

Rain Bird

BY DAVID L. ANDERSON

Dispersing seeds and drawing tourists, a sought-after bird helps preserve a forest in Honduras.

sense the rain first as a breath of air that brushes the leaves at the top of the forest. The breeze strengthens, lifting branch tips in a gentle dance and then, as a distant roar grows louder, snapping them off and tossing them over the trees. A curtain of water sweeps in, pounding the forest canopy—where I cling, 150 feet above the ground. Rivulets pour off every leaf and branch around me, off my crossed arms, boots, and climbing harness, and I watch the water drizzle down in jagged paths of wind before splashing below.

Getting up to my perch was, as always, a matter of muscle and nerve combined with a bit of luck. I use a crossbow rigged with a fishing reel to fire a “bolt” (a crossbow arrow) that I have weighted with a lead fishing sinker. The bolt carries the fishing line over a high branch of a tree, and the weight of the sinker brings it back down through the tangle of foliage; I then use the line to draw a parachute cord over the branch, and the parachute cord to pull over the still heavier climbing rope. I tie one end of the rope to another tree, then make my way up the free end using a climbing harness and mechanical ascenders (essentially handholds that slide up, but not down, the rope). The whole process is cumbersome, so when it rains I have no choice but to soak it up. But as quickly as the storm comes, it passes, and I am back to watching forest-canopy birds of Honduras.

A country of little more than 43,000 square miles, smaller than Ohio, Honduras has some 720 species of birds, almost as many as are found in all of the United States and Canada combined. About two-thirds of those species breed in Honduras. Another 200 or so migrate from North America every year, and are familiar to birders from fields, forests, or yards all over the United States. Everything from common nighthawks and Swainson’s hawks to the tiny ruby-throated hummingbird passes through Honduras as part of the yearly journey. I guess I’m like the migrants: I made my first trip here as a Peace

The rugged terrain of Pico Bonito National Park, above, creates a safe haven for jaguars and other threatened wildlife. Right: A male lovely cotinga emerges from the rain. Opposite page: The author climbs into the forest canopy.

Corps volunteer in 1991, and since then Honduras has become part of my rhythm. I always come back, in large part because of the birds. First I did fieldwork for a year in the Moskitia rain forests, studying raptors in the Río Plátano Biosphere Reserve. Then warblers stole my attention, hummingbirds after that. Most recently I have worked in Pico Bonito National Park, whose tropical rain forest stretches from near the Caribbean coast up into the mountainous interior—and, as it happens, attracts one of the most spectacular of all birds.

Tropical rain forests are famous for their biodiversity, from trees and orchids to insects and reptiles to mammals and most definitely birds. Birds at ground and midlevels of the forest can be observed directly or at least captured in mist nets—nearly invisible fabrics of black threads—and studied briefly before being released. Canopy birds are another matter. Rain forests are packed with plants struggling against their neighbors for light, water, and nutrients. Observing birds in the upper levels of the forest from the ground can be nearly impossible; at best it leaves a lot to chance. Climbing to the top to watch them on their home turf is the only reliable way to make a thorough survey. In Pico Bonito I climbed as many trees as I could to document a complete annual cycle of the birds of the lowland forest canopy.

On a typical morning, I hiked in the dark for half an hour with my field assistant, Juan Lopez, to reach the base of a canopy tree we had set with a rope the day before. After Lopez clamped the ascenders on the rope, I inchwormed 30, 50, 90, then 150 feet up. By then sweat was dripping from my eyebrows and my shirt was sopping wet, but the fresh canopy breezes dried me in short

order. I was perched in a *Virola koschnyi*, a species of wild nutmeg known locally as *sangre rojo*. *Virola* trees are towers of the forest. They have straight, bare trunks without any branches except in the high crown of the tree, where they radiate straight out like spokes on a wheel, spokes with large leaves scattered sparsely at the tips. Nutmegs are easy to climb, comfortable to sit in, and give me great vantage points.

Thirty minutes after sunrise I started a three-hour survey. With 10×42 Swarovski binoculars in one hand and a mini recorder in the other, I softly narrated the location and behavior of every bird I saw or heard: “*Chlorophonia*, upper third of canopy, outer reaches of foliage, mistletoe berry. Tropical gnatcatcher, middle canopy, butterfly larva in bill.” When played back my voice remains calm, the narration methodical. That is, until suddenly I can be heard blurting, “LOVELY COTINGA! Upper canopy, eating figs!” No matter how often I see them, nothing diminishes the joy of sighting an adult male lovely cotinga (*Cotinga amabilis*). Electric turquoise with a burst of plum purple feathers, that bird isn’t just bright; it glows.

The words “often” and “lovely cotinga” don’t normally go together. “I waited fifteen years to see this bird,” bubbled Greg R. Homel, a professional bird guide and wildlife videographer with extensive experience in Central America, after he first saw a male lovely cotinga. The sighting happened, oddly enough, not from a tree-top harness but at the Lodge at Pico Bonito, an eco-hotel with cabins on the border of the park. Lovely cotingas are seen there, and often, from the canopy-viewing towers, the entrance road, and even the verandas. For the Lodge it is the money bird, attracting birders eager to lose their cotinga virginity. For Homel, being able to see a lovely cotinga over a cup of coffee and a plate of



MAP: JOE LEMONIER; PHOTOS: DAVID L. ANDERSON



GREG R. HOMEL/NATURAL ELEMENT

French toast is almost as mind-blowing as the bird's exotic plumage.

In the weeks following his first sighting, Homel not only saw more cotingas, he filmed them eating, regurgitating seeds, and calling—behaviors probably never before captured in the species. Overall, though, the bird remains an enigma. Practically nothing is known of the species' breeding behavior or seasonal movements, and, unlike most birds, lovely cotingas are virtually silent. Females and juveniles, in contrast to the adult males, wear subdued shades of grayish brown speckled in white. But even how long it takes a young male to grow its adult turquoise coat is unknown.

In my Pico Bonito study, I delineated a 100-hectare (247-acre) area of lowland forest on an isolated hillside in the park and made one to three canopy surveys there weekly. My goal was to describe in detail the community of canopy birds. One chief objective was to identify the species that are restricted to the canopy and rarely leave it, and those that prefer lower levels of the forest and use the canopy only occasionally. I also wanted to learn more about all the birds' diets. Some canopy trees, the wild nutmeg among them, have fruits with large seeds that only a few species can swallow, such as large toucans. A greater



Blue-crowned motmot is one of five motmot species found in the park.

number have fruits with medium-size seeds favored by medium-size frugivores like trogons and cotingas (a lovely cotinga measures about seven and a quarter inches from tip of beak to tip of tail). Such canopy trees depend on avian dispersers to swallow their seeds, then fly off and scatter them in new places in the forest. Without dispersal, the seeds fall to the ground and perish under the shade of their parent, or from intense competition with the thousands of their sibling seeds piled together. We tend to think of animals as dependent on their habitat for survival, but in

the tropics the opposite is just as true. Birds are engineers that play important roles in modifying the structure and composition of a forest through their actions as seed dispersers and pollinators, among other duties.

Given patience, skill, and time, an experienced observer can track down even the most cryptic and secretive birds of the rain forest. A bird that wears a coat of phosphorescent brilliance, like the lovely cotinga, can hardly hide from scientists and birders combing the forest. But sometimes when searching for a needle in a haystack, it is better to let the needle come to you. As my months in the trees passed, some patterns became evident. One is that cotingas come with the rain. Pico Bonito experiences a wet season generally from late September through February, and a dry season approximately March through September, although the length and intensity of either can vary. During the dry season, I saw maybe one cotinga in a month, whereas on one rainy day in December I saw six in one tree. Unbelievable! "More cotingas are seen in rainy months, and more are seen on rainy days," concurs James Adams, Assistant Manager at the Lodge. "When the weather is crummy the birds are out." Why that should be so is part of the bird's mystique.

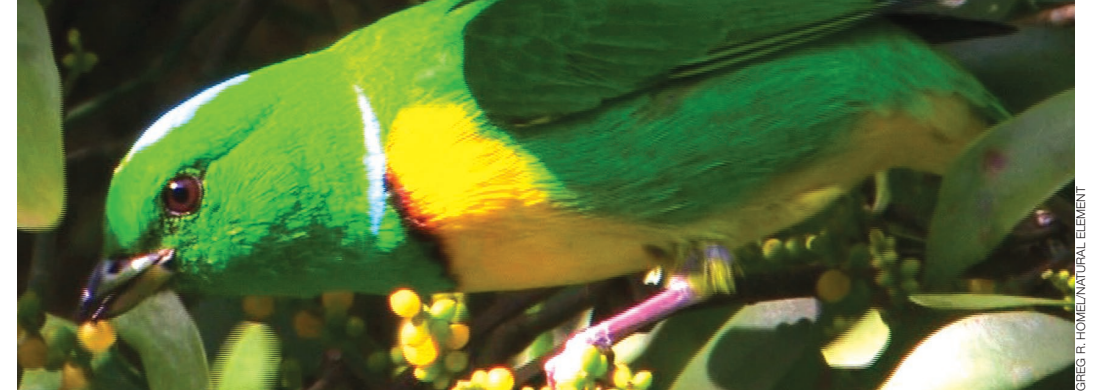
One possible explanation has to do with elevation. Pico Bonito National Park

starts almost at sea level and rises to more than 8,000 feet. The whole extent is cloaked in untouched primary forest, with six forest types depending on elevation. At the bottom is the moist lowland broadleaf

forest—the tropical habitat of the imagination, deep green, shaded, and lush with vines and flowers—leading to submontane broadleaf and mixed pine-oak forests. Ascending farther one encounters moist upper-montane broadleaf forest and, usually shrouded in mist, cloud and elfin forests. Elfin forests are short, only waist-high, and blanketed in shaggy coats of moss. In the rain shadow on the south side of the park there are still more forest types, chiefly mixed pine-oak at mid-elevations, seasonal dry forests at low elevations, and very dry thorn forests at the lowest elevations. Just as birds from the United States migrate south for the winter, many birds in the tropics migrate downhill to track food resources when the high mountains are swaddled in rain and clouds. That is especially true for medium and large frugivores, a notable example being the resplendent quetzal. That the lovely cotinga is also an elevational migrant is an educated guess at this point.

Downward seasonal migration from high mountain slopes is intricately linked to the landscape. Elsewhere in Central America, tall mountains like Pico Bonito with forests from top to bottom have become rare. Many bird species won't cross open fields or croplands. When a portion of forest is lost from the middle of a mountain, the population of birds that lives above it is cut off from seasonal foods below. And if the local population of avian frugivores dwindles, the effects on the forest can be dramatic and permanent. Over generations, large-seeded trees, such as the wild nutmegs, also begin to disappear. That can translate into a reduction of mistletoes, which commonly grow on nutmegs, followed by the small birds that eat mistletoe fruits. As trees dwindle, large rodents that feed on fallen seeds, such as agoutis, are lost, and so are the large cats that eat them. Gradually, the forest becomes a different place.

Fruit-eating birds play an even broader role in sustaining the forest. Conservation in developing countries works by a different paradigm than in North America.



Male blue-crowned chlorophonia, a species fond of mistletoe fruits

Although Pico Bonito is a Honduran national park, that doesn't keep poor farmers from illegally logging, hunting wildlife, and clearing the forest to plant beans and corn. In such a poor country, the government is stretched thin, social services are lacking, and park protection is minimal. Ecotourism, however, works in the forest's favor. The 200-acre Lodge, for example, located in Pico Bonito's buffer zone—an area encircling the park in which some human activity is permitted—provides a barrier of sorts to illicit activities. It also employs locals who might otherwise turn to the forest for survival. Sixty-four Hondurans work there, in both managerial and service roles—including as nature guides. And it is the cotinga and other sought-after species that largely pay the bills.

Honduras isn't as famous for its birds as some other Central American countries are, but should be. It has more macaws than Costa Rica, a healthy population of harpy eagles, and more species of motmots than any other country in the world. (With their bright colors, mysterious-sounding hoots, and crazy displays of tail wagging, motmots are emblematic of the rain forest.) If it takes the lovely cotinga, motmots, and other avian spectacles to attract guests and afford protection to this shoulder of Pico Bonito, then everyone from nutmegs to ocelots to waiters gets a hand.



Collared aracari is a colorful disperser of tree seeds. Right: Ten miles from the Caribbean coast, Pico Bonito rises nearly 8,000 feet.

David L. Anderson is completing his Ph.D. dissertation at the Museum of Natural Science at Louisiana State University in Baton Rouge, based on his surveys in Pico Bonito National Park in Honduras. Previously he worked in that country's Río Plátano Biosphere Reserve, examining how Amerindian agriculture diversified the landscape and how, in turn, the avian community responded. He is also investigating migrating cerulean warblers with Melinda Welton, a research associate at the Gulf Coast Bird Observatory.



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