

THE SECRET LIVES OF INSECTS



Disguises, Explosions, & Boiling Farts



**Bizarre Insect
Defenses**



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**Bizarre Insect
Defenses**

by Ruth Owen and Ross Piper

Ruby Tuesday Books

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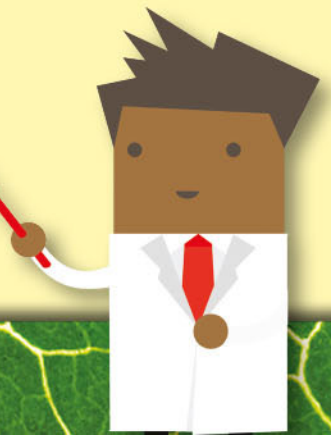
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Masters of Defense

Maybe you're fat and juicy. Perhaps you're shiny and crunchy. One thing is for sure—you're bite-sized!

Life as a tiny insect means you're in constant danger of becoming another animal's meal. That's why insects have developed a whole bunch of ways to stay safe—from fighting back and high-speed escapes, to hiding and disguises.

Inside this book, we'll see up-close how some of Earth's tiniest creatures stay safe from predators.

Let's discover the secret world of insect defenses. . . .

**Now You See Me,
Now You Don't!**

The quartz grasshopper in this photo is hard to spot among the rocks and pebbles of its desert home.

Packed with Poison

The dogbane leaf beetle feeds on poisonous plants such as milkweed and dogbane. The insect stores the plant's poisons inside its body, making itself **toxic** to predators. The beetle's colorful, shiny body warns its enemies that it's not good to eat.

A dogbane leaf beetle



A lichen katydid

Lichen

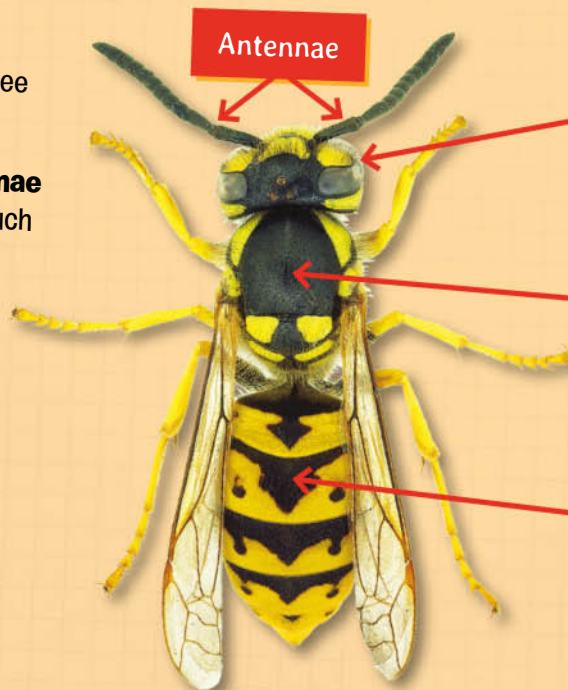


A Master of Disguise

The dark body of this **lichen** katydid is decorated with pale silvery-green lines. The pattern allows the insect to easily blend in among the fluffy tufts of real lichen on a branch.

The Science Stuff—What Is an Insect?

- Insects are tiny animals with a body made of three main parts.
- Insects use their **antennae** to do different things, such as touching, smelling, or detecting sounds.
- An insect has a tough outer covering called an **exoskeleton**.



Antennae

The head contains an insect's brain, eyes, mouthparts, and a pair of antennae.

The thorax has six jointed legs and the insect's wings.

The abdomen contains an insect's digestive system and reproductive parts.

Take Aim, Fire!

It's early morning in a forest. Thousands of wood ants are scurrying from their nest.

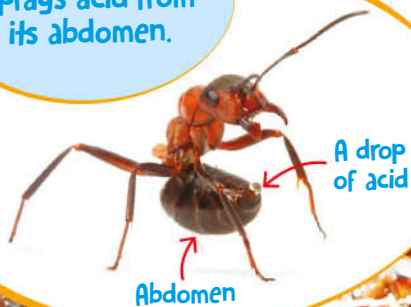
The ants are leaving their home to **forage** for food. Suddenly, a large, dark, fast-moving shape blocks out the sun. A hungry bird has spotted the ant nest and is swooping down toward the tiny insects.

The ants instantly defend themselves. They spray stinky jets of a chemical called formic acid into the air. Startled by the attack, the bird changes its mind and flies off to find its breakfast elsewhere!



Wood ants spraying formic acid

A wood ant sprays acid from its abdomen.



Formic acid gets its name from the word *formica*, which means "ant" in Latin.



The Science Stuff



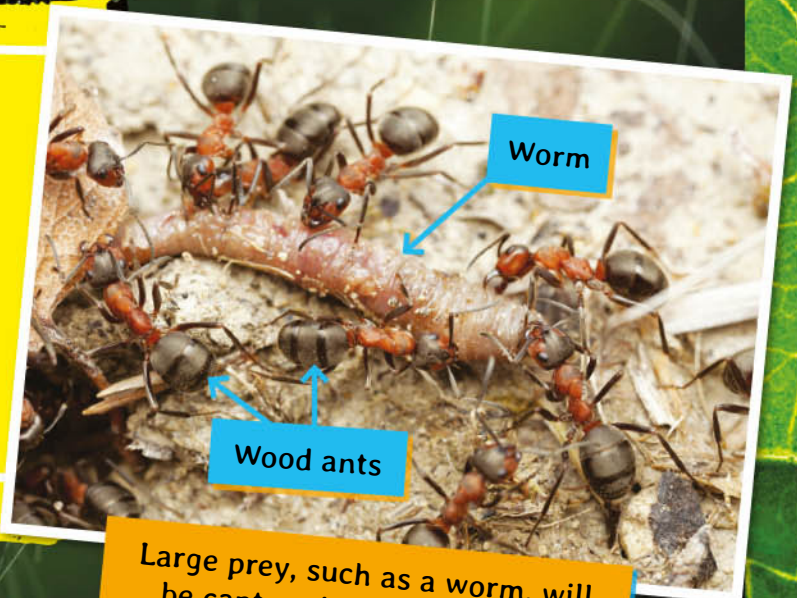
Some birds deliberately land on ants and annoy them in order to get sprayed with acid. Why?

Scientists don't know for sure—yet. One theory is that the acid kills **mites** or lice on a bird's body and feathers. The birds may be using the ants' acid to keep healthy and kill off pests.



Ant Acid for Hunting

When an ant captures another insect, worm, or slug, it grips its **prey** with its jaws and front legs. Then the ant sprays formic acid onto its victim to kill it. Once the creature stops struggling, the ant carries its meal back to the nest.



Large prey, such as a worm, will be captured and transported home by a team of ants.

