

When climate is iffy, birds sing a more elaborate tune

May 21 2009

Why is it that some birds sing such elaborate songs and others not so much? A new study published online on May 21st in *Current Biology*, a Cell Press publication, says that climate patterns might be part of the answer.

The researchers show that difference in [song](#) patterns among the many species of mockingbird vary with climate in the diverse places they live. Specifically, species that are subject to more variable and unpredictable climates also have more impressive singing skills.

"Local climatic patterns are great indicators of how demanding life can be at a certain site," said Carlos Botero of the National Evolutionary Synthesis Center. "For example, harsher winters, drier dry seasons, or highly unpredictable weather patterns make it harder for animals to survive and reproduce. Our data show that mockingbirds living in more demanding environments tend to have more elaborate song displays. We think that this surprising relationship reflects the fact that just as climatic patterns tell a lot about a site, singing behavior also tells a lot about a singer."

Male songbirds sing to attract mates and to repel [rivals](#), he explained. As a result, their songs are packed with information about their own quality and condition. Indeed, mockingbird males must learn the songs they sing, either inventing or copying various song elements. Differences in the quality of those songs can therefore reveal something about an individual male's brain power.

When the climate is less certain, those songs probably become even more critical as females become choosier in their mate selection, Botero added. After all, the reproductive consequences of choosing a "less-than-the-best-available partner" can be quite severe when times are tough. Under those circumstances, song displays will tend to become more elaborate over evolutionary time as males work harder to attract and convince a mate. A similar argument could be made for signals used in the context of male-male competition, Botero said.

And there could be other forces at play, he said. In environments with variable and unpredictable climates, natural selection for enhanced learning and innovation may lead to the evolution of signals of intelligence in the context of mate-attraction.

Botero says the findings in mockingbirds might even tell us something about ourselves.

Others have suggested that human displays, such as language, the arts, and music, might have evolved as signals of intelligence through the process of sexual selection, he said. "Our data suggest that a similar process might be going on in the songbirds, and this possibility presents us with a unique opportunity to understand the forces behind the evolution of traits that are so important for our own species."

Source: Cell Press ([news](#) : [web](#))

Citation: When climate is iffy, birds sing a more elaborate tune (2009, May 21) retrieved 18 April 2024 from <https://phys.org/news/2009-05-climate-iffy-birds-elaborate-tune.html>

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