

Who says you do that?

Dick Warrington

Crime Scene Bugs

Forensic entomology involves the study of insects in connection with a legal case. While this science may be used for a number of purposes, such as in rape and abuse cases, the most common use is in death scene investigations. By studying the types of bugs present at the scene and their stage of development, forensic entomologists can estimate the time of death, and in many cases, determine if the body was moved or disturbed and whether the deceased person had ingested drugs.

Forensic entomology works in death scene investigations because insects are defined by certain characteristics and follow a predictable pattern of development. For example, if a body discovered in a densely wooded area has bugs that can't exist in that environment, then you know the body has been moved. In cases where the body has undergone significant decomposition, limiting the kinds of testing a pathologist or medical examiner can perform, forensic entomologists can test the bugs for evidence of drugs and other substances. From this information, you may get a possible cause of death. The primary use of forensic entomology, though, is in determining the time of death. Blowflies, which can quickly detect a decaying corpse, will travel to the corpse and then lay their eggs in the corpse's eyes, ears, mouth, etc. They may also lay eggs in other dark, moist places like the folds of clothing or underneath the body. The eggs then hatch into larvae or maggots, which then turn into more adult blowflies. Eventually, other insects will also be drawn to the body. With an understanding of the type of insects present and their stages of development, a forensic entomologist can then determine the time of death.

Of course, all of this valuable information will go by the wayside if you don't know what to collect or how to go about collecting it. One option is to call in a forensic entomologist. If that's not possible, you may be able to consult with an expert over the phone to help you understand what you need to do. Even better, you can educate yourself ahead of time so you are prepared. Get some procedural guides and manuals so that you know what to look for and how to collect the bugs you find at a scene. Take a class that will give you some hands-on experience. Another option is to order an

insect collection kit. Dr. Neal Haskell has developed a kit that includes materials for collecting and shipping specimens, along with a list of forensic entomologists who can analyze the bugs. Even more important, each kit contains a set of detailed instructions that explains exactly what you need to do.

When you are faced with insects at a scene, you should be sure to follow certain procedures. First, observe the scene and take careful notes. Pay attention to the type of environment and any special features you find there—rural or urban, indoors or outdoors, wet or arid, etc. Be specific about the location of the body, including position and compass direction. Record exactly where the insects are found and their type. Next, take and record the temperature at the scene. Temperature affects the growth of insects, so it is important to have a record of the temperature. Before you collect any specimens, photograph everything. Be sure to include close-ups of the bugs and their different stages.

After you have completed these steps, you can begin collecting samples. Make sure you collect samples of insects at every stage. If enough insects are present, collect some for preservation in solution and some live for rearing. When you collect samples, take them from the body before it is removed. Also include samples from the area around the body before it is moved. Once the body is moved, collect samples from directly under the body. Send all samples to a qualified forensic entomologist for analysis. (Again, consult a procedural guide or a collection kit for detailed information about the proper method for collection.)

Recent technological developments in forensic entomology offer the crime scene officer even more options for investigating a scene. But with this new opportunity also comes added responsibility. In order to take advantage of the expertise of forensic entomologists, crime scene officers need to educate themselves.

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