

NEWS

Woodcocks Don't Let Migration Mess With Their Sex Lives

A new study finds the first proof that timberdoodles mate as they migrate, an extremely rare behavior known as itinerant breeding.



American Woodcock. Photo: Ryan Mandelbaum

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Conventional wisdom holds that traveling and breeding are two separate phases of a migratory bird's annual cycle. After all, flying hundreds or even thousands of miles burns an awful lot of energy, as does raising the next generation. To do both at the same time would seem like a recipe for exhaustion.

But sometimes evolution surprises us. In fact, scientists have identified around a dozen species—among them the Yellow-billed Cuckoo, Orchard Oriole, and Tricolored Blackbird—whose migratory and reproductive periods they believe overlap. Until now, there was only circumstantial evidence of this exceedingly rare phenomenon, known as itinerant breeding. In a new study, however, a team of researchers has collected what they say is the first concrete proof of itinerant breeding anywhere in the world while tracking the migration of the [American Woodcock](#).

The study of more than 200 GPS-tagged female woodcocks found that around 80 percent of them nested more than once during spring migration, with some nesting as many as 6 times. "Combining [migration and breeding] seems almost impossible," says Colby Slezak, a Ph.D. candidate at the University of Rhode Island and lead author of the paper, [published in Proceedings of the Royal Society B](#). "But this is showing that it is possible, at least in the case of woodcock."

Previous studies of other species have found patterns of movement that appear to show birds breeding while migrating, but the new paper is the first to document individuals building nests in multiple regions on their travels. "This is definitely the new gold standard for itinerant breeding studies," says Daniel Baldassarre, an ornithologist at SUNY Oswego who has [studied itinerant breeding in the Phainopepla](#), and who was not involved in the study. "To track so many individuals moving across the landscape and show conclusively that they are making separate breeding decisions is unprecedented."

To reach its conclusion, the Rhode Island team worked with scientists at three dozen agencies and organizations to capture female woodcocks and outfit them with GPS transmitters. That's an approach only recently made possible by improvements in tracking technology that produced transmitters small enough to fit the birds, says Scott McWilliams, an ecologist at the university and co-author of the paper. "If we were talking about doing this five years ago or more," he says, "it would have been impossible."

Tracking the GPS-tagged birds from his computer, Slezak identified a pattern of movement that he believed indicated when a female was nesting. He then enlisted local partners along the migration route to visit a subset of those sites and confirm the presence of a well-camouflaged nest. "These people were literally scouring in grass and brush looking for these nests, so it was no easy task," he says. "It wasn't like these birds are big and really conspicuous. I mean, they're brown on a brown landscape."



American Woodcock chick located by volunteers for a banding program in Michigan. Photo: Mackenzie Brockman

Having confirmed that the movement pattern he observed was indeed a telltale sign of nesting, Slezak was able to confidently identify nest sites among the full set of tagged birds. On average the females traveled some 500 miles between their first and second nest attempts, but in some cases they ventured much farther—as far as 1,400 miles. The distance between subsequent nests was typically a little over 100 miles.

The findings help to solve mysteries that have long surrounded the reproductive and migratory behaviors of woodcocks. Why, for instance, do males go to the effort of performing [their elaborate courtship dance](#) not only after they reach their destination in the northern forests, but all along their migration routes from the Southeast and Gulf Coast? Why were females found nesting in southern states observed later that same year much farther north?

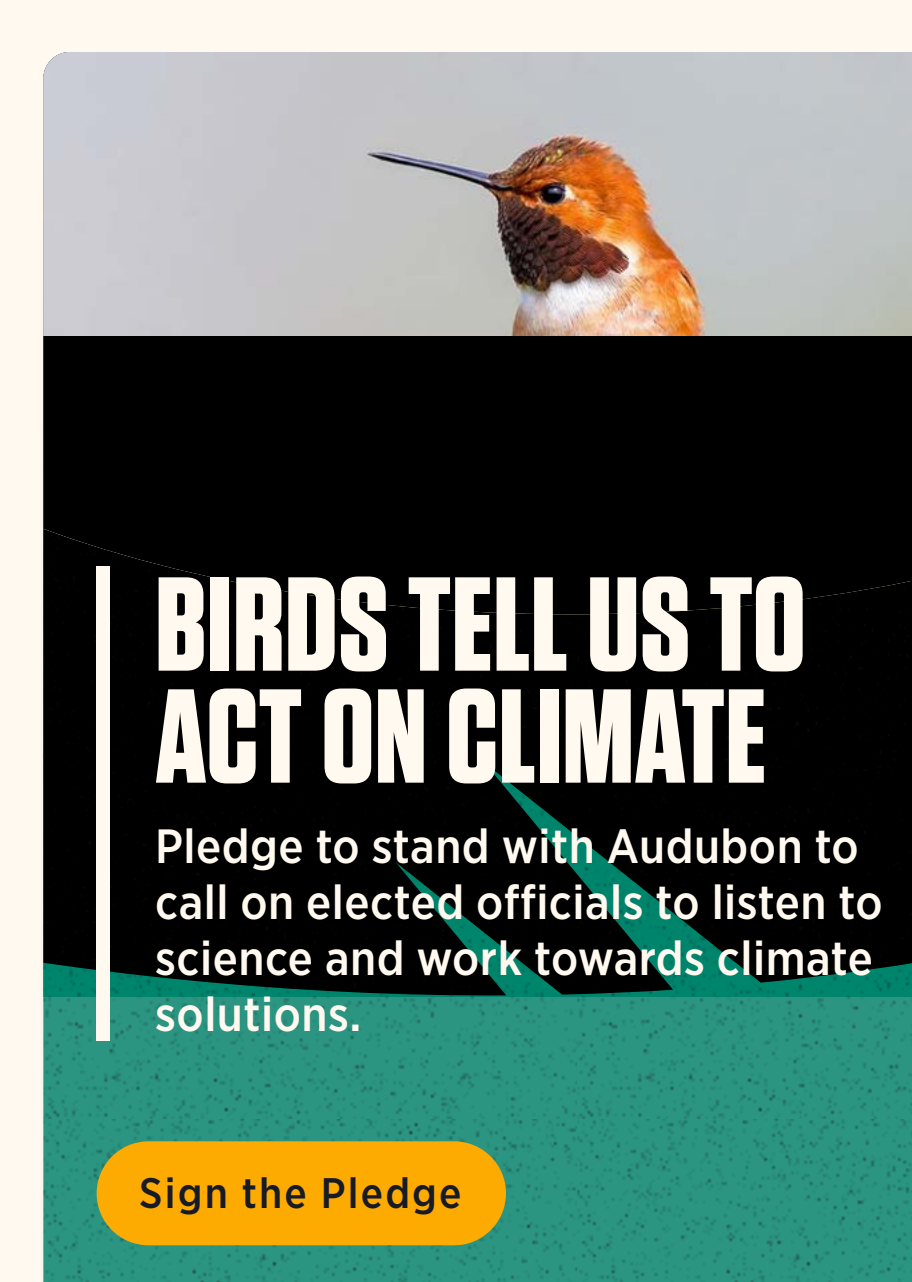
Proof of itinerant breeding provides answers to those questions, but the reasons for this behavior remain uncertain. One likely explanation has to do with the harsh realities of the American Woodcock's reproductive timing: Among the earliest North American species to breed each spring, some individuals begin nesting as early as January and travel northward just as winter snows are melting, exposing the birds to nasty weather that can lead to nest failure. As ground nesters, their eggs are also vulnerable to predators. Through itinerant breeding, females can nest multiple times with multiple males—the birds do not form pair bonds—for a better chance at success.

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At the same time, the strategy makes sense because, the researchers note, each nesting attempt costs the female relatively little. That's in part because her eggs are quite small, meaning they don't take much energy to produce. Plus, baby woodcocks are precocial, which means they can leave the nest just hours after hatching. The chicks can feed themselves after about a week and are completely independent about a month later. And building a nest isn't particularly energy-intensive for the female, since woodcocks simply create a shallow depression in leaf litter.

The team's discovery may also prove valuable for conservation. American Woodcock populations [have been in decline](#) for decades, largely due to land-use changes that make their young-forest habitat harder to find. The findings show that protecting potential nesting habitat all along the birds' migratory routes is the ideal approach for helping them rebound, Slezak says. "Knowing what we know now," he says, "management needs to be done at a much broader scale and much more collaboratively."

In the meantime, the ability to nest multiple times while migrating might help woodcocks and other itinerant breeders face evolving threats in a quickly changing world, Baldassarre says. "They are, by definition, less rigid in their migration and breeding behavior than the typical migratory bird, which should offer some resilience," he says. "Itinerant breeding could be a lifeline that keeps their populations viable."



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