

The Songbird and The City

by Andrea Appleton



A Blackpoll Warbler

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Eric Slayton and Chad Seewagen arrive at the field site separately, each in his own car. They gather binders and cardboard boxes from their trunks and carry them to the laboratory at the bend in the road. Neither of them says good morning. The sound of voices would be jarring in the murky morning half-light and civility is for strangers.

They seem an unlikely pair. Eric has a watchful intensity and a narrow aquiline nose, like a hawk, his favorite bird. At 40 years old he wears his clothes with a casual slouch, a baseball cap hooding his eyes, the legs of his pants pooling a bit around the ankles. His straight brown hair is thick, sticking out from under his hat in unruly chunks. There is a small tattoo of a feather on his upper left arm.

Chad is 26, tall and clean-cut. He carries a cell phone to the field, and wears jeans and tennis shoes. He seems wholesome, with his broad shoulders and large hands, like he might be good at basketball. His short hair is a brilliant red, loud in the muted gray-green woods.

They are half-brothers, born of different fathers and almost a generation apart. Both are graduate students studying conservation biology and both have an abiding love for birds. Chad attends Columbia University and Eric Antioch College, and together they run the New York Bird Monitoring Program, sponsored by the Wildlife Conservation Society. I have asked to spend a few days with them at their field site on the grounds of the Bronx Zoo. Eric and Chad hope to determine if passing migratory songbirds are finding enough food in these woods - berries in fall

and insects in spring - to fuel their journeys. *I want to know how on earth they intend to find out.*

We have driven down a crumbling asphalt road to get to this forgotten corner of Bronx Park. We are in a short stretch of forest where migratory songbirds descend to rest after a long night's flight. Many migratory birds travel hundreds of miles before stopping to rest, so they often arrive here depleted of energy.

Neotropical migrants, like those quietly settling in the trees around us, are in trouble. The North American Breeding Bird Survey, one of most respected studies of population changes in songbirds, lists almost a third of the Neotropical species they track as having declined in population since 1966. Concerned ornithologists have blamed habitat destruction in northern breeding grounds, and also in Central America, where many spend the winter. But along urban stretches of the East Coast, orphaned patches of metropolitan woodland are also vital to their survival, since they provide a place for birds to replenish their energy. Because forests are relatively rare in this stretch of their flight path, a kaleidoscopic variety of exhausted birds funnel into New York City parks during spring and fall migration. Yet Eric and Chad's is the only urban stopover ecology project to date along the entire Atlantic Flyway, the wide migratory highway that roughly follows the coast.

The laboratory consists of a folding table and two green camp chairs in the middle of the road. A scale in a cardboard box, a collection of aluminum identification leg bands sorted by size in film canisters, a binder, a toolbox, "The Sibley Guide to Birds," and

several short lengths of PVC pipe lie scattered on the table.

It is a gray dawn in early fall and the temperature is fickle, with currents of warm and cool air blowing like a lake turning over. We keep putting our jackets on and taking them off. An iron

railing, listing and bent where the hillside has eroded away, separates the lab from the woods. The land drops off into thick woodland that descends to the banks of the Bronx River, visible in glints through the canopy. Behind us is a hillside bulging with boulders, spindly oak and maple gripping the soil where they can. In the surrounding

woods twelve mist nets hang unfurled, not visible from the road and hardly so up close. They are delicate, gossamer things, about eight feet high by thirty-five feet long, with the bottom edges brushing the ground. One can see how a bird concentrating on foraging might fly right into one.

Much of the time in the field we spend waiting. The sense of expectation, the camp chairs, the radio, all evoke the tranquility of a fishing trip. Every once in a while we fan out to check the nets. Spiny sweetgum balls, acorn caps, and the first browned oak leaves crunch underfoot. Most of the mist nets, some now with the still dark lump of an entangled bird, are down near the river. From a distance, the trapped birds seem to be levitating in mid-air.

On one of these recon expeditions, Eric halts abruptly, swiveling his head to the right. "Pissh pissh." He forces air through his teeth, as if imitating the sound of someone peeing. We wait for something to happen. He tries again. "Pissh pissh."

Suddenly a soft chipping floats up from a nearby bush. "Butter butt," says Eric, nodding. He sees my blank expression. "It's what they call the yellow-rumped warbler." And he strides away; scuffed brown boots crunching off down the road.

We gather at the table to examine our catch. Four bulging, wriggling white cotton bags hang from a row of coat hooks on the railing. Eric loosens the drawstring on one. He reaches in the bag and removes a small brownish bird with a black-striped head and a brilliant yellow smudge in front of its eye. It is a white-throated sparrow, known for its song - "Old Sam Peabody" or "Oh Sweet Canada," depending on the translation. Unfortunately for us, this bird is not a long-distance migrant, but the brothers put it through their usual battery of tests. All the information they gather is entered into a national bird banding database, and may help in another project.



The field station. Eric holding bird and Chad sitting.

It is quiet here, by urban standards. The crickets are still chirping peacefully but the waking Cross-Bronx Expressway is a dim rising hum. Canadian geese honk as they fly past and a rooster does his roosterly duty at a house across the river. An aging radio on the table emits a tinny buzz just loud enough for us to make out "Hey Jude." An hour of Beatles classics is a Sunday morning ritual at the lab.

Eric holds the sparrow like a cigarette, head between middle finger and forefinger, wings restrained. The sparrow is docile as Eric chooses a band of the right size and clamps it on a leg with a pair of pliers. He gently fans out one of its rich brown wings. The feathers are edged in beige, forming two pale parallel bars. He hooks a small ruler over the shoulder and measures the wing, and then the tail. The bird blinks, for the first time since emerging from the bag.

"Wing seventy. Seventy-one."

Chad writes down the measurements in centimeters for wing and tail.

Eric sprays the sparrow's head with a water bottle, pushing the wet feathers up into a mohawk with one finger. He peers at the tiny scalp, blows on it to get a better look at the skull.

"AHY. Eye. Sex unknown."

AHY means After Hatch Year, an adult. The brown eyes of this sparrow have a subtle red tinge that a younger bird's wouldn't. After years of intimate study, Eric has something of an avian sixth sense. Depending on the bird, he may check the color of the inner beak, the amount of wear on the feathers, the pattern of the plumage, and the arrangement of the skull bones, since birds develop a second layer of cranial bone as they age.



A female Black-throated Blue Warbler

But white-throated sparrows are a motley crew, tough to categorize even by gender. And if you aren't sure, as in the sex of this specimen, you don't guess.

"Oh! It's missing a toe. Look. It's missing the hallux." Eric touches the pink nub where the hind toe used to be.

"Oh. Yeah." Chad raises his head briefly and returns to recording.

Dawn's arrival is subtle on this day, a gray washing off into white. The birds that have been wise enough to remain in the trees make only tentative chipping sounds. Despite their caution, as many as half of them won't make it back next year. To survive

migration, a bird must stay on course, dodge predators, avoid urban hazards like windows and cars, and ride out bad weather. Chad calls it “running the gauntlet.”

Eric turns the sparrow over and blows on the furcular hollow, an area just above the wishbone and just below the throat where birds store fat. He exposes raw flesh, pink and dimpled. He puffs on the soft plumage under the wing, looking for the bristles of new feathers.

“Five fat. Zero. Two.” Chad records the amount of fat stored and the degree of molting. Growing new feathers takes energy, energy otherwise needed for migration, so the molt score is an important variable. But the fat score, from zero to five, is crucial. With a “full tank” of fat, a bird has a much higher chance of living to see another stopover site. A human would have to gain nearly eight pounds a day to equal the percentage of fat put on by some of the long-distance migrants, like the vibrant Magnolia Warbler, bound for Central America.

For the brothers, the onset of winter means it is time to crunch numbers, of which there will be plenty. In the fall of 2004 they caught 400 birds of 45 different species, 25 species of Neotropical migrant. Their data from past field seasons so far suggests that visiting birds are indeed eating their fill, but another year’s worth of data is still to come. Using an equation that compares average songbird flight speed (24 miles per hour), fat reserves, and rates of energy use, they found that most songbirds could probably fly some 370 miles on their Bronx fuel, or as far south as North Carolina, a warmer and wilder place.

But Neotropical songbirds are a diverse bunch. Different species migrate at different times during the season, as, sometimes, do males and females of the same species. Older, wiser birds also tend to crowd younger birds out of prime stopover habitat. And the current Bronx Park site is comparatively wild. Other city parks tend to be more landscaped, with plant species chosen to please the human eye rather than the songbird belly. Given such variables, it is too early to celebrate the brothers’ preliminary results.

Eric and Chad have another year of fieldwork at Bronx Park left, for a total of three springs and three falls. Following their research here, they would like to cast their nets in other parks in the New York City area. They hope their research will help convince the Parks Department to manage parks as habitat for migratory birds, increasing the likelihood of migrant survival. They also seek volunteer participation by birders, who could help them by reporting sightings of banded birds in their study area. Such reports help the scientists determine how long the birds tend to linger in the site.

Eric suddenly turns the sparrow upside-down and pops it into a short length of PVC pipe that sits on the scale. The scale is inside a cardboard box, so a gust of wind will not destabilize the reading on the sensitive machine.

The tail feathers fan out the top of the pipe like a dried flower arrangement. We wait for the numbers on the scale to settle.

Weather and time have left their mark all around us, buckling the asphalt, warping the hard iron railings. Still, it’s only a short walk to nature at her most impeccably groomed, the Bronx Zoo. The nearest exhibit is The World of Birds. Visitors pay to see the

exotic toucans and birds of paradise, sunbitterns and carmine bee-eaters. And yet in the unkempt forest beyond the cages, dozens of songbird species routinely stream through on their flight to the tropics. American redstarts, wood thrushes and ovenbirds all pause here, as do less far-flung visitors like our sparrow.



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Chad doing breath sampling.

Chad records the bird’s weight and then slides it out of the pipe headfirst into his hand. Its final test looks something like dollhouse CPR. Chad places the bird’s beak into a small tube attached to a party balloon. The tube is connected to a tank of pure oxygen. The sparrow’s round eyes blink. The balloon barely moves, in and out with tiny inhalations and exhalations.

The bird breath samples are stored in vacuum-sealed vials and sent to a lab for carbon isotope analysis. This new technique should confirm if the bird is burning precious fat reserves when it should be burning berries. The test may even reveal its diet, distinguishing between the fruits of the Virginia creeper, the northern arrowwood, and the black cherry. Some birds leave more tangible evidence: pokeberry-purple poop on the cotton bags.

“The oxygen must give them a little rush, which is probably good,” says Chad. He opens his hand and the sparrow darts off towards the river through the understory. “Sends them on their way refreshed.”

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Eric holding a black-throated blue warbler