

IN WITH THE NEW

# Some Thoughts on the Discovery of the Rufous Twistwing

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What is it about discovery? How many books and journeys are devoted to it? How many lifetimes? The chance of finding something new, something utterly unknown and unexpected, lures historians into libraries, scientists into laboratories, and astronauts into outer space. It drew the early naturalists—those inveterate wayfarers, hopelessly addicted to novelty—across the oceans, and to the ends of the earth, delving ever deeper into unfamiliar swamps and mysterious forests, and bringing upon themselves great, and sometimes fatal, miseries. Even today, in a world supposedly mapped and catalogued, the humble birder is not immune to the old allure.

Birding involves almost constant discovery of one sort or another. For newcomer and veteran alike, the way is littered with fresh perspectives—a new nest found, a new call learned—and watching a species for the first time is ample reward for hours in the field. When it happens to be new for a country, a state, or a backyard, the thrill is even sweeter. But finding something really new, something utterly unknown and unexpected—now isn't that the stuff of dreams?



Just over a decade ago, I paid a visit to the office of Luiz Gonzaga, an ornithologist at the Federal University of Rio de Janeiro, Brazil. In the time-honored tradition of ornithologists, especially those who have never met, we found ourselves enthusing over

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*In the forests of South America the search for  
the last undescribed birds goes on.*

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The bird shown here—a **Rufous Twistwing**—will soon be formally described to science. It is neither rare nor difficult to find, yet it evaded discovery until very recently. How can that be?

This article looks at the psychological and cultural factors that conspire to prevent birders and ornithologists from recognizing the obvious.

*Extrema, Pando, Bolivia; 7 November 2004.*

© Joseph Tobias.



Provincia Zamora-Chinchipec, Ecuador; 18 January 1998. © Doug Wechsler / VIREO.

The **Jocotoco Antpitta** (top) and the **Araripe Manakin** (bottom) are two examples of highly distinctive species recently discovered in South America.

a tray of specimens, running through repertoires of names and facts, sizing each other up. The game was fun, until I found myself holding a slim, gray, anonymous-looking bird.

With its soft plumage and spiky tail it was clearly an ovenbird (family Furnariidae), but it was shockingly unfamiliar. In a dull panic, with a mind as blank as cotton wool, I made a flimsy effort to conceal my ignorance by replacing the specimen and picking out another.

“Do you know that one?” asked Luiz, predictably.

I turned toward the window, exhaled slowly, giving myself a few seconds to grope for a name. Eventually I gave up. “No.”

“Me neither,” he replied. “We only just collected it. It’s a new species for sure, and we think even the genus must be new.”

I picked up the bird again, relieved, astonished. I was holding in my hands a

brand new, freshly minted, hot-off-the-press discovery, the first specimen of what later became known as *Acrobatornis fonsecai*, the Pink-legged Graveteiro—a strange beast, unknown, unexpected, and unnoticed for centuries in a small region of cacao plantations in coastal Brazil. And the strangest thing of all? One of Brazil’s main highways cuts through its range, and its distinctive nests are easily seen from passing cars. Hundreds of birders, myself included, had been riding up and down the BR 101 for years, oblivious to the fact that those globular bundles of sticks, high up in roadside trees, belonged to an undescribed species—nay, undescribed genus—of bird.

Thus was sparked my own fascination with the hunt for unknown species, a hunt that the late Ernst Mayr, a high priest of evolutionary biology, once thought was over. “The period of new discoveries is practically at its end,” he wrote. “I doubt that in the entire world even as many as 100 new species remain to be discovered.” That was in 1946. For sixty years, the annual trickle of new findings has continued, almost undiminished, largely from the tropical zone, and from tropical America in particular.

For starters, South and Central America are hotbeds for the phenomenon known as “split-naming”, which is not so much discovering a species for the first time as recognizing that a certain known population qualifies for species status. Thus it differs from its better-known cousin, “splitting”, which typically involves the separation of two or more named subspecies into species-level taxa (without the need

Ceará, Brazil; 21 January 2004. © Bret Whitney.



for a new name). Split-naming is what happened to Cryptic Forest-Falcon and Chapada Flycatcher, taxa that were suspected for years to be species, with several specimens in museums, before field ornithologists published definitive papers in which a new species name was proposed. In the Neotropics the process of splitting and split-naming is gathering steam because more experts with keen ears are using vocalizations and genetic analyses to draw taxonomic conclusions. The tricky part is having enough specimens, data, and diligence to publish peer-reviewed evidence.

Straight splits, and even splits which necessitate new scientific names, do not often qualify as out-and-out discoveries. It comes as little surprise that the epicenter for these events is also the Neotropics, with a seemingly constant supply of cryptic species, of populations with plumage so dull or confusing that nobody ever noticed them before. Hats off to those with the skill and patience to unravel the puzzle of the Foothill Elaenia, the Orange-eyed Flycatcher, the Mishana Tyrannulet, and the Ancient Antwren. And we won't even mention the word "tapaculo"...

Finally, tropical America provides the most frequent setting for those most sensational subjects of discovery: glaringly distinctive and hitherto unsuspected birds. In July 1996, shortly after *Acrobatornis*, the gaudy Scarlet-banded Barbet was found on a remote cordillera in Peru. In December of the same year the first Araripe Manakin was seen by ornithologists on the slopes of an isolated massif in northeast Brazil, and in November 1997 the Jocotoco Antpitta finally gave up its nameless vigil in the mountains of southern Ecuador. Suddenly, in the form of thoroughly unmistakable birds, there was evidence aplenty that beautiful and spectacular creatures still lurked beyond human awareness.



How did they slip through the net? In most cases, the answer is that no net had ever been cast in some inaccessible hideaway, like the Cordillera Azul or the Serra do Araripe. But in other cases the answer is more subtle, involving the human tendency—one might call it, less charitably, a failing—to see only what is known.

Take, for example, the "Pakitza Monster". Some birds—storks, kingfishers, swallows, hoopoes—made their entrance on the human stage in Biblical times or earlier. Most others came to light in the great epochs of exploration, the 18th and 19th centuries, during which countless life forms were collected, described, and catalogued. Hundreds more were brought to light in the twentieth century, but for the "Pakitza Monster" the story began even later, in Lima Museum, in November 2002.

Dan Lane, an ornithologist from Louisiana State Univer-



Ornithologist Dan Lane holds specimens of three bird species he discovered in Peru: in his right hand, an **undescribed tanager** from the Manu Road; in his left hand, the **Rufous Twistwing** (*Cnipodectes* sp. nov.) and the **Scarlet-banded Barbet** (*Capito wallacei*). Natural History Museum, Lima, Peru. © Robb Brumfield.

sity, was snooping about in the bird collection. Casually, he looked up the Rufous Casiornis, a bird he'd seen unexpectedly on a recent expedition to north Peru. He opened a drawer of tyrant flycatchers, finding two specimens labelled *Casiornis rufus*, one typically slender, the other relatively huge and shaggy. His knees went weak, his vision briefly blurred. He placed a hand on the museum cabinets to steady himself. This hulking flycatcher—it was no *Casiornis*, but what was it?

It was collected in bamboo at the Pakitza guardpost of Manu National Park in 1990, ascribed to the most similar species known from the region, and left in a drawer for a dozen years. Its modified primaries indicated an alliance with *Cnipodectes*, a genus believed to contain a single species (the Brownish Twistwing). It was mist-netted in a region much visited by birders. It was big; it was bright rufous; and nobody had ever seen one. Armed with this meager knowledge, a handful of ornithologists made haste to southern Peru in search of a bird that came to be known, in lieu of any formal epithet, as the "Pakitza Monster".

It didn't take long to find it. One individual was filmed in Manu National Park in 2003, and two more were found, tape-recorded, and collected in the Urubamba valley, all in bamboo. The tape was the key. It captured a series of loud and distinctive calls which jogged some memories of birds heard here and there, even on the trails of busy lodges. Moreover, it provided a tool for further searches, and it soon became apparent that the "Pakitza Monster" was neither



Even in the well-birded United States, it is possible to overlook an entire species. The **Gunnison Sage-Grouse**, described in 2000, was the first *nova avis*—a brand-new species—for North America since the 19th century. *Gunnison County, Colorado; April 2000.* © Lance Beeny / VIREO.

very rare nor particularly difficult to find. It was simply this: Nobody had noticed it because nobody knew it was there.

This tale is a reminder that big puzzles remain to be solved, even along well-trodden trails, even in the drawers of museums. It is a tale of flawed assumptions—lots of people have worked this spot before, so there must be nothing left unknown and unexpected. Think again! There are mysteries in our midst. Might you find yourself saying, “What was that big rufous tyrant in the bamboo?—I guess it must have been something common.” Actually, you saw a “Pakitza Monster”, a bird overlooked for years until Dan Lane slid open that drawer in Lima Museum, as a result of which a paper will be published in the July 2007 *Auk*, officially describing the species, henceforth known as the Rufous Twistwing, and thereby raising by one the staggering total of 1,800-and-something birds known from Peru (and, believe me, there are more to come).

In February 2006, as if to illustrate the point I am making, another “twist” emerged. It turned out that a biologist named Edson Guilherme, from the University of Acre, had caught a big rufous bird in his mist nets at Rio Branco, Brazil, in May 1998. Much as he puzzled over the literature, he could not identify it, so he took some in-hand photo-

graphs to the Brazilian Ornithology Congress in Rio de Janeiro. These went ‘round the gathered throng, past the noses of novices and luminaries alike, and only two or three people got anywhere close to naming the bird. A consensus was reached that it must be *Cnipodectes sub-brunneus*, the Brownish Twistwing, and the record was published as such in a journal called *Tangara*. How could anyone have known it was a “Pakitza Monster”? In those days the fateful specimen was still lying in the wrong drawer in Lima Museum, where it remained for another four years in total obscurity. Those delegates at Rio were sticking to what they knew.



A quick look through the annals and there are enough of these fables to fill a book. North American birders know the story of *Centrocerus minimus*, the Gunnison Sage-Grouse, and how it went unnoticed in the continental U.S. until the 1990s—the first North American *nova avis* since the 19th century. What of *Amazona kawalli*, a species described from a single caged individual noticed in São Paulo, Brazil, in 1989? This big distinctive parrot was later found to be widespread across much of southern Amazonia, where

it had been overlooked for so long because no one expected it to be there. And spare a thought for the Caatinga Antwren, a bird seen at Boa Nova in Brazil by thousands of traveling birders before Bret Whitney and coauthors realized that its scientific name, *Herpsilochmus pileatus*, actually referred to a different species, the Bahia Antwren from nearby coastal forests. All those people, myself included, had been looking in perfect ignorance at an undescribed species, later to be named *Herpsilochmus sellowi*.

We looked at it, but we did not discover it. To qualify as a discoverer you need to realize you have discovered something, and realizing is the difficult bit. For example, plenty of people—including Lewis and Clark—had seen thousands of Western Meadowlarks without distinguishing them from Eastern Meadowlarks, until John James Audubon noticed the oversight, giving the western species the name *neglecta* in 1844. Even the very best observers have fallen at this hurdle. The late Ted Parker, just about the sharpest and most knowledgeable field ornithologist ever to work in the Neotropics, missed a few discoveries. During his work in Noel Kempff Mercado National Park, Bolivia, he heard the Cryptic Forest-Falcon and Chapada Flycatcher, several years before they were described as species, but he did not realize

it. The latter he even held in his hands—and called a Suiriri Flycatcher. What I mean to say is “If Ted could do it, anyone can.” And saying it makes me feel better.

For the overzealous, the opposite mistake is also easily achieved: thinking you have discovered a new species when actually you are looking at some common bird that isn't illustrated very well in the local guide. I, personally, have mastered this art quite well. Several are the times I thought I'd stumbled on a new species in the forests of South America, but each time the exhilaration was cut short by a little careful research. It is usually just an unfamiliar race, or a song-type I'd not heard before. Other times I'm just left tantalizingly unsure. Either way I tend to subside into philosophical meanderings—maybe some things are more beautiful and meaningful when they are not tagged and bagged. Maybe, like Peter Matthieson's *Snow Leopard*, the truth is in the searching, not the seeing. Some way down this road I usually decide that I am happy walking in a world where the details remain sketchy, the wilderness uncharted, the last mysteries unnamed. In this way I console myself. But I keep on looking.



What is it about discovery? It drives birders and ornithologists to impressive feats of physical and intellectual endurance. It motivates a few of them, including Dan Lane and Bret Whitney, to amass a wonderful amount of knowledge and skill. That sudden spark of comprehension, the dawning realization that the world was not quite as it seemed, is quite simply the stuff of obsession. But it doesn't stop there. There are other, more tangible, rewards. In the ornithological community there is perhaps no greater kudos than that heaped on the discoverer of a new bird. And thus, given the nature of the human animal, discovery is a cauldron of competition—who got there first? who owns it? who gets authorship and who the patronym?—which sometimes overflows with back-stabbing, back-scratching, rifts, jealousy, and the like.

To anyone interested in birds for the sake of birds, rather than reputations and publications, this soap-opera aspect of discovery is tasteless at best. In fact, one might easily conclude that the importance of describing new species is overhyped, that this brouhaha about descriptions, splits, lumps, and limits is detracting from more important issues. There certainly seems to be more emphasis on naming new taxa than on understanding whole ecosystems, and how they evolved. Such junkies are we for the buzz of discovery and accurate inventory that we muster more pomp and publicity for these last few avian novelties than for the nigh-on ten thousand species already known, or the fact that their envi-

ronment, and ours, is being systematically destroyed.

But let's not lose sight of the more positive aspects of discovery. To begin with, what is known is not only easier to see, it is easier to save. The Araripe Manakin is a perfect example. Described less than a decade ago, it is already classified as Critically Endangered, and it would surely have disappeared forever had its existence not focused conservation attention on the last patches of forest in its tiny range. Elsewhere, who knows what beautiful forms are dying out before they are even found and named?

We need to understand what species exist, and where they live, if we are to set reasonable conservation targets at the global level. Seen from this angle, the cataloguing of fauna and the search for new species is a vital step toward understanding and safeguarding our environment in all its diversity. We have spent the last few hundred years taking this step, and we'd better hurry up because the next step looks a lot tougher. The period of new discoveries is perhaps nearing an end, but it is not over yet. And as for all the other findings that make birding such a joy—new records, new behaviors, new knowledge—of these there is a limitless supply.

As naturalists our traditions are ancient and very much alive: We should follow old trails with open eyes, and take new trails whenever we can.

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Most new species and splits in the South American avifauna arise in cryptic or difficult groups, like owls. This is the first field photograph of a **screech-owl** (*Megascops* sp.) discovered in Colombia by Niels Krabbe / Fundación ProAves in February 2007. It almost certainly represents an undescribed species. *El Dorado Reserve, Santa Marta, Colombia*; 9 February 2007. © Joseph Tobias.

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