

# Study reveals why starling females cheat

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While women may cheat on men for personal reasons, superb starling females appear to stray from their mates for the sake of their chicks, according to recent Cornell research published in the *Proceedings of the Royal Society of London B*.

The study found that superb starling females (*Lamprotornis superbus*) cheat on their mates for a variety of reasons. Some females mate with subordinate males from within their social group when they need help to raise their chicks. (Superb starlings are cooperative breeders, meaning breeding pairs get help in raising chicks from other family group members.) This additional male then also acquires food and tends to the nestlings, which increases the chicks' survival rates.

While females often leave the group when young, most males live their entire lives with their families and, therefore, are usually related to the chicks. By helping the chicks survive, they pass on familial genes.

In contrast, some females cheat with males outside their group if they sense their mates are too genetically similar to themselves. Mating with strangers increases their brood's genetic diversity, even though it does not reap additional help. As yet, it is unknown how females detect the genetic similarities between themselves and their mates, though other species of birds appear to adopt similar mating strategies.

"This is the first study to show that individuals from the same population mate with extra-pair males and gain both direct (like additional helpers) and indirect benefits (like better genes for the offspring), but that they

do so in different contexts," said Dustin Rubenstein, a former Cornell graduate student in neurobiology and behavior and now a research associate at the Cornell Laboratory of Ornithology and a Miller Research Fellow at the University of California-Berkeley.

Usually, if a female bird (and at times if a human female) is caught cheating, the partner punishes her by doing less work in raising the chicks, or in extreme cases, leaves her to raise the chicks on her own. But because superb starlings, a bird common to East Africa, are cooperative breeders, females have more incentive to stray, said Rubenstein, because even if she is caught cheating, she still may get help from other group members. Yet, superb starlings tend to stray much less often than other cooperative breeders, despite the dual potential benefits for females in seeking extra-pair mates.

"In most avian cooperative breeders, 40 to 60 percent of offspring are a result of extra-pair matings, but in superb starlings, only about 14 percent of the offspring are fathered by other males," said Rubenstein. No one knows why superb starling females have lower rates of cheating, but Rubenstein said it suggests that there may be less conflict between the sexes than in other species. He is currently researching this issue.

While it has long been known that males of many species cheat and mate widely to produce as many offspring as possible to spread their genes, the reasons behind female infidelity appear more complex. With this study and this species, "we can break down the reasons why superb starling females are not faithful to their mates and see that they have different extra-pair mating strategies," said Rubenstein. "It adds a whole new layer of complexity to the story."

Source: Cornell University

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