

**MS Thesis – Human Skeletal Biology, Department of Anthropology - New York University
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**A TAPHONOMIC STUDY ON PRESERVATION OF MAMMAL SKELETAL REMAINS OF
THE PELVIS**

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The human pelvis is sexually dimorphic, and features on the os coxae and sacrum aid forensic anthropologists in determining sex to complete the biological profile of an individual. Good preservation of bones is important for establishing the biological profile of an individual(s); missing bones or features make it difficult to determine a positive identification. Because human remains in forensic contexts can be found in different environments where taphonomic processes affect the preservation of bones, I focus on the preservation of the pelvic girdle in two different above-ground graves; one caged goat and one uncaged. The caged goat was expected to have better preservation while the uncaged goat was expected to have fewer remains and poorer preservation of the bones that were recovered.

The experiment was conducted in rural central New Jersey with an open environment where scavenging birds, foxes, and sometimes bears pass through. One above-ground goat grave was caged with chicken wire and the other was uncaged. The caged grave replicated the intent to hide a body, while the other was laid out indiscriminately. The os coxae, sacra, humeri, ulnae, radii, femora, and tibiae were all analyzed for state of preservation. The uncaged grave preserved more skeletal remains and had better preservation of the pelvis. The Kruskal-Wallis test displayed a significant difference between the median levels of preservation while the Mann-Whitney U results reflected a significant difference between the mean degrees of preservation of both samples. This study can be helpful for understanding the preservation of skeletal remains, specifically the pelvis, and especially in the region of Central New Jersey. In this region, an increase in rainfall led to an increase in scavenger activity that was a part of the taphonomic processes that affected the preservation of both skeletons.