



An entomologist studies insects, including their biology, ecology, behavior, population dynamics, host interactions, communication, and impacts on the environment.

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Important Scientist Characteristics:

Scientists are curious and creative people. They ask questions and design experiments to discover new things and understand how they work. Scientists are very careful observers and good at thinking critically about what they recorded to understand what it means.

Example of a simple research question I have tried to answer:

Does the emerald ash borer, an insect, find its mate by smell or by sight? I created an experiment to determine which was more important for emerald ash borers, their eyes or antennae, by painting either, both, or neither. I observed the beetles to see which ones could find their mates. It turns out that they use mostly their smell, which is a function of their antennae.

Technology or equipment used in research: I work with an instrument called a gas-chromatograph-electro-antennal detector. It is a machine that analyzes and identifies chemical compounds. It is combined with a detector that has tiny electrodes that connect to insect antennae. Electricity passes between the machine and the insect antennae. The instrument enables me to identify the chemical odors that insects smell with their antennae!

Most Exciting Discovery

My colleagues and I discovered the sounds that Asian longhorned beetle larvae make when they chew inside trees. Knowing these sounds can help us find them with special sound equipment. We also discovered the odor chemicals of ash trees that are attractive to emerald ash borer.

When did you know you wanted to be a scientist?

When I was eight years old, I hid pet ladybugs in a box under my bed and tried to feed them grass. I learned that they are not vegetarians and they are good at escaping! I kept following my heart and my interests, and I took a lot of science classes in high school and university.