



A6 Vulture Scavenging of Pig Remains at Varying Grave Depths

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After attending this presentation, attendees will better understand how vultures (*Coragyps atratus* and *Cathartes aura*) respond to and modify graves of different depths containing buried carrion. Attendees will also gain insight into the behavior of these vultures regarding digging and human disturbance at a decompositional facility.

This presentation will impact the forensic science community by providing results from a controlled experiment in an area with very little previous research. This presentation will augment research in forensic taphonomy by adding to the body of knowledge in terms of how vultures respond to carrion that is buried in a shallow grave and how they respond to human disturbance. This presentation will suggest that researchers' daily presence has so modified vulture behavior that it is now altering vulture studies at the Forensic Anthropology Research Facility (FARF) at Texas State University-San Marcos, indicating there may be a "shelf life" for outdoor decompositional facilities when used for vulture scavenging research.

Forensic anthropologists occasionally encounter human remains in burial scenarios such as shallow graves (i.e., depth of ≤ 1 meter) that show signs of vultures having disturbed the scene.¹⁻⁴ The purpose of this study was to examine how vultures detect graves, disturb the area, remove, disarticulate and skeletonize remains, and finally abandon the different graves in comparison to a surface deposition. Accumulated Degree Days (ADD), humidity, and wind speed were used to assess different environmental and climatic factors that may have affected the timing of vulture activity.

From November 2012 to January 2013, four pig carcasses (*Sus scrofa*) were buried at varying shallow grave depths at FARF. A fifth pig served as a control on the surface. Modification of the graves and surface deposit was recorded through the use of five motion-sensing cameras and daily on-site observation. The research intended to examine how vultures (*Coragyps atratus* and *Cathartes aura*) respond to and modify shallow graves of varying depths.

Vultures in this study did not locate or unearth the carcasses in the burials and this may be explained by vulture seasonality and migration, feeding behavior regarding digging and the specific vulture species, and most importantly, the presence of human disturbance. Season may have an effect on the migration patterns of turkey vultures, especially because the study was conducted in the early winter in a location at the edge of the summer turkey vulture range. The lack of turkey vulture involvement may have created an intervening variable in which black vultures would not and/or could not access the carcasses. Although vultures usually return to scavenging opportunities shortly after being displaced by humans (~20 minutes), consistent human presence at FARF may have influenced vulture behavior and is likely another limitation to the study. Vultures may have moved on to more consistent and secluded sources of food (known and reliable locations of carrion with minimal disturbance, human or otherwise).

This presentation highlights the first attempt at understanding vulture response to buried remains in an outdoor decompositional facility. It is suggested that future research should be conducted in a location that is not frequented by humans and/or during a season when turkey vultures are more prevalent. More information is needed regarding vulture seasonality, feeding habits, and the digging abilities of turkey vultures. Finally, it is suggested that future vulture research at FARF should be conducted in a location that is secluded and as close as possible to conditions found in nature.

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Forensic Anthropology, Taphonomy, Vulture Scavenging