# Birds and Biodiversity

*Dr. Filardi conducting research in the tropical Pacific* | K. Frey/CBC/AMNH

*We recently spoke with ornithologist Dr. Christopher Filardi, who joined the Museum's Center for Biodiversity and Conservation in summer 2005. He spends much of his time conducting biodiversity research in the Pacific region, and he is currently coordinating scientific content for the CBC's spring symposium,* Conserving Birds in Human-Dominated Landscapes: Weaving a Common Future.

***Together with Dr. Robert Moyle of the Museum's Department of Ornithology, you recently published a paper in the journal* Nature *that attracted a lot of attention—can you explain its findings and why they are important?***

For a long time islands were regarded by scientists as natural laboratories for understanding the diversification of life. Darwin's observations in the Galápagos Islands shaped his theory of evolution by natural selection.

Yet islands have generally been considered evolutionary "dead ends"; after animals and plants emigrated from the mainland, it was believed that they became so specialized for island life that they could not leave or compete in species-rich continental settings.

Today, with new technologies, we have revisited these assumptions about diversity on islands. Our new data for monarch flycatchers shows that animals can spread from island to island, giving rise to an explosion of new species, and can even colonize the mainland again.

***Does this new finding have implications for how conservation decisions and actions are determined?***

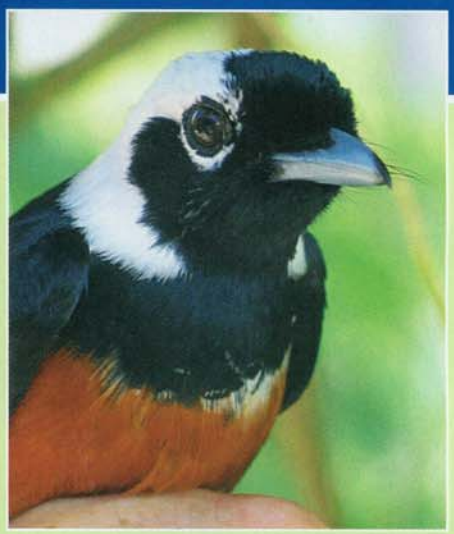
Absolutely. I suspect that the emphasis will shift from thinking about islands as icons of the evolutionary past to embracing the important role that islands play in generating global biodiversity. Oceanic islands may be far more critical in this regard than we've ever realized.

***Tell us a little about the upcoming symposium.***

Scientists and conservation practitioners have tended to focus their efforts on imperiled birds found in wild landscapes. What we've spent less time on is conserving the birds, and bird communities, that live among us, in landscapes that are dominated by humans—cities and suburbs, agricultural and industrial areas—which harbor some of the most exceptional patterns of bird diversity on Earth.

In developed landscapes we don't have the luxury—or the burden, depending on how you look at it—of conserving historic patterns of diversity, because those have been erased. The focus of the symposium is to identify and showcase possibilities for conserving birds in the areas we inhabit and use most intensively. This requires understanding how our behavior affects patterns of bird diversity.

One of the most obvious ways we have affected bird diversity is the introduction of alien species. In the late 1800s, there was a movement to introduce all the birds mentioned in Shakespeare's plays into Central Park. Most of these introductions did not work, but one did—the European starling. Today, starlings are entrenched across North America and compete directly with many native species.



*Male monarch flycatcher (*Monarchia richardssi*)* | C. Filardi/CBC/AMNH

We have also influenced bird populations by paving the way for overabundance. Historically, brown-headed cowbirds lived where American bison lived, following them and feeding in the wake of the great herds. With the eradication of the bison herds and the introduction of domestic cattle, brown-headed cowbirds have greatly expanded their range. Significantly, brown-headed cowbirds are brood parasites—they don't build their own nests but drop their eggs in other birds' nests for them to raise, to the detriment of the host's offspring. When the cowbird's range expanded, they came into contact with many birds that were naive—in an evolutionary sense—to brood parasites, and unwittingly raised a great number of cowbirds while their own species' outputs plummeted.

*Prothonotary warbler* | John and Karen Hollingsworth/USFWS

The good news is that many aspects of human-dominated landscapes also appear to nurture or attract some fairly spectacular birds. Certain raptors thrive in cities; here in New York for example, peregrines are nesting and raising offspring atop skyscrapers and on bridges. Central Park is a key stopover site for neotropical migratory birds such as warblers, vireos, and tanagers.

We believe there is a lesson here—some types of human activity can maintain or attract significant bird diversity. With this in mind, a central objective of the April symposium is to identify and capitalize on opportunities for reinvigorating bird diversity in human-dominated landscapes.

*A peregrine falcon, one of the raptors that calls New York City home* | Craig Koppie/USFWS

### *What can people do in their everyday lives to help conserve bird diversity?*

Not surprisingly, agriculture has huge implications for birds, as it does for all of biodiversity. For example, choosing shade-grown, organic coffee is a way to support alternative agricultural systems that are less damaging to wildlife. Biologists report finding significantly fewer bird species in coffee fields cleared of all native growth.

Anyone with a yard, terrace, or roof deck can create a local "hotspot" for biodiversity by planting (or leaving in place) native trees and shrubs that provide nesting areas and protective cover for birds. Controlling non-native bird predators such as domestic cats is also important. Free-roaming domestic cats are responsible for killing perhaps hundreds of millions of birds each year. Many groups, including the Humane Society and the American Bird Conservancy, maintain that keeping your cat inside makes for a healthier and happier feline as well.

Finally, partly because we tend to conserve what we care about—and also because it's a lot of fun—learn about the birds that live in your area. Introduce a child or friend to the annual cadence of the lives of birds—migration and breeding, the shifts in behavior that allow tiny songbirds to survive a harsh northeastern winter, or the meter and meaning of birdsong on a spring morning.

Within the cityscape of New York, this is a great activity for kids. Central Park has been a reckoning point for my own children's growing awareness of the diverse world around them, and we have reveled in the comings and goings of the Park's many resident and migrant birds. Along these lines, the Center for Biodiversity and Conservation has produced a Kids' Guide to the Birds of Central Park, which is available free from the CBC at http://cbc.amnh.org.

***Thank you, and we'll see you at the symposium.***

**THE CENTER FOR BIODIVERSITY AND CONSERVATION'S SPRING SYMPOSIUM**

***Conserving Birds in Human-Dominated Landscapes: Weaving a Common Future***

*Thursday and Friday, April 27 and 28*
*9:00 a.m.–5:00 p.m.*
*Kaufmann Theater*

Special student pricing and Member discounts available

## PEOPLE AT THE AMNH

### Fiona Brady

***Outreach Program Coordinator, Center for Biodiversity and Conservation***

Fiona Brady has held several positions at the Museum, from science writer in the Department of Communications to loans manager in the Department of Mammalogy. Now, as Outreach Program Coordinator for the Center for Biodiversity and Conservation (CBC), Fiona seems to have found her place.

Fiona was asked to join the CBC in 2000 to organize and promote its scientific conferences and public programs. Her major focus is the CBC's annual biodiversity symposia. These two-day conferences provide a unique perspective on a topic of immediate concern to the survival of species and ecosystems. "Building a diverse audience is important, so that the information presented is shared not only among scientists, but also with policy makers, land-use planners, educators, students, and others."

Fiona also organizes public programs on sustainable living. "These events get everyone excited about simple ways to make a positive impact. My husband and I take these lessons to heart. We keep a worm bin in our kitchen to compost the majority of our garbage. It's quick, easy, and we're able to turn trash into fabulous food for our plants!"

After over a decade at the Museum, Fiona says she still looks forward to coming to work every day. "I get to collaborate with a fantastic group of people on vital issues, and I'm always learning!" When she's not working, Fiona enjoys fossil hunting with her husband.

Photo by Carl Mehling