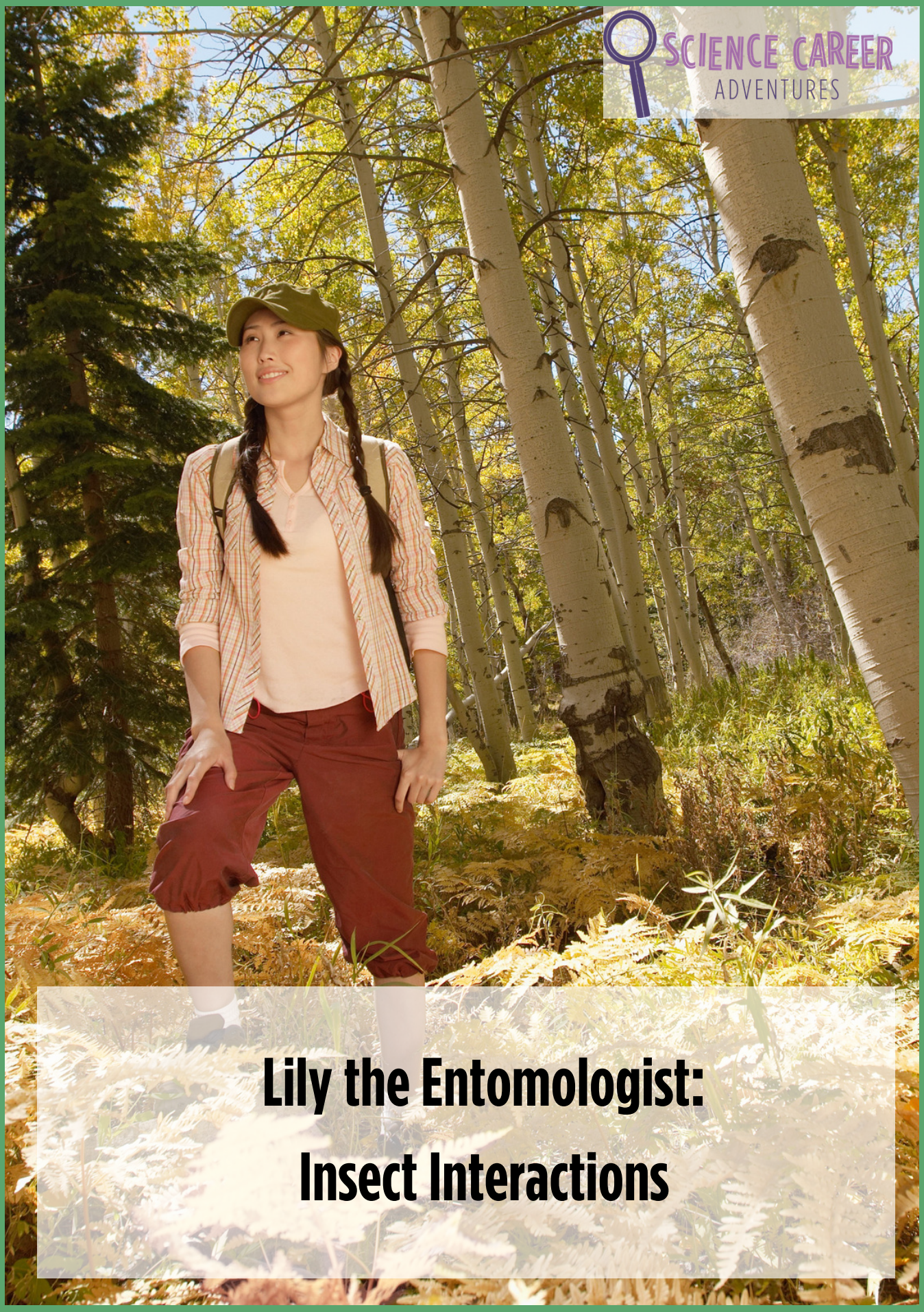
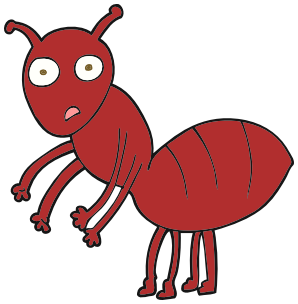


Lily the Entomologist: Insect Interactions

Who is Lily?

Hey! I am Lily. I am an entomologist! An entomologist studies insects! Can you imagine learning about the world's coolest bugs for your job?



Here are two examples of the world's weirdest insects!

Assassin Bugs

These insects stab their prey and inject them full of toxins.

Photo credit: BugGuide.net

Driver Ants

These bugs work in a group to defend themselves. If one ant gets attacked, up to 20 million ants will join the ant to attack back. Their bite is extremely powerful and can kill small animals and even humans.

Photo credit: Alex Wild Photography

Where I Work

I work as a researcher at Indiana University. Indiana University pays for researchers to travel around the world to conduct research studies. Right now, I am living in Tanzania, a country located in Africa, so I can research the aggressive Matabele ant! Because these ants live in Africa, it is important that I travel there so I can observe the ants first hand.

From Indiana...

I spent more than 20 hours on a plane!

... to Tanzania!

Give your opinion:

Why do you think it is important to see the ants first hand instead of reading about them?

Did you know?

Researchers work at universities for many reasons. For example, universities provide access to expensive equipment like video cameras that are used to observe insects. Universities also provide opportunities for researchers to collaborate with one another. Right now, I am working with other researchers studying various ways ants act as predators.

What I am Working On

Right now, I am researching how Matabele ants attack other insects. Matabele ants are highly successful predators. A predator is an organism that catches and eats another organism. Prey refers to animals that are caught and eaten. For example, Matabele ants are predators who eat termites, grasshoppers, and even mice.

These animals are all prey!

Grasshopper

Termite

Mouse

Even though ants are tiny, they can be vicious predators. It is important that I understand how ants living in different types of ecosystems attack their prey. That way, I can compare how Matabele ants and other ants hunt, and discover if there are any similar patterns between them.

Check out how these different types of ants attack their prey:

Allomerus Ants

Allomerus ants live in the Amazon rainforest. They can trap and kill prey that is 50 times larger then they are! The ants live on plants that produce a sticky substance. The ants make a honey-comb-like trap out of the plant's substance to catch and eat other insects.

Photo credit: Alex WIld Photography

Fire Ants

Fire Ants, which live in tropical areas like Florida, use their own bodies to build structures to get to their prey! One colony of fire ants built a bridge from a tree to a wasp nest, and then attacked the wasp colony!

Day in the Life

Today, I am observing Matabele ants to see how they behave like predators. I want to see if how the Matabele ant attack is similar or different from how other ants attack their prey.

5:30 A.M.

I wake up early to have a Tanzanian breakfast of chai (tea with milk), a piece of fried bread, and hard-boiled eggs. Then, I pack my backpack to get ready to hike. Because I will be walking around all day, I don't want to bring too many pieces of equipment. Luckily, I have a small, light-weight attachment that goes onto my phone so I can use it as a microscope to see the ants up close!

8:30 A.M.

I arrive at a dry, forested area where the Matabele ants prefer to live. We soon find a Matabele colony getting ready to attack a termite mound! Large groups of the ants have gathered outside of the colony, with more joining the group every second. There are over 3,000 ants so far! I grab my phone so I can take pictures of what the colony site looks like.

I also write down notes on my iPad that Matabele ants are similar to army ants that live in Central and South America because both ants coordinate large-scale attacks against other colonies of insects.

Day in the Life

9:30 A.M.

As I am watching the ants, I notice that Matabele ants also engage in “one-on-one” combat. This means one ant will directly fight another insect! I am curious why Matabele ants sometimes fight in groups and sometimes fight alone.

I write down that Matabele ants have strong front pinchers that they use to attack and carry their prey. They also have stingers on their backs that they use less often. I don't know of other types of ants that engage in “one-on-one” combat. I need to investigate if other ants work alone as predators.

12:30 P.M.

We take a break for lunch and find a spot under a shady tree. We need to be far away from ants so we won't get attacked!

Day in the Life

2:30 P.M.

My research is finished for the day. I take some time to think about how Matabele ants' predatory behavior is similar or different compared to other species of ants.

Here's what I know:

- Many ants have predatory behaviors. This means they attack their prey!
- Many types of ants work in groups to catch their prey, but use different techniques to do so.

Here's what I don't know:

- I don't know if other types of ants engage in “one-on-one” combat to attack prey.

I email my notes to other professors who are back in the United States. I explain in my notes that I want to do more research to investigate if other species of ants engage in “one-on-one” combat.