

## A65 Pack Rats: An Unconsidered Taphonomic Variable

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**Learning Overview:** After attending this presentation, attendees will possess an understanding of how pack rats have been underestimated as a variable in forensic taphonomy and their potential influence to a forensic scene and scene recovery efforts.

**Impact on the Forensic Science Community:** This presentation will impact the forensic science community by providing an understanding of how pack rats can alter a scene. Additionally, guidance on pack rat nest identification and the need to excavate nests to find human remains and other potential evidence is provided.

Forensic taphonomy is a broad discipline that studies many variables that may influence the deposition of skeletal remains in modern contexts. It is well documented that animal activity, such as carnivore scavenging, will scatter and destroy remains, resulting in the loss and reduction of elements recovered from a forensic scene. Pack rats as a taphonomic variable have been discussed in the archaeological and paleontological literature; however, there is limited discussion of pack rats in the forensic literature. Although rodent modification to a bone's surface is a common finding, the thought of a rodent as possibly the primary actor in scattering remains is not.

This presentation provides four case examples from forensic scene recoveries in Oklahoma where pack rats were one of the primary taphonomic variables resulting in the postmortem movement and caching of skeletal elements in nests. The number of pack rat nests excavated ranged from 1 up to 17. Nest construction varied from free standing, built into shrubbery, or located adjacent to the burrows of other animals. The nests were excavated by hand and with hand tools, such as bow rakes, to carefully disassemble the twigs and branches to find the skeletal elements entwined within. Images of differently sized nests are displayed to demonstrate variation in their size and construction style. Distances from the primary scatter location to the nests ranged from 13 meters up to 62 meters in the examples discussed. The number of elements recovered from a single nest ranged from 3 up to 27 elements, along with multiple fragments of clothing. Size of the skeletal material moved by the pack rats included small hand and foot bones up to elements as large as a sacrum and fibula. The amount of chewing modification to the elements varied from minimal to severe. A map displaying the range of pack rats will be displayed to highlight the regions in the United States where this rodent may play a role in the dispersal and caching of skeletal elements and other potential evidentiary items.

Understanding the role pack rats may play in the dispersal and hoarding of skeletal elements is a benefit to all parties involved in forensic scene recovery efforts. Identifying pack rat nests and the need to excavate them will help maximize the recovery of skeletal elements and potentially aid in identification and trauma analysis of skeletal remains.

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### Forensic Taphonomy, Pack Rat Nests, Scene Recovery