

Boomboxes amplify predatory bird sounds and are used as cues

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Using boomboxes to amplify predator bird sounds in the wild, University of Florida researchers have found that smaller birds listen to vocal cues to avoid areas populated by predators.

In her study, doctoral student Fangyuan Hua set up above-ground boomboxes mounted in camouflaged boxes on half-acre plots at the Ordway-Swisher Biological Station near Melrose.

Powered by car batteries, these boomboxes were programmed for four months to broadcast [predator](#) sounds according to a schedule that simulated when and how predators would normally call.

"Such broadcasting was to create the perception for forest birds that there was increased abundance of predators in the forest," Hua said. "We were very interested in knowing whether forest birds that are prey to these predators would use such cues and respond by altering their decision about where to breed."

The study looked at three types of predators and compared how their cues affected forest birds. It turned out that forest birds recognized vocal cues of the Eastern screech-owl, blue jay or Cooper's hawk as indications of different threats: While different predator cues altered bird community make-up, their effects were distinctive.

Researchers determined that while some bird species clearly avoided plots with feared predators, other species seemed to alter their behavior

to make themselves less conspicuous.

The study was published in the June issue of the *Proceedings of the Royal Society B*. It was co-authored by Kathryn Sieving, a professor in UF's Department of Wildlife Ecology and Conservation and a co-chair of Hua's dissertation committee. Robert Fletcher, an associate professor in the department of [wildlife ecology](#) and conservation, also co-chaired the dissertation panel. Robert Dorazio, a statistician with the U.S. Geological Survey's Southeast Ecological Science Center in Gainesville, also helped write the paper.

"Results from this study are exciting because they support growing understanding that animals are using acoustic cues to make important survival decisions," Sieving said. "Species actually listen to each other and predators' calls to detect whether a predator is lurking nearby."

While the findings apply to fear-based behaviors of birds, the study also reflects important trends in the science of human-environment interactions, she said.

This reflects an emerging field called "soundscape ecology," which is focused on understanding how animals rely on natural sounds, Sieving said.

"So, we are learning that we can't just protect natural habitat for wildlife, we have to protect natural soundscapes, too, which is difficult for us noisy humans with all of our planes and trucks and oil rigs and fracking machines," she said.

Hua is now a postdoctoral research associate at Princeton University.

Provided by University of Florida

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