Night Fliers

A scientist searches the night skies to investigate bats.

BY BRITT NORLANDER

Night is falling in a forest in French Guiana (gee-AH-nah), a country in South America. Nancy Simmons, a zoologist at the American Museum of Natural History in New York, hikes along a trail. She opens a black net attached to long wooden poles.

As the sun sets, night-flying bats begin to emerge from their sleeping roosts. As they swoop past Simmons—THWAP!—some get caught in her net. Simmons carefully starts untangling the bats. She works through the night, examining each one before setting it aside in a cotton bag. At the end of the night, she decides which bats to release and which to take to her camp to study.

Through many long nights of work, Simmons has captured 79 different bat species within only a small circle of the forest. Each species has its own traits that help it survive. But French Guiana isn’t the only place swarming with bats. These animals are found on every continent except Antarctica. In fact, nearly one fifth of all the species of mammals on Earth are bats.

Now, scientists are trying to learn how all these different types of bats are related. Follow along as Simmons discusses her quest to build a more complete bat family tree.

Is it difficult to study bats?
Yes! Bats are nocturnal, so we have to work during the night. Studying little animals that fly at night is difficult because you can’t see them easily. That’s why we use nets to catch them.

Once you have captured a bat, what do you do?
I study the structure of the bat’s body. This ranges from what the bat looks like on the outside to what it looks like on the inside. For instance, I study color patterns on the bat’s fur as well as the form of the bat’s skull and the shape of its teeth.

To discover more about bats, tour the Science Explorations Web site. Be sure to take part in the live question-and-answer session with bat specialist Nancy Simmons. www.scholastic.com/bats

Words to Know
zoologist — scientist who studies animals
trait — a characteristic
mammal — a warm-blooded animal that can produce milk, has a backbone, and has fur or hair
family — a group of animals or plants that are related
nocturnal — active at night
insectivore — an animal or plant that feeds mainly on insects
endangered — at risk of no longer existing
What do these traits tell you?

You can learn a lot about how an animal lives by studying the structure of its body. For instance, bats that eat insects need to pierce the insect’s hard outer covering. Fruit-eating bats need to crush the fruit to get the juice. So fruit-eating bats tend to have broader, less pointy teeth—more like a human’s.

So there are lots of different kinds of bats?

There are more than 1,100 species. They range from fruit- and insect-eating bats to meat eaters. And they come in different sizes too. A large fruit-eating bat called the golden-capped fruit bat has a wingspan of up to 2 meters (6 feet). At the other extreme, the bumblebee bat is the world’s smallest bat. It’s smaller than my little finger, and its wingspan is about 8 centimeters (3 inches). These bats eat tiny insects. And there are all kinds of bats in between.

If each species of bat is different, how are they related to each other?

That’s one of the big mysteries. Most scientists now recognize 18 or 19 bat families. Bat species are grouped into these families based on traits that the species share. For example, all the bat species in one family may have similar teeth, skulls, wing forms, and eat the same type of food. But scientists have not yet agreed how

bats in each of these families are related to each other.

How will you sort it out?

We are gathering information on the traits of bat species from all over the world. By compiling all of this information, we hope to find links among the different bat families. Then, we’ll be able to build a better bat family tree.

Why is it so important to learn about bats?

Studying bats will help us protect them. There are many species of bats that are endangered. By gathering information about bats, we will be able to determine which species are at risk and how to help them survive.

Why must we protect bats?

Bats play a key role in many environments. For instance, one of the important things that some bats do is feast on corn ear worms. These insects feed on many of the plants that are grown for food. If bats were wiped out, corn ear worms could grow out of control and destroy the plants we rely on for food.

To learn more, ask your teacher, or go to www.amnh.org.