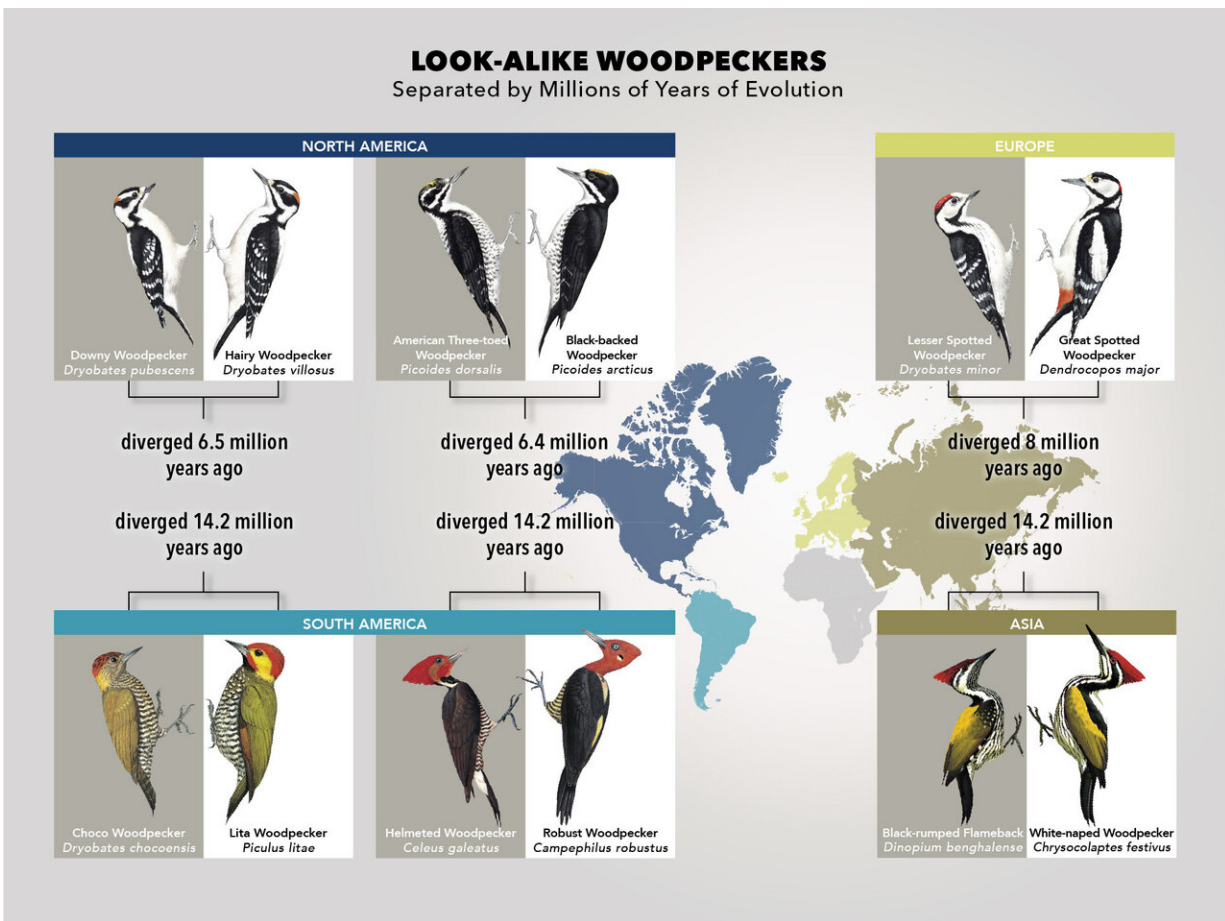


Study: Some woodpeckers imitate a neighbor's plumage

April 8 2019



Credit: Jillian-Ditner, Cornell University

In the first global test of the idea, scientists have found evidence that

some woodpeckers can evolve to look like another species of woodpecker in the same neighborhood. The researchers say that this "plumage mimicry" isn't a fluke—it happens among pairs of distantly related woodpeckers all over the world. The study, published in the journal *Nature Communications*, was conducted by researchers at the Cornell Lab of Ornithology, SUNY Buffalo State, the University of British Columbia, and Manchester University.

"Habitat, climate, and genetics play a huge role in the way feather color and pattern develop," explains lead author Eliot Miller at the Cornell Lab. "Species in similar environments can look similar to one another. But in some cases, there's another factor influencing the remarkable resemblance between two [woodpecker](#) species and that's mimicry. It's the same phenomenon found in some butterflies which have evolved markings that make them look like a different bad-tasting or toxic species in order to ward off predators."

Study authors combined data on feather color, DNA sequences, eBird reports, and NASA satellite measures of vegetation for all 230 of the world's woodpecker species. It became clear, Miller says, that there have been repeated cases of distantly-related woodpeckers coming to closely resemble each other when they live in the same region of the globe.

"In North America, the classic lookalike pairing is Downy Woodpecker and the larger Hairy Woodpecker," Miller says. "Our study suggests that these two species have evolved to look nearly identical above and beyond what would be expected based on their environment. Yet, these two species evolved millions of years apart

Other North American lookalikes are Black-backed and Three-toed Woodpeckers. In Europe, Greater and Lesser Spotted Woodpeckers bear a striking resemblance, as do the Lineated, Robust, and Helmeted Woodpeckers of South America.

Though not part of the study, Miller's take on the reason for woodpecker doppelgangers is that downies that look like the larger, more aggressive Hairy Woodpeckers might make other birds, such as nuthatches and titmice, think twice about competing with the downy for food. Some evidence supporting this idea has been found in [observational studies](#) but field experiments would be needed to more conclusively test this hypothesis.

The data turned up some other interesting connections between woodpecker appearance and habitat. Many of the woodpeckers the scientists looked at in tropical regions have darker feathers. This adds to a growing body of evidence in support of "Gloger's Rule," which states that organisms tend to be darker colored in more humid areas. They also found that:

- red-headed woodpecker species tend to live in forested habitats
- black, white, and gray colored species tend to live in open habitats
- woodpeckers with red on their bellies are most often found in forests
- woodpeckers with large patches of color on their bellies were most often found in open habitats

Additional studies would be needed to try to ferret out why some plumage patterns seem to be linked to habitat types.

"It's really fascinating," says Miller. "And it's pretty likely this is happening in other bird families, too. I first got interested in this question a decade ago from looking through bird books. I wondered how the heck some distantly related [species](#) could look so much alike—what are the odds that it could happen just by chance?"

More information: Eliot T. Miller et al, Ecological and geographical

overlap drive plumage evolution and mimicry in woodpeckers, *Nature Communications* (2019). [DOI: 10.1038/s41467-019-09721-w](https://doi.org/10.1038/s41467-019-09721-w)

Provided by Cornell University

Citation: Study: Some woodpeckers imitate a neighbor's plumage (2019, April 8) retrieved 25 April 2024 from <https://phys.org/news/2019-04-woodpeckers-imitate-neighbor-plumage.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.