**Identifying the impact of maggot activity on DNA recovery success from decomposing rat (*Rattus norvegicus*) tissue**

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During mass casualties and events of severe decomposition, human identification is necessary for forensic investigations. In addition to traditional identification methods such as anthropology, pathology, dental records, and fingerprinting, DNA profiling serves as a sensitive and helpful tool. However, DNA profiling comes with limitations. For example, sample selection and collection is complicated when insects colonize remain. Due to the enzymatic activity in maggot secretions, it is hypothesized that DNA is degraded during feeding by the maggot mass. However, no research has empirically studied the impact of maggots on subsequent DNA recovery. To assess this, a laboratory study comparing DNA quantities from rat (*Rattus norvegicus*) tissue samples with and without maggot activity was conducted. Small rats (45-85 g) were inoculated with 25 wild caught fly larvae and soft tissue samples were collected from each rat every other day to compare to samples collected from maggot free rats. Sampling took place until all maggots had left remains to pupate (approximately one week). Using a Chelex extraction method, DNA was isolated from the biological sample and quantified using real time PCR. Flies on remains were allowed to eclose as adults and were identified to species. Accumulated degree days (ADD) where calculated to estimate fly life stages during tissue sample collection. Changes in DNA recovery success from soft tissues throughout larval development will be discussed.