

Researchers determine 'patterns' for bones left on ground surfaces

March 3 2016

For the first time, researchers have determined a signature of changes that occur to human remains, specifically bones, left outside in the New England environment. This signature or "patterning" can be used by law enforcement to help determine if remains have been moved after death from one environment to another and to separate natural changes to bone from those caused by possible perpetrators.

These findings, published in the *Journal of Forensic Identification*, may assist in crime scene investigations.

Prior to this study no one had previously tabulated the full range of changes from a series of forensic cases in order to determine a signature for this specific environment.

Using actual forensic anthropological cases, Boston University School of Medicine (BUSM) researcher James Pokines, PhD, compiled a complete set of physical changes to these bones and then compared them with the changes that occurred to large animal bones in the same environment.

"There are clear differences in the changes in bones caused in different environments; on land, these include animal scavenging, algae formation, soil staining and weathering (bleaching and cracking) of bones. These differ in ways from bones that have been buried or recovered from the ocean," explained Pokines, who is the corresponding author and assistant professor of anatomy and neurobiology at BUSM.

Pokiness hopes that this study helps to identify a specific signature regarding bones found in the New England environment and that this signature can be compared to those found in other parts of the country. "It is my hope that other researchers will do similar studies in other parts of the country following the guidelines established here," he added.

Provided by Boston University Medical Center

Citation: Researchers determine 'patterns' for bones left on ground surfaces (2016, March 3) retrieved 23 April 2024 from

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