

THE ROOT OF THE ANTILLES: A HISTORY OF THE TODIDAE FAMILY. José González Díaz and Felisa Collazo Torres. 2019. CreateSpace Independent Publishing Platform. Utuando, Puerto Rico. 150 pages. ISBN 978-1727036404. \$35.00.

The five Tody species (*Todus*, Todidae, Coraciiformes) are a fascinating group of birds. A photo of the Cuban Tody even graces the Journal of Caribbean Ornithology masthead! They are as small as many hummingbirds with oversized long and spatulate beaks, dazzling glossy green plumage, and a contrasting ruby-red throat. They are tame, abundant enough in many locations to see easily, and endemic to the Greater Antilles islands: one species each on Cuba, Jamaica, and Puerto Rico, and two on Hispaniola. Their short, rounded wings and buzzy flight, coupled with species-distinctive genetic differences (Overton and Rhoads 2004), suggest none of these species ever colonized any other island. So, what's with the "mexicanus" species epithet for the endemic Puerto Rican species?

Addressing this Puerto Rican enigma is just one of the authors' several purposes for this book. Other purposes include celebrating the uniqueness of todies with a much broader—and to date inadequately attentive—audience, documenting the fascinating history of tody scientific descriptions and illustrations back to the 17th century, and comparing the five tody species in a variety of other respects. Above all else, however, the book is an impassioned case for the International Commission on Zoological Nomenclature (ICZN) to fix the egregiously misnamed Puerto Rican Tody, *T. mexicanus* (no offense to Mexicans). The authors, José and Felisa, comprise an inseparable team that has contributed substantively and generously to Caribbean and especially Puerto Rican natural history, with a variety of educational writings, films, social media, and even a YouTube channel (Proctor 2019). Their scholarship undoubtedly led them to delve deeply into the history of todies, and to the irritating question of the "mexicanus" epithet for their homeland species.

This 141-page book, not including references, includes eight chapters and two appendices. By far the bulk of the book addresses the history of tody species descriptions and names, with the first five chapters covering the years 1680–1780, 1780–1810, 1810–1840, 1840–1880, and 1880–1950, respectively. Chapter 6 is a hodgepodge, including topics such as the confusion of todies with hummingbirds, the antiquity and phylogeny of todies, bioacoustics, and philately. Chapter 7 is a photo gallery of all five species, with gorgeous full color (beautifully reproduced) photos including a nest, nestling, and fledgling. In addition to these photos, the book is richly illustrated with 49 figures, including abundant tody illustrations documenting the history of their discovery. I found myself frequently referring to the photos of Chapter 7

to compare and contrast the illustrations with reality. All these chapters, and the first five in particular, are a preamble to Chapter 8, an "Appeal to the International Commission on Zoological Nomenclature (ICZN)" to change "mexicanus" to "portoricensis". The two appendices supplement Chapter 8: Appendix A delves into the concept of intention, specifically René P. Lesson's intention in first recognizing the Puerto Rican Tody formally as a distinct species, and Appendix B explores the concept of an absence of case law in zoological nomenclature and its relevance to the present case.

To the point of changing the species epithet of the Puerto Rican Tody, the authors present an extraordinarily thorough search of the literature describing todies, both as a group and by species. This literature documents a plethora of errors worthy of a Shakespearean play, and is probably closer to a tragedy than a comedy. Without spoiling the many stories the authors tell of these mix-ups—read the book!—early descriptors of todies had no idea what these birds were phylogenetically (not unlike a lot of other histories of avian phylogenies), and aligned todies with various trogons, tyrannid flycatchers, cotingids, kingfishers, motmots, hornbills, caprimulgids, jacamars, and manakins. Non-ornithologists also long confused them with hummingbirds, likely due to their similar coloration, small size, and long beak. John Gould, who so beautifully illustrated hummingbirds (and whose wife Elizabeth Coxen Gould did a lot of the work for which John took credit), apparently never formally published his description of the Cuban Tody, *T. multicolor*. The Puerto Rican Tody alternately assumed the title *T. viridis*, *T. hypochondriachus*, and *T. mexicanus*. Furthermore, different ornithologists have recognized anywhere between one and seven *Todus* species. All of this confusion is one argument for changing the name of *Todus portoricensis* (*T. mexicanus*).

In their plea to the ICZN, the authors of this book include several arguments. Among them are that these birds represent the Greater Antilles better than any other group of birds; that the name change is important to Puerto Rican culture and pride; that local conservation efforts would be far better motivated by "portoricensis" than "mexicanus"; that this is an issue of accuracy and integrity of the scientific process; and that science has an obligation to set a positive example for other human endeavors.

The authors pin the strongest argument for the name change, however, on an egregious mistake by the French brothers Lesson. René P. Lesson presented two new species descriptions of todies in his 1838 publication, based on specimens his younger brother Pierre-Adolphe Lesson brought him after an extended voyage to the Greater Antilles, which culminated in Tampico, Mexico. We will probably never know exactly what Adolphe Lesson did, but we do know that he collected a tody in Puerto Rico, and he was given another tody skin, which he did not himself collect, while in Vera Cruz, Mexico; he gave both birds to his brother to describe as new species. Adolphe mislabeled the Puerto Rican

bird as originating in Mexico, prompting his brother to name it “mexicanus,” and a Cuban bird (how it got to Vera Cruz is another mystery) as the Puerto Rican one, prompting his brother to name it “portoricensis,” the clear intention being to name new species after their native range. Adolphe was not trained as an ornithologist, and would have been unlikely to recognize the subtle plumage distinctions between the Cuban and Puerto Rican specimens. The authors of this book strengthen their case by pointing out that R. Bowdler Sharpe recognized this confusion in his 1874 publication, and correctly attributed it to the Lesson brothers, which the authors of the present book assert should have rectified the misnomer.

The authors’ tone in addressing the “mexicanus” species epithet is strident. They likely feel like Davids confronting the Goliaths of the ICZN, and I cannot blame them. The mix-ups leading to the misnomer of the Puerto Rican species are laughable from any reasonable scientific perspective, and these two Puerto Rican scholars have done an extraordinarily thorough job documenting the history of nomenclature of these species as a group, pinpointing the source of the error, and highlighting its unique circumstances.

The authors of this book have persuaded me of the value and necessity of changing the species epithet of the Puerto Rican Tody. I admire their defiantly subversive reference to the Puerto Rican species throughout this book as “*Todus portoricensis* (*T. mexicanus*),” and I hope more authors will follow suit to focus attention on this nomenclatural absurdity. I have inquired about the possibility of this name change independently with multiple avian systematists, and I get the same answer: the ICZN is unlikely to make the change because there are hundreds of other bad bird names out there, this kind of error provides insufficient grounds for the ICZN to act, and the name “mexicanus” was available and took priority for naming the species (the earlier name “viridis” was not available for the Puerto Rican species). If correct, this situation seems to me a bit too close to other injustices perpetrated by colonialist powers—I hope I’m wrong. I don’t buy these arguments attributed to the ICZN, and I believe that if enough avian systematists lend their support, with the heft of the American Ornithological Society, British Ornithologists’ Union, and other scientific societies behind them, they could make a convincing case for this change. I hope these systematists will act accordingly, and at least give the authors the respect of reading their book.

Besides the importance of getting the name of the Puerto Rican Tody fixed, this book takes the reader on a fascinating journey through the history of scientific description and illustration. There is ornithological gossip, such as the question of why neither John Gould nor René Lesson ever publicly corrected substantive scientific errors of which they must have been aware, and lots of examples of what we would likely call plagiarism today. This book’s illustrations depict the transition from preconceived ideas of what todies *should* look like—and many early authors’ reiterations of their predecessors’ errors—to their actual features. Early, tentative illustrations of todies depict beaks like hummingbirds, toes like passerines, and botched body proportions and postures.

The copious scientific illustrations of todies the authors provide inform an important oversight of theirs, and of all the other scientists studying todies. This oversight stems from an evolutionary convergence—long the bane of systematists prior to the

advent of cladistic and diverse molecular methods—that exacerbated all the other confusion surrounding todies. For example, this convergence led some authors to include mainland Neotropical regions in todies’ geographic range. The Common Tody Flycatcher (*Todirostrum cinereum*, Tyrannidae) is a widespread mainland flycatcher abundant in the open areas with scattered trees common around human habitations. It ranges from Vera Cruz northward along the Caribbean coast almost to Tampico, Mexico, and south into South America, including Cayenne, the capital of French Guiana. Except for its plumage traits, the Common Tody Flycatcher is stunningly similar ecologically and morphologically to *Todus* species (see chapter 2 in Sherry 1982, available on request). Based on illustrations in this book, in 1760 Brisson used the name *Todus* for what looks awfully similar to the Common Tody Flycatcher. In 1783, Buffon confused a Hispaniolan tody with a Common Tody Flycatcher, which he later labelled “Todier de Cayenne.” In 1812, George Shaw pictured a “Green Tody,” which looks vaguely *Todus*-like, in the same plate as a Common Tody Flycatcher, which is labelled “Cinereous Tody.” In 1819 and 1823 publications, Vieillot labeled what is clearly a Common Tody Flycatcher with a light-colored iris as “Todier Vert”; the specimen also had yellow on the throat, primary and secondary outer wing feather margins, and outer tail feathers—nonexistent traits in the *Todus* genus. Given the abundance of Common Tody Flycatchers in Mexico, and the longstanding confusion of *Todus* with *Todirostrum*, it is perhaps no surprise that Adolphe Lesson failed to think twice about attributing his *Todus* collected in Puerto Rico to the specimen he obtained from Mexico, especially after an extended voyage in which he could easily have mislabeled or mixed specimens. Incidentally, something that this book missed is that in his 1838 book René Lesson noted earlier authors’ confusion of todies with tody flycatchers, contrasting todies with true flycatchers (“veritables moucherolles du genre *Platyrhynque*”).

An omission in this book is one thing, errors are another. The number of errors will unfortunately frustrate potential readers. Many of the errors are misspellings and improper English usage, perhaps not too surprising considering that this book is self-published by non-native English speakers. Many misspellings are typographic errors, but the authors misspell “genus” as “genre” (the French word for genus but another word entirely in English) twice on one page. In some places it takes effort to ferret out what the authors are saying due to their peculiar ordering of content. In their passion about the subject, the authors also overstep their own scholarship, arguing in one section for the elevation of the family Todidae to Order Todiformes, contradicting the evidence they provide elsewhere that all the todies are Coraciiformes. What is more, the authors of the book misinterpret the phylogeny of todies based on Overton and Rhoads (2004). More external editorial oversight would have helped, but to their credit the authors did solicit feedback—just not enough—from English-speaking ornithologists. The authors also inexplicably omitted images and verbiage of René Lesson’s critical (to their arguments) 1838 publication, an omission they recognized insofar as they independently sent me this material to review. I think that a second edition of this book, with errors corrected, more on the ecology of todies, and tighter overall focus, would be valuable.

Nonetheless, the multiple values of this book greatly overshadow its weaknesses, and I strongly recommend it to ornithologists interested in the Caribbean avifauna and in studying

and photographing charismatic birds like todies; to evolutionary ecologists, historians of ornithology, biological illustrators and photographers; and especially to systematists and others interested in the history of species names and how they are decided. I dedicate this review to the memory of the late James W. Wiley, who strongly supported these authors' work, amid many other Caribbean ornithological interests, and bringing the book's issues to a broader audience. He wrote, "The book is an important contribution to our knowledge of the family Todidae as well as a major contribution to Antillean ornithology in general. The authors' exhaustive investigation and compelling presentation are an exceptional model for others to follow" (Proctor 2019:para. 8).

—Thomas W. Sherry

Department of Ecology and Evolutionary Biology, Tulane University, New Orleans, LA 70118, USA; e-mail: tsherry@tulane.edu

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