

# New research suggests bird songs isolate species

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University of British Columbia researchers conducted playback experiments by hanging wireless speakers in the trees and broadcasting songs from related subspecies. Credit: University of British Columbia

Two birds that look the same, but have songs so different they can't recognize each other, should be considered distinct species, suggests new University of British Columbia (UBC) research.

"Songs are important for birds and who they choose to mate with," said Benjamin Freeman, a Banting postdoctoral fellow in the department of zoology at UBC. "Birds evolve different songs and we wanted to find out which populations are so different in [song](#) that they should be considered different species."

Among the 72 related populations of Central and South American birds the researchers tested, they found evidence for 21 new species.

Organisms that mate and create an offspring that can go on to reproduce are considered to be part of the same species but there are a number of naturally occurring barriers, like geographic location or behaviour, that can prevent similar organisms from mingling. In the study, UBC and Cornell University biologists examined how different populations of birds respond to each other's songs.

In the [tropical forests](#) of Central and South America where the vegetation is dense, birds rely heavily on song to claim their territory and let other birds know where they are. For this experiment, the researchers conducted playback experiments by hanging wireless speakers in the trees and broadcasting songs from related subspecies and then observing how the birds responded.



Cinnamon Becards (pictured) look different and have somewhat different songs from Chestnut-crowned Becards, but do respond to their song. Credit: Andy Reago and Chrissy McClarren.

If the birds continued on with their natural behaviour and ignored the speaker and sound, it indicated that they distinguished the songs. They did not feel like another bird was encroaching on their territory and trying to mate with their partner. If the bird got angry and started to try and kick the "intruder" out, it indicated they recognized the song.

Historically, scientists have identified new species by finding birds that look different enough or occupy different geographic locations.

"It's interesting that with one study in one year, we came up with good evidence that there are 21 [new species](#) that authorities should recognize," said Freeman. "We know so much about birds but this demonstrates that we still have a lot to learn."

This research is part of a larger pursuit to learn about the evolution of bird songs and why birds develop different songs.

"As a birdwatcher in tropical forests, you have no choice but to get interested in songs," said Freeman. "As you walk through the forest, you hear 25 birds for every one you see. As a biologist, I wanted to know - is it important that the [birds](#) sing differently and is it a little important or a lot important?"

Freeman and his colleagues will submit these findings to a committee of ornithologists who are responsible for naming and recognizing bird [species](#) of South America.

**More information:** This study was published in *The Auk*:  
[www.bioone.org/doi/full/10.1642/AUK-17-63.1](http://www.bioone.org/doi/full/10.1642/AUK-17-63.1)

Provided by University of British Columbia

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