

SCAVENGER VARIATION IN CENTRAL NEW JERSEY: IMPLICATIONS FOR
FORENSIC ANALYSIS

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Abstract

One important function of forensic anthropology is forensic taphonomy. “The study of transition of humans from living organisms to mortal remains, including causes of death, for judicial or legal purposes (Haglund and Sorg, 2002: pg. xix).” Taphonomy is essential in forensic anthropology for providing an environmental description of the site, analyzing trace elements of the remains, recognizing scavenger activity local to the area in question, and understanding decomposition rates. Taphonomic effects may be perimortem or postmortem in nature, and differentiating these two types of events is critical for reconstructing a crime. I analyzed the taphonomic effects of scavenger activity on pig carcasses as models of average size children to aid in crime scene interpretations in central New Jersey.

This study used three pig carcasses (*Sus scrofa*) to analyze the effects of the environment on the nature of decomposition and dispersal. The range in size of the pig carcasses were 53 lbs (24kg) – 63 lbs (28.5kg). The experiments were conducted in two separate locations: Hopewell Township and Plainsboro Township, NJ. I modeled three types of scenarios where human remains have been found; a shallow burial, a surface burial; both conducted at Hopewell, and the aquatic burial at Plainsboro. I observed the taphonomic effects on the models as well as the environment. The experiment began July 5, 2006 and concluded on August 13, 2006.

The shallow burial (#1) did not produce much in regards to large scavengers. The burial was visited on several occasions; however, it was the deer that were visiting, not the scavengers. There was one incident where a piece of the pig carcass tissue had been exposed, but shortly thereafter the hole was covered with mud. The burial was not unearthed until November 10, 2006. The carcass still presented a substantial amount of tissue, excluding the skull that had skeletonized.

The surface burial (#2) produced a tremendous amount of scavenging at the site. The carcass was attacked immediately upon deposition by blowflies, then vertebrate scavengers until the carcass was skeletonized. The larger scavengers that visited the site were presumptively fox, wild and domestic dog, feral cat, and turkey vultures. There were tooth marks found on the mandible that pattern a small sized animal such as fox or dog. The carcass skeletonized within three weeks from the beginning of the experiment.

Lastly, the aquatic burial (#3) displayed a mixed interpretation of the scavenging activity. Again, blowflies infested the top portion of the carcass that was above water, while the bottom half decomposed under water. The facial region had been attacked twice by a sharp-toothed scavenger, possibly fox, dog, or coyote, after the first week of deposition. Fish, frogs, and geese were observed in the area on a regular basis and could have possibly attributed to the demise of the carcass; which took a total of 40 days to decompose and skeletonized beneath the water.