fenced area open at the top. Three pig carcasses were placed on the surface of the ground just outside the fenced area. All eight pigs were within ten feet of a saltwater marsh with no shade. The study lasted from March 28, 2005, when the pigs were initially laid out, until April 20, 2005, when full skeletonization was reached. During the course of the study, observations of decomposition, weather, temperature, humidity, wind speed, insect activity, and plant growth were recorded daily.

Patterns of decomposition—such as bloating, discoloration, skin slippage, and breakdown of tissues—were found to be similar to what would be expected in most other regions. However, it was interesting to note that in early spring, when the average temperature approached 70 degrees Fahrenheit with 55.37% humidity and significant rainfall, full skeletonization was attained in three weeks. Sun bleaching was evident on many of the bones. All three of the unprotected pig carcasses exposed on the surface were lost to scavenging, but not until much decomposition had already occurred. Details of insect activity on the five remaining pig carcasses will be discussed, along with features of peculiar and rapid plant

growth. These findings, compared to findings from other similar studies, will also be discussed. Results of this study will provide descriptive data useful in assessing the postmortem interval in a southeastern coastal subtropical region.

Postmortem Interval, Decomposition, Forensic Entomology