

Wily bats learn by spying on others

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THE FRINGE-lipped bat is a furry-bodied, wart-faced, giant-eared animal lighter than a golf ball and smaller than the palm of your hand. Its snout sports a fleshy, unicorn-like protrusion called a “nose leaf,” which it uses to direct its echolocating calls.



University of Toronto Mississauga biologist Krista Patriquin thinks it’s “cute,” though that’s probably not the adjective most people would use to describe the animal.

One thing is for sure: It’s a wily little critter.

This bat, found in tropical forests from Mexico to Brazil, can discover new food sources by studying the behaviour of other species. It is the first example of cross-species learning in bats, researchers say, and it may illuminate how these tiny animals manage to survive as their environment rapidly changes.

The new find, published in the journal *Science Advances*, is based on six months of experiments at the Smithsonian Tropical Research Institute in Gamboa, Panama. Working through the night in a giant metal cage protected from the rain, Patriquin and her colleagues tested whether fringe-lipped bats could learn to associate a new sound with food by observing a bat from a different species.

To ensure that the experiment’s sound really was new to the bats, the researchers worked to come up with something so hideous and unnatural that the animals wouldn’t tolerate it unless they knew they’d be rewarded.

“Each pulse was a high-pitched ‘Eeee, eeee,’” Patriquin said, squeaking into the phone. She hated it, and the bats did too. “You could visibly see they were not happy because they would shake their heads in response to the sound.”

Nevertheless, the researchers were able to train members of a similar species, the whitethroated round-eared bat, to fly toward the sound in exchange for a tasty meal. By first playing the familiar sound of a katydid’s chirp, then gradually switching it out for the piercing “novel cue,” the scientists taught the whitethroated round-eared bats to associate the cue with dinner.

By contrast, fringe-lipped bats that had to figure out the relationship between the squeaking sound and food on their own were rarely successful. Most of the time, Patriquin and her colleagues had to end the experiment before the bats got the hang of things.

The fringe-lipped bat “is a consummate learner,” Patriquin and her colleagues write in their report, “capable of acquiring new information about novel, potential prey from conspecifics” (members of their

own species) “and heterospecifics” (members of other species). — Washington Post.