

Backpack-toting birds help researchers reveal migratory divide, conservation hotspots

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By outfitting two British Columbia subspecies of Swainson's thrushes with penny-sized, state-of-the-art geolocators, University of British Columbia researchers have been able to map their wildly divergent migration routes and pinpoint conservation hotspots.

"Birds of a feather do not necessarily flock together," says Kira Delmore, a PhD student with UBC's Department of Zoology and lead author of the paper. "Our teams of thrushes took dramatically different routes to get to their wintering grounds, either south along the west coast to Central America, or southeast to Alabama and across the Gulf of Mexico to Columbia."

The study, to be published this week in the *Proceedings of the Royal Society of London B*, is the first to collect a complete year's worth of data from individual birds to document such a migratory divide.

"This detailed level of migration and stopover data helps us pinpoint vital feeding and rest habitats that the birds rely on at key points during their long journey – just before crossing the [Gulf of Mexico](#), for example," Delmore adds.

The researchers say the study also raises the possibility that [migratory behavior](#) may play a role in speciation, the process by which one species evolves into two.

"Given that migratory behavior is under [genetic influence](#) in many

[species of birds](#), these results raise the question of what hybrids between these two subspecies would do," says Darren Irwin, associate professor of Zoology at UBC and co-author of the paper. "One possibility is that hybrids would take an intermediate route, leading to more difficulties during migration. If so, the migratory differences might be preventing the two forms from blending into one."

Swainson's thrushes, with olive-brown feathers, lighter mottled undersides, and distinct light eye-rings, are typically 16 to 20 centimetres (seven inches) in length with a [wingspan](#) of 30 centimetres (one foot). They are not endangered.

UBC researchers caught 40 thrushes in June 2010 – 20 each of a subspecies from Pacific Spirit Park near UBC in Vancouver and another from locations near Kamloops, B.C. The birds were lured into six-metre-wide mist nets with mating calls.

The geolocators used weigh 0.9 gram and with attachment materials they weight approximately four per cent of the body weight of a thrush. Researchers then attached the newly invented geolocation devices, which record sunrise and sunset times, on the [birds](#) with special harnesses before releasing them. To collect the data, Delmore undertook the process in reverse a year later.

Provided by University of British Columbia

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