H27 Home is Where the Bones Are: Rat Nesting Behavior as a Tool in Forensic Investigations

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After attending this poster presentation, the attendee will gain a better understanding of the importance of rat nesting behavior to forensic field investigations, as well as the need to provide resources for appropriately trained personnel to aid in field survey and excavation.

This presentation will impact the forensic community and/or humanity by emphasizing the need to be familiar with the nesting behavior of local rodent species as their nests may be a valuable source of evidence and human remains. This presentation also underscores the importance of providing resources for appropriately trained personnel in the areas of field survey and excavation techniques.

The intent of this poster is to demonstrate the importance of thorough field investigation, highlighting the need to be familiar with rat nesting behavior. A case study will be presented to underscore the importance of investigating rat nests for human remains as well as for other evidence that may shed light on the nature of the events surrounding the death of a particular individual.

It is not always the case that field investigators are able to discover the remains of an individual fully intact. In fact, it is often the case that the activities of any variety of animals can perplex field investigations, resulting in only the partial recovery of a set of remains. Rodents are infamous for their scavenging activity, often leaving their mark in the form of gnawing/bite marks. Eat and run is not always the rule of thumb; in fact some rodent species like to take their new found treasures home.

Neotoma spp. (species vary region by region), known as the woodrat or packrat makes it a habit of collecting various objects, including wood, bone, shell, etc. The packrat will typically range within 100 meters of their dens or nests, often at night and are found at elevations ranging from 0-3700m (depending on the species). Many species do not hibernate and will keep several food caches.

Archaeologists, paleontologists, and others have been investigating rat nests and middens for over 50 years and in that time, have been able to produce not only plants and pollen, but shiny objects and a large quantity of bone as well. The packrats are notorious for incorporating bone into their nests and being attracted to shiny items.

California State University, Chico, was contacted by a county in northern California to aid in the field recovery of human remains. Over a three day period, members of the CSU Chico Physical Anthropology and Human Identification Field Recovery Team traveled to the site, clearing brush, walking survey transects, and eventually excavating four packrat nests.

While conducting the survey, human remains were encountered on the ground surface, protruding from and lying on top of what were identified as rat nests. The area was cleared of excess brush, poison oak, and a few smaller trees. When the area was clear, four distinct mounds were identified as packrat nests. Over the next two days, crews worked to carefully excavate and sift material from the nests. On the last day, a fifth nest was discovered at the base of a tree, resulting in the recovery of additional remains. In total, 85% of the individual was recovered, 75% of which was located within the packrat nests.

A complex case such as this illustrates the importance of packrat nests to field investigations. Familiarity with the scavenging practices, but more specifically the general behavior and habits of the rodent species of a particular region may result in the recovery of a more complete set of remains, as well as additional evidence. This case also underscores the importance of providing the necessary resources for those appropriately trained in field survey and excavation techniques so that they may collect remains and evidence from burial scenes and surface scatters.

Rodent Behavior, Taphonomy, Forensic Anthropology

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