G27 The Effect of Clothing on Scavenger Visits and Decomposition

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After attending this presentation, attendees will learn the differences clothing can make on the timing and frequency of scavenger visits to remains. Clothing will be shown to significantly affect when scavengers visit and alter the death event.

This presentation will impact the forensic community by demonstrating how time of death is determined by many factors, the presence or absence of clothing does affect the timing of visits.

The presence or absence of clothing can alter the decomposition rate (Anderson 2001, Kelly 2006). Quantifying the decomposition rate is difficult and complicated by the potential differences in timing of scavenger visits and alterations to the death scene by those visits. This study, which is a follow-up to one conducted in 2007, examined the rate of decomposition on a clothed and unclothed pig as a function of summer environmental conditions, but includes motion sensor cameras to capture scavengers frequenting the sites. Insects were collected twice a day until the dry remain stage occurred. Cameras were secured and pictures were obtained as motion was sensed by the camera. Temperature, relative humidity, rainfall, and wind speed data were collected on an hourly basis. The data show increased activity of forensically important insects as a function of temperature and clothing. The delay of the clothed victim to reach the dry remains stage was significantly different from the delay for the victim without clothing. The development stages of larvae collected from the clothed victim were also significantly smaller than the unclothed victim at all collection dates until the unclothed victim was no longer attractive to forensically important flies. The scavenger visits were significantly different between the two test animals in terms of time and abundance as determine by motion sensor cameras. How scavengers may be useful in determining state of decomposition will be discussed.

Data to be discussed will be the differences in larva size, insect species composition on each pig over time and identity, frequency and timing of scavenger visits. Comparisons were done as an ANOVA test and a species diversity comparison for all days. Results will be used to set up teaching mock crime scenes to illustrate the effects of clothing on PMI calculations.

Scavengers, Clothing, Insects

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