



The biological sonar system called echolocation is a powerful tool for insect-hunting bats. Now an innovative experiment with big brown bats suggests that young bats learn to use echolocation by eavesdropping on the calls of their more-experienced hunting companions, the BBC reports.

Reporter Victoria Gill said this is the first study to show that bats (at least big browns [*Eptesicus fuscus*]) actively listen for the echolocation calls of other bats in order to learn from them. Such social learning has been confirmed in many mammals, but until now it had not been clearly demonstrated in bats.

A University of Maryland team, led by graduate student Genevieve Spanjer Wright, conducted the experiment in a flight cage, tracking bats as they "hunted" a mealworm suspended on a string, Gill reported. The results are published in the journal *Animal Behaviour*.

Spanjer Wright and her colleagues trained 12 "demonstrator bats" to catch the mealworm. By repeatedly changing the worm's location, the bats had to use echolocation pulses to hunt for it, the BBC said.

Then 22 young "naive" bats were added to the experiment. Half of them were released into the cage while the trained demonstrator bats hunted for the mealworm, Gill said. The other half flew with untrained bats.

"When the naive bats then flew on their own, most of the animals that had previously flown with an experienced demonstrator knew how capture the mealworm," Spanjer Wright told the BBC. "None of the ones that flew with an untrained bat captured the worm."

An analysis of video from the experiment revealed that whenever an experienced bat found the worm and emitted a "feeding buzz" (a very high frequency call that bats use to home in on prey), the naive bat stayed very close to the demonstrator, the BBC reported.

Spanjer Wright said told the reporter that there previously had been no conclusive evidence that young, insect-eating bats used social learning to acquire hunting skills. "This is good evidence that they do," she said, "and it [shows] the mechanism by which the bats may learn: by increasing their interaction with a knowledgeable demonstrator bat."

Biologist Marc Holderied of Bristol University in the United Kingdom told the BBC that bats of many species tend to fly in small groups, which had been interpreted as social learning. "But this experiment provides very convincing evidence that this species specifically looks at experienced foragers to learn how to forage."

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