

Guest Speaker Dr. Lee Goff, Board Certified Forensic Entomologist
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Dr. Goff is one of only nine board certified forensic entomologists in the U.S. Forensic entomology is the use of insects to uncover the circumstances of death and/or injury in medical-legal and medical-criminal investigations. In forensic entomology insects become evidence.

Insects can tell the forensic entomologist a lot about the victim (who may or may not be alive):

1. Were injuries sustained as the result of abuse and/or neglect?
Maggots will eat only dead tissue, thereby cleaning the wound; they will not eat live tissue. In elder abuse, for example, the bedridden victim may have open bedsores and other wounds "infected" with maggots and insects, a clear indicator of neglect on the caretaker's part.
2. When did s/he die? How?
The presence of various bugs in different stages of their life cycle can be used to estimate a time of death, often to within hours of the actual death. For example, it takes flies about two weeks to develop through their life stages from egg to maggot to fly. Maggots eat far more efficiently as a group than as individuals. Beetles prey on maggots and fly eggs. Climate also plays a role as insect activity will slow down or stop entirely when it gets cold, which makes estimating a time of death more difficult (especially on the mainland). Also, insects find different ways into the body. They may enter through wounds or natural body cavities, before or after death.
3. Where did s/he die? Was the body moved?
Insects can indicate locations. Some insects like to be within the city limits, some insects can only be found outside the city. Some insect prefer a dry climate, some live in marshes, etc. Thus the presence of bugs can give clues to the actual location of death.
4. Were there drugs present in the body?
Bugs like drugs. Yes, bugs that have digested drugs develop differently. They grow a bit better at first. In fact, estimates of time of death can be off by as much as 36 hours (in the case of heroin). The most common drugs found in human hosts can also be found in the insect.
5. Was there foreign human DNA?
Lice on a rape victim can indeed be filled with the blood/DNA of the criminal. Chigger/mite bites can be used to prove a suspect's presence at a crime scene.

Trivia:

- In Hawaii, about 10 minutes after death, flies begin to discover the victim/dead body. These flies lay eggs that become maggots. Five days later the body is covered/filled with maggots.
- Three days after death muscle tone is gone.
- A drowning victim will look very different from a land death. In fact, what a body looks like after death depends on a variety of factors, such as the presence of bacteria or fungi, or hungry predators such as mountain lions, house cats, and domesticated dogs. In general, predators of the canine family will begin to scavenge at the abdomen and groin, while members of the feline family generally begin at the face.
- A body left in Ewa/Ewa Beach can mummify within days.
- Barriers to decomposition can be physical (placing a corpse inside a container, casket, soil, water, etc.) or chemical (lime, embalming fluid, etc.) or climatic (heat, cold, wind, rainfall, etc).
- Cause of death vs. manner of death: Cause can be exsanguination (bleeding to death). Manner of death would be accident, suicide, natural, homicide.
- People officially visiting a crime scene may be cops, crime scene investigators, DAs, agents-in-charge from various official departments, coroners, forensic experts, and others. Also, don't forget about the victim, the suspect, and witnesses.
- The CSI effect is the controversial impact of forensic TV shows on the layman. Juries, for example, are now far more comfortable with science in the courtroom than they used to be. They appreciate that science can be used to explain what might have been difficult to understand previously.

For more information about Dr. Goff, follow this link:

<http://www.csicollection.com/interview04.php>