



Hoosier National Forest Highlights



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Going Behind the Scenes with Forest Invertebrates



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Hoosier National Forest employees generally work 8-hour days, but there are other life forms in the forest that work around the clock. Fungi, bacteria, and invertebrates break down dead wood into soil in a complex process known as decomposition. Decomposition supports a healthy forest and would not happen without the work of insects and other invertebrates.

One common guest around fallen trees is the ant. If you peel bark back from a log, you may startle an ant colony. Because they are social, meaning they live in large colonies, ants have a few different “castes,” or forms, that do different jobs. You may see workers, winged males, larger soldier ants, and their young (white pupae). Ants do not eat the wood, but they chew tunnels into it. Ants help break the wood into smaller pieces and abandoned tunnels may be used by other insects as shelter.

The termite is another occupant of a fallen tree. Like ants, termites are social insects with two main castes, the workers and the soldiers. Worker termites look like white ants and they do most of the labor in the nest. Soldier termites have large mandibles (jaws) that they use to defend the colony. Unlike ants, termites actually eat the wood.

Other invertebrates that aid in the decomposition process include millipedes. These gentle creatures eat leaf litter and other dead plant parts. After being processed in the stomach of a millipede, nutrients from the plant are deposited back into the soil. Millipedes, which are slow and round, should not be confused with centipedes, the millipede’s carnivorous counterpart. Centipedes are generally flatter and faster than millipedes. Centipedes may also be found in rotting wood, as they feed on insect larvae that will also be present in a log.

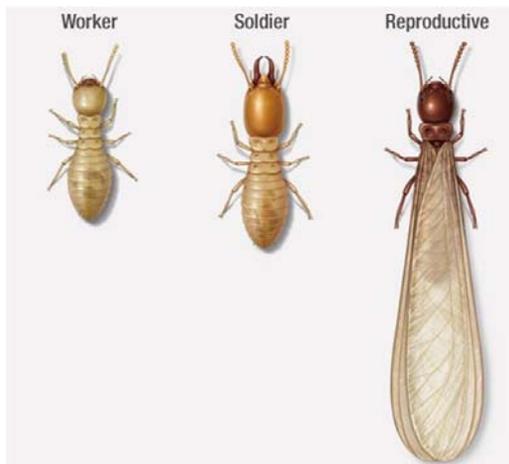
Beetle and wasp larvae also work to help decompose fallen trees. If you dig inside a rotten log, you will find many kinds of larvae. The larvae are difficult to identify because they look nothing like the familiar adults. However, if you look

around the area, chances are you will find the adults nearby trying to find a good place to lay their eggs in the wood. Some interesting beetles that are common in Indiana include the Bess Beetle and the Eyed Click Beetle.

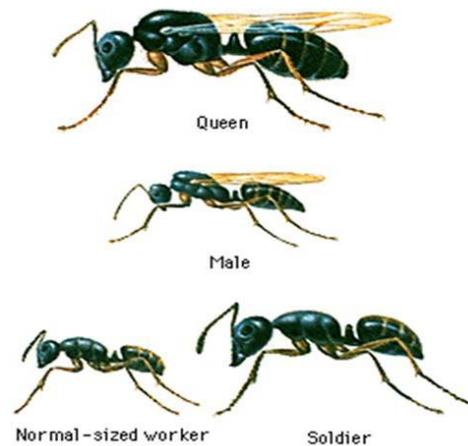
While most people think of wasps as social insects, most in fact are solitary organisms. One particularly large and fierce-looking wasp, called the Pigeon Tremex Horntail, is native to Indiana. It is a very intimidating but harmless wasp that uses a long ovipositor (that looks like a stinger) to bore holes into a fallen tree to lay its eggs. The eggs, when hatched, will yield larvae that will feed on the dead wood until forming cocoons and emerging as adult wasps.

The relationships that form in the habitat of a fallen tree are complex and vital to the health of a forest. Invertebrate decomposers not only help recycle nutrients from a dead plant back into the soil, but they also excavate tunnels to provide shelter for other animals, and they may be a food source to animals such as woodpeckers. Invertebrates are essential but easily overlooked. Next time you pass by a rotten log, stop and take a look. There are many interesting invertebrates working behind the scenes in the Hoosier National Forest.

For more information on invertebrates on the Hoosier contact Elaina Grott or Dale Weigel at 812-275-5987 or dweigel@fs.fed.us.



Termite Castes



Ant Castes



Eyed Click Beetle



Bess Beetle



Centipede and Millipede



Pigeon Tremex Horntail Wasp