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DIFFERENTIAL DECOMPOSITION IN MICE BURIALS: A PRELIMINARY STUDY WITH POTENTIAL MASS GRAVE APPLICATIONS

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Abstract

Mass graves continue to be uncovered around the world. Empirical data regarding decomposition in multiple body burial environments, however, remains scarce due to the fact that the groups tasked with investigating mass graves have not released an extensive amount of data on patterns and rates of decomposition typically found in mass graves. This thesis evaluates differential decomposition in order to provide forensic anthropologists with insight into these unique burial environments. The unembalmed bodies of 72 haired mice were used to form four sets of mass burials of two, five, and ten individuals. Single mouse graves were used as controls. The burials were excavated and observed one week, two weeks, one month, and two months after original deposition to analyze decomposition progress. Anecdotal data was also collected after seven months. Phase and description of decomposition were recorded at each excavation. Results from the four excavations illustrated: 1) progression of the mice remains through the phases of decomposition previously documented in human decomposition studies; 2) differences in decomposition rate depending on number of individuals in a grave; and 3) differential decomposition depending on where in a mass grave a specific body was located. These findings contribute to the field of forensic anthropology: 1) the first experimental mass grave research; 2) publishable data that is ethical to use and provides a starting point for future mass grave research; 3) a decomposition pattern that distinguishes mass graves of single and multiple bouts of entry; 4) corroboration of the most effective way to excavate a mass grave; 5) a view on how many bodies constitute a mass grave; and 6) time since death data in mass graves relative to individual graves. Overall, this data can improve the accuracy of historical records of these human rights abuses.