

Male songbirds don't have to be studs to find a mate

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Lincoln's sparrow

Biologists at the University of North Carolina at Chapel Hill may have good news for male songbirds: You might not have to be a stud to attract a mate.

The work, which appears in the October 15 issue of *Biology Letters*, not

only means good news for [male birds](#) that are not at the top of the pecking order, but it also could be important for the survival of the species.

"If these female sparrows don't have flexibility in their [mate choice](#) criteria, they could forego a whole breeding season without mating," said Keith Sockman, associate professor of biology in UNC's College of Arts and Sciences. "And for a short-lived sparrow with about a 50 percent mortality rate each year, this could be the only chance she has to mate."

To the human ear, a bird's songs may all sound the same, but for a female bird even the slightest variations in trill performance make a noticeable difference from other male songs. That variation can contribute in part to her decision as to whether or not to mate with a particular male.

When female [birds](#) hear a [song](#) from a courting male, they do not have rigid criteria for selecting a mate. Rather, songbirds have flexible criteria for [mate selection](#) depending on the quality of songs in their environment.

For one week, Sockman and biology Ph.D. candidate Susan Lyons exposed one set of six female Lincoln's sparrows to unattractive, or low performance songs, and another set of six females to attractive, or high performance songs. After a week, they introduced a single, new song to both sets of birds, but this time the new song was of intermediate performance. Sockman and Lyons found that the birds used to the unattractive songs were more attracted to this intermediate song than the birds that had been exposed to attractive songs.

"The idea with this experiment was to establish in the females' brains a perception about the quality of males that were in their environment," Sockman said.

This is an auditory example of the contrast effect, which Sockman believes has been demonstrated for the first time in an organism's evaluation of performance-based sexual signals. Other more familiar human examples of the contrast effect include how warm water feels cool after immersing your hand in hot water, or how a medium-sized circle surrounded by large circles looks small.

"Our study illustrates how this psychological phenomenon could be adaptive—that just like humans, animals do not make decisions in a bubble," Lyons said. "They often refer to previous experience when discriminating between options."

Provided by University of North Carolina at Chapel Hill

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