

RESEARCH INDICATES BUTTERFLIES “TALK”

By Tim Lockette

Butterflies may seem like the quietest of creatures, but a University of Florida researcher has uncovered new evidence that many of the colorful insects actually spend much of their time “talking” to each other.

UF entomologist Mirian Hay-Roe found that blue-and-white longwing butterflies emit a barely audible series of clicks when they come into contact with other butterflies. The finding adds to a small but growing number of studies suggesting that some butterfly species use sound to communicate.

“It’s one of those accidental discoveries that sometimes happen in science,” said Hay-Roe. “I wasn’t looking for communication in butterflies. I just noticed that these butterflies were making noise.”

Hay-Roe says she isn’t sure how the butterflies make the clicks. The blue-and-white longwing appears to have no specialized structure for making sound, she said. Future researchers are more likely to be interested in finding the insect’s “ears,” which butterfly experts say could be used as models for miniature microphones or improved hearing aids.

The blue-and-white longwing, also known by the scientific name *Heliconius cydno*, is a butterfly found in South and Central America. Adults of the species spend their days eating pollen from tropical flowers, and they congregate by the hundreds at night in trees.

Several years ago, Hay-Roe was working with a different species, and sharing greenhouse space with a researcher who was working with blue-and-white longwings, when she noticed something peculiar. The blue-and-white longwings seemed to be bullying her butterflies.

“They were chasing my butterflies all around the greenhouse,” she said.

Soon she noticed another odd thing: The longwings seemed to be making a faint clicking sound as they chased the rivals out of their territory. Further observation revealed the butterflies often made the sound when they encountered members of their own species. Longwings often clicked at each other during flight, when two of the butterflies were so close they almost touched. They also clicked at each other while roosting at night.

“When I told my fellow researchers that these butterflies were making noises, I think they thought I was going crazy,” Hay-Roe said. “The sound they make is very faint, but if you listen very closely you can hear it.” Armed with a simple tape recorder and lots of patience, Hay-Roe captured some of the butterfly sounds on tape. She and co-author Richard Mankin, an entomologist with the U.S. Department of Agriculture, analyzed the sounds and published their results earlier this year in the *Journal of Insect Behavior*.



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UF entomologist Mirian Hay-Roe holds two blue-and-white longwing butterflies. She found that the butterflies make faint clicking sounds while interacting with one another, suggesting some butterflies use sound to communicate.

Hay-Roe said it will take further research to prove the sounds are a form of communication. But based on the context in which the sounds are made, she said, it is likely the butterflies are using the noise to shoo others out of their territory.