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## NEWS RELEASE

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### Contacts

William DeLuca:  
[wdeluca@eco.umass.edu](mailto:wdeluca@eco.umass.edu)  
443.223.0991  
Chris Rimmer  
[crimmer@vtecostudies.org](mailto:crimmer@vtecostudies.org)  
802.922.8495

### A Tiny Songbird Makes a Daring Trans-Oceanic Flight

NORWICH, VT — In one of the most ambitious feats of migration on the planet, a songbird weighing half an ounce, the blackpoll warbler, has been tracked making a non-stop, trans-Atlantic flight lasting up to three days.

Blackpoll warblers fitted with miniature tracking devices took off from points in either Nova Scotia or the northeastern U.S. and flew directly south over the Atlantic Ocean, with no safe place to land until reaching Caribbean islands roughly 1,600 miles away.

"This is one of the most audacious migrations of any bird on earth," said Chris Rimmer, an ornithologist at the Vermont Center for Ecostudies and co-author of a new paper on the warbler flights. "We've also documented one of the longest nonstop, overwater flights ever recorded for a songbird."

Although other birds — albatrosses, sandpipers and gulls, for example — are known for trans-oceanic flights, the blackpoll warbler is a forest dweller, an iconoclast migrating boldly where few of its relatives dare travel. The vast majority of migratory songbirds that winter in South America take a less risky, continental route south through Mexico and Central America. A water landing would be fatal to a warbler.

After reaching the islands of Hispaniola and Puerto Rico, the study's warblers rested, fed and took off again, this time to cross the Caribbean Sea toward wintering destinations in either northern Columbia or Venezuela.

The research, published today in the journal *Biology Letters*, confirms what ornithologists had long suspected, with only circumstantial evidence, about the unusual flight path of the warblers, which are black-and-white striped with a black cap (or "poll"). The warblers nest in forests across northern North America.

"Many migratory songbirds, blackpolls included, are experiencing alarming population declines for a variety of reasons," said William DeLuca, the paper's lead author and an ecologist at the University of Massachusetts. "If we can learn more about where these birds spend their time, particularly during migration, we can begin to examine and address what might be causing the declines."

To track the flights, the researchers in 2013 captured warblers in Vermont and Nova Scotia and fitted them with miniature devices called "light-level geolocators," which resemble songbird

backpacks. The warblers migrated south in the fall, spent a winter in the tropics, then returned in spring to North American breeding sites, where the biologists recaptured five birds, removed their geolocators and downloaded their flight itineraries.

Four warblers, including two from Vermont, had departed between Sept 25 and Oct 21 from points somewhere between western Nova Scotia and western Long Island or New Jersey, and flew day and night over the Atlantic Ocean until landing in either Hispaniola or Puerto Rico. Their flight times ranged from 49 to 73 hours.

A fifth bird likely took a shorter trans-oceanic trip. It departed the mainland on November 4 from Cape Hatteras and then flew nearly 1,000 miles non-stop for 18 hours later to land in Turks and Caicos before continuing on to South America.

On the return trip north, the blackpoll warblers took a more westerly route, flying to Cuba or Florida, then moving north along the eastern U.S. seaboard before arriving back on the breeding grounds in Vermont and Nova Scotia in late May.

Why the warblers choose the ocean route isn't exactly clear. Normally taking weeks or months to complete, migration can be the most perilous part of a songbird's life. The researchers suspect that blackpoll warblers balance the risks of a trans-oceanic flight with the benefits of a speedy and determined migration.

Unlike GPS devices, which are too large and heavy for the warblers, geolocators use miniaturized sensors to detect and record solar light-level data hundreds of times each day. These data are stored on a tiny computer chip and can be downloaded only if the birds are recaptured. Daily locations can then be inferred from calculations based on day length and the timing of solar noon and midnight.

Additional coauthors in the research include collaborating scientists from the University of Guelph, Smithsonian Migratory Bird Center, Acadia University, University of Exeter, and Bird Studies Canada-Long Point Bird Observatory.

The paper in *Biology Letters* is: Transoceanic migration by a 12 g songbird. William V. DeLuca, Bradley K. Woodworth, Christopher C. Rimmer, Peter P. Marra, Philip D. Taylor, Kent P. McFarland, Stuart A. Mackenzie, D. Ryan Norris. *Biol. Lett.*: 2015 11 20141045; DOI: 10.1098/rsbl.2014.1045. Published 1 April 2015.