

Biological clock ticks slower for female birds who choose good mates

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Blue tits (*Cyanistes caeruleus ogliastrae*) are from the French island of Corsica.
Credit: Photo by Samuel Caro.

In birds as in people, female fertility declines with age. But some female birds can slow the ticking of their biological clocks by choosing the right mates, says a new study.

Female birds become progressively less fertile as age takes its toll, said co-author Josh Auld of the National [Evolutionary Synthesis](#) Center in Durham, North Carolina. Older females lay fewer eggs, and they lay

them later in the season — at a time when less food is available for their chicks, he explained.

But despite abundant evidence of fading fertility in females, scientists know little about the role played by their mates. "The thought was that males didn't matter," Auld said.

To find out if males factor into female fertility, the authors took advantage of a long-term data set of birds known as blue tits. Since the late 1970s, scientists have studied thousands of these blue and yellow forest [birds](#) on the French island of Corsica.

Blue tits breed once a year, and often with a different mate each season. By attaching ID bands to the birds' ankles and monitoring their nests, scientists are able to keep track of who mates with whom, how many eggs they lay and when, and how the fledglings fair over time.



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When the authors analyzed lifetime data for nearly 600 females and 600 males from 1979 to 2007, they found a surprise: how fast a female's

fertility fades with age depends partly on her partners.

The important thing for females is not the age or identity of her mates, they discovered, but her partners' paternal past. "The 'history' of the male matters," said co-author Anne Charmantier of France's National Center for Scientific Research, also known by its French initials CNRS.

Fertility declined less quickly for females whose mates became first-time fathers young. "Females that repeatedly pair with early-reproducing males are better off. They don't age as fast," Auld said.

Males who got a head start on fatherhood —within their first year of life— may be healthier or more experienced mates than dads that delayed. "Males that start breeding early may be in better condition, or have lower parasite load," Charmantier said.

Healthier or more experienced males may also be better partners in parenting, such that time takes less of a toll on mom. "The male helps the female build the nest, and he brings her food while she's laying and incubating the eggs. He also helps care for the hatchlings," Auld said.

Males play a greater role in how fast females pass their prime than previously thought, he added.

More information: Auld, J. and A. Charmantier (2011). "Life history of breeding partners alters age-related changes of reproductive traits in a natural population of blue tits." *Oikos*.

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