

# The Outside Story



WHITE-BREASTED NUTHATCH

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## Nuthatches: The Upside Down Birds

By: Joe Rankin

Like many people who watch birds, I have my favorites. The nuthatches, for instance.

Quirky little birds. Shaped like stubby cigars, with their short tails and thick necks. And that disconcerting habit of spending time upside down. I wish I could do that. Of course, I wish I could walk up walls and hang from the ceiling like a gecko, too.

But why do nuthatches walk down the trunks of trees, anyway?

"There's no definitive answer to that," said Cameron Ghalambor, a professor of biology at Colorado State University who has studied red-breasted nuthatches. The theory is the birds benefit from their different viewpoint. "You

can imagine a creeper or a woodpecker facing the bark of a tree and looking up in the crevices of the bark for food items," he said. "But there is this unexploited niche that you could access if you were working your way down the tree."

Nuthatches store seeds in the bark of trees. Caching seeds so they can be seen going down the tree may keep them safe from other birds going up the tree, he said. "That's a very important part of their winter diet. Starting in the fall they cache as many seeds as they can. Bird feeders have made their lives a little easier."

Actually, Ghalambor explained, walking isn't quite the correct word for what nuthatches do. "They look like they're walking, but they sort of hang off the bark by the number one toe, also called the hallux, the backward-pointing toe . . . as they make their way down. It happens so quickly. It's a very natural movement for them, but among birds it's a very unique way of walking down the side of a tree." Tripping? Maybe that's the word.

The nuthatch clan is established across the northern hemisphere's temperate zones. In North America, the red-breasted nuthatch, which prefers coniferous woods, is the most widespread. The white-breasted likes hardwoods. The pygmy nuthatch inhabits the pine forests of the western US and the brown-headed nuthatch resides in the pine forests of the Southeast. Interestingly, red-breasted nuthatches are genetically identical across the continent; no races or subspecies are recognized. The reason may be because northern living birds decamp en masse when the cone crop fails in their boreal forest habitat. Some remain in the south, thus keeping the genetic pot stirred.

The real hotbed of nuthatch diversity is in South Asia – Thailand, Burma, southern India. There are upwards of two dozen species there,

some as colorful as hummingbirds, and some with pocket-sized home ranges, making them very vulnerable. Compare that to Western Europe, where there is one species, similar to our white-breasted. In North Africa a single species, the Algerian nuthatch, inhabits the rugged Atlas Mountains.

All nuthatches nest in cavities, with most species preferring to appropriate abandoned woodpecker nests. The red-breasted is an exception. It pecks its own, which must be a laborious process since it doesn't have the kind of structural engineering that allows woodpeckers to chisel away without banging their brains out. Then there are the rock nuthatches, which live in southern Europe and Eurasia and build houses out of mud plastered to rock crevices. They often press decorative items into the facade.

Our North American nuthatches do something similar, but more utilitarian. Red-breasted nuthatches collect the sap of pines, firs and spruces and paint the edges of the entrance hole. White-breasted nuthatches sometimes collect caterpillars – the kind with the rash-inducing hairs – and smear them onto the bark. Ghalambor has watched them do it. Scientists theorize that both sap and crushed caterpillars may serve as repellants.

And why don't nuthatches get caught in their own sticky trap? "They fly headfirst into the hole. Straight in. How they do that, in such a small entrance, and without crashing into the back wall of the cavity? Well, it's a remarkable feat of agility and flying ability," Ghalambor said admiringly.

Lest you think that the nuthatch is overdoing it, consider that many don't make it to adulthood. A lot of things want to eat them and their young: squirrels, chipmunks, hawks. As part of Ghalambor's research for his doctorate, he

observed the birds' reaction to predators by putting out stuffed squirrels near the nest cavities and playing recordings of squirrel calls. Nuthatches respond to threats not by attacking or trying to distract, but by making themselves scarce, and not drawing attention to the nest location.

Ghalambor has watched red-breasted, white-breasted and pygmy nuthatches all do something really weird. "I've seen several times when a squirrel would be running up a tree and the female would come out of the hole and almost go into a trance-like state, holding her wings out and swaying from side to side," he said. Ghalambor thinks it's possible that, from underneath the bird's outspread wings and coloration patterns make a vaguely threatening "face." But no one really knows.

Quirky, absolutely. Interesting, very.

Ghalambor still finds his nuthatch research subjects fascinating. "There is something about their personalities. People find them very endearing. I know they definitely inspired me throughout my work for my Ph.D."

*Joe Rankin writes on forestry, nature and sustainability. He lives in Maine. The illustration for this column was drawn by Adelaide Tyrol. The Outside Story is assigned and edited by Northern Woodlands magazine, [www.northernwoodlands.org](http://www.northernwoodlands.org), and sponsored by the Wellborn Ecology Fund of New Hampshire Charitable Foundation: [wellborn@nhcf.org](mailto:wellborn@nhcf.org).*

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