

Purdue University
Department of Entomology
Undergraduate Capstone
Project Summary

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Project Title:

Feeding Patterns and Frequencies of the Hairy Rove Beetle on Dipteran Larvae

Project Summary:

The hairy rove beetle, *Creophilus maxillosus*, is an important predacious insect species commonly associated with carrion. Forensically, it is used to aid in establishing a time of colonization or post mortem interval (PMI). The adult beetles usually appear after the first Dipteran larval colonization, continuing through the later stages of decomposition, feeding on the organic remains of the carcass as well as on the associated maggots. While there is information regarding the arrival and appearance of the beetle during carrion insect succession, there is little known about their effect toward Dipteran larval populations.

In order to determine if larval densities are impacted 5 small/medium sized pigs were placed in random order within the Forensic Entomology Research Compound (FERC) located west of campus on S.R. 26. Five beetles were collected from each pig and transferred to a single small container with soil from the compound as the substrate. The beetles were given a seven hour starvation period and then ten were randomly chosen from the container and each put into their own respective petri dish. Third instar maggots were collected into a plastic container from the pigs using a scupula for an interval of thirty seconds. From this collection, ten maggots were put into each petri dish. After twenty four hours the petri dishes were checked for larval predation. The results showed that in this particular setting, on average 1.2 maggots were consumed per petri dish during the twenty four hour feeding time with an outlier of seven maggots consumed from a single beetle. Future studies should include feeding within different substrates as well as different times of day in order to exclude further biases.