

For monogamous sparrows, it doesn't pay to stray (but they do it anyway)

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It's quite common for a female song sparrow to stray from her breeding partner and mate with the male next door, but a new study shows that sleeping around can be costly.

The 20-year study, which is reported in The [American Naturalist](#), found that offspring conceived outside sparrows' social pairs go on to have lower [reproductive success](#) than within-pair offspring. The findings throw a monkey wrench into theories about why ostensibly monogamous animals might be inclined to cheat.

Most bird species display some form of monogamy. Bonded pairs stay together for a breeding season, a few seasons, or sometimes for life. But beneath this veneer of monogamy, there's plenty of hanky-panky in most species. Why promiscuity exists in [monogamous species](#) is "one of the biggest remaining enigmas in evolutionary ecology," said Jane Reid, a research fellow at the University of Aberdeen and one of the study's authors.

One hypothesis for this is that when a female strays she makes it count by mating with a male of higher [genetic quality](#) than her social mate. The result is higher-quality offspring that have a better chance of carrying a female's genes into [future generations](#). This study, however, turns that explanation on its head.

The researchers studied a population of [song sparrows](#) in Mandarte Island in British Columbia, Canada. Each year starting in 1993 the team

drew small blood samples from nearly every hatchling in the population and used [genetic markers](#) to see who fathered each bird. They found that 28 percent of all chicks were fathered by males other than a female's socially paired mate. Thirty-three percent of broods had chicks that were fathered by multiple males.

The researchers tracked both within- and extra-pair offspring throughout their lives. They found that extra-pair offspring had 40 percent fewer offspring of their own, and 30 percent fewer grandoffspring, compared to within-pair offspring.

"These results are remarkable because they are completely opposite to expectation," Reid said. "They show that females suffer a cost of promiscuity because they produce worse offspring through extra pair mating. Rather than answering the question of why females should mate promiscuously, [these results] have blown the question wide open."

More information: Rebecca J. Sardell, Peter Arcese, Lukas F. Keller and Jane M. Reid, "Are There Indirect Fitness Benefits of Female Extra-Pair Reproduction? Lifetime Reproductive Success of Within-Pair and Extra-Pair Offspring." *The "American Naturalist"* 179:6 (June 2012).

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