



A144 The Patterns of Striped Skunk Scavenging on Human Remains

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Learning Overview: After attending this presentation, attendees will better understand the patterns of striped skunk scavenging on human remains.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by providing examples of striped skunk scavenging to assist in distinguishing postmortem scavenging from peri-mortem trauma that may be associated with cause of death.

Striped skunks (*Mephitis mephitis*) are common throughout most of North America. They are nocturnal and generally solitary, often living in burrows created by other animals. Striped skunks are omnivores, predominately subsisting on small vertebrates, insects, eggs, and plant material.¹ Scavenging is a part of their regular diet. However, cases of skunks scavenging human remains are rarely documented. Existing documentation provides a limited description of observed scavenging.

Seven cases of striped skunk scavenging were observed at the Forensic Investigation Research Station (FIRS) in Whitewater, CO, between November 2017 and June 2019. At the FIRS, human remains are laid outside to study decomposition. The outdoor facility is fenced to allow access to small scavengers while excluding larger scavengers. The scavengers observed include skunks, feral cats, mice, and birds. When a body shows evidence of scavenging, donors are documented daily and monitored with game cameras.

Skunk scavenging usually started before the onset of moist decomposition and continued well into moist decomposition. In one case, scavenging continued into mummification. Scavenging was done at night. The duration of scavenging was 29–105 nights with active scavenging 12–48 of those nights. In two cases, the donor was only scavenged once. Skunks did not show preference for any specific donor beyond state of decomposition. Scavenging often occurred on multiple donors on the same night.

Six of the cases occurred in the winter. Skunks were present for all but 12 nights in November and December 2018. Over the two years covered in this study, five of seven donors placed October–December were scavenged by skunks (two in 2017, three in 2018). In cases in which skunks scavenged bodies more than once, the scavenging duration was longer in winter than in spring.

Initial stages of skunk scavenging were often marked by bone exposure in the limbs, primarily the arms, followed by the legs. While bone was exposed in five of the seven cases, only one of those cases showed macroscopic damage to the bone. In this case, the distal radius and ulna were broken, likely in the process of removing the hand. This was the only evidence of disarticulation in any of the skunk scavenging cases. In three cases, skunks preferentially consumed subdermal tissue. Game camera images show a skunk holding the skin back with its paw as it consumed the underlying tissue. This pattern of tissue consumption gave a hollow appearance to the impacted tissue.

In one case, irregular defects, puncture marks, and parallel linear striae were present peripheral to the scavenged areas. This appeared to be related to efforts by the skunk to reposition the limb or climb on top of the donor while scavenging. Skunks were seen climbing on top of the donor in nearly every case, but this single case was the only case where the activity impacted tissue.

Patterns of skunk scavenging thus far appear to be distinct from patterns observed in two cases of feral cat (*Felis catus*) scavenging at the FIRS.² Notable differences between the two scavengers are the timing of bone exposure, the type of differential tissue consumption, the prevalence and nature of peripheral defects, and seasonality. Both species preferentially scavenged the limbs and generally avoided involvement of bones. While there is there are only a small number of documented cases for each of these species, noting the impact of these scavengers will expand current understanding of local scavenger communities.

Defects caused by scavengers can be confused with or conceal the impact of peri-mortem trauma. Recognizing and understanding the patterns of scavengers will assist investigators in determining source and timing of tissue damage.

Reference(s):

1. Greenwood R.J., Sargent A.B., Pieh J.L., Buhl D.A., Hanson B.A. Foods and foraging of prairie striped skunks during avian nesting season. *Wildlife Society Bulletin* 1999 autumn; 27(3):823-832.
2. Garcia S.N., Smith A.J., Baigent C., Connor M.A. The Scavenging Patterns of Feral Cats on Human Remains in an Outdoor Setting. *Proceedings of the American Academy of Forensic Sciences*, 71st Annual Scientific Meeting, Baltimore, MD. 2019.

Skunk Scavenging, Taphonomy, Postmortem Scavenging