BOOK REVIEW

A Guide to the *Anolis* Lizards (Anoles) of Mainland Central and South America

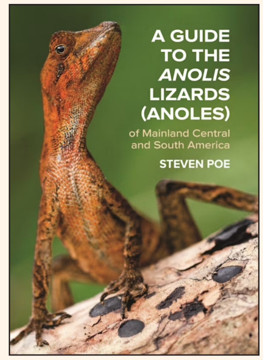
Review by Howard O. Clark, Jr., ®CWB, Editor, Tucson Herpetological Society, Tucson, AZ; *editor.sonoran.herp@gmail.com*

A Guide to the *Anolis* Lizards (Anoles) of Mainland Central and South America

By Steven Poe

Foreword by Kevin de Queiroz

Price: $39.95/£35.00
ISBN: 9780691192871
Published by Princeton University Press; Sep 9, 2025
Copyright 2025 | 432 Pages
Size: 5.88 × 8.25 in.
445 color photos; 240 maps



Steven Poe, professor of biology at the University of New Mexico, has produced what will become a benchmark reference for the *Anolis* lizards of Central and South America. He covers 240 species in the guide and worldwide, there are nearly 450 species described, with more to come as research continues (p. viii). Poe's guide is result of decades of work, and all aspects of Anole biology and ecology are covered. Fittingly, one of the species, *Anolis poei*, is named after him, with the description published in 2014 by herpetologists that he inspired (Ayala-Varela et al. 2014). From Ayala-Varela et al. (2014): "The specific name is a noun in the genitive case and is a patronym for Steve Poe, who has published important contributions to the systematics and evolution of *Anolis* lizards (Poe 2004, 2011). During his collecting trips to Ecuador in 2009 and 2010, Poe trained several young herpetologists in field collecting techniques and inspired them to explore the diversity of anole lizards. This paper is one of the products resulting from that inspiration." Incidentally, the *Anolis poei* description, published in the journal *Amphibian & Reptile Conservation*, was a paper that I managed (mainly producing the layout design and final PDF product) when I volunteered as Associate Editor for the journal. I also produced the layout design for two of Steve Poe's papers in the journal, which resulted in new descriptions of *Anolis* lizards (Poe et al. 2015, Poe and Ryan 2017).

The guide begins with a Foreword by Kevin de Queiroz (Research Zoologist and Curator of Amphibians and Reptiles, National Museum of Natural History, Smithsonian Institution), an Acknowledgements section, and an Introduction. The Introduction covers the scope and organization of the guide: the fauna of mainland anoles; species unit of analysis; the mainland Latin America region; history of anole lizards (with the first scientific work that clearly discusses anoles dating from 1802); data; and species accounts. The Introduction is a must read to gain a comprehensive understanding the guide and Poe's vision of taking on this monumental task. After the introductory material, the guide is organized into four chapters: (1) Biology of Mainland Anoles; (2) Collecting: How to Find and Catch Mainland Anoles; (3) How to Identify Mainland Anoles; and (4) Species Accounts.

Chapter 1 is a key chapter to truly appreciate the *Anolis* lizards. Anole basics are covered, including anatomy, ecology, evolution, and conservation. I found the section on evolution particularly interesting, from Richard Etheridge's work in 1959 and Ernest Williams' work in 1976, and into the molecular work in the 1970s through the 2000s. Poe states on page 24: "Most large-scale phylogenic studies of *Anolis* have converged on the conclusion of two predominately mainland clades, which we ... call *Dactyloa* … and *Draconura*, respectively." In the conservation section, Poe states that no anole lizard has gone extinct during human history, but one species (*Anolis vanzolinii*) is critically endangered, and another 20 are endangered, vulnerable, or near threatened, according to the International Union for Conservation of Nature (p. 25). Generally, as with most species that are conservation concerns, the main demise for many anole lizards is loss of habitat due to human development. However, in some cases, many species are adaptable and can be resilient to traditional causes of concern, including disease, the pet trade, competition with invasive species, pollution, and climate change. Poe states that as long as suitable habitat remains available, human-caused threats such as collecting and invasive species are generally nonissues for anoles.

Chapter 2 covers how to find and catch mainland anoles. The chapter is generally geared toward collecting anoles by museum biologists engaged in biodiversity research, however, the guidelines outlined here can apply to anyone wishing to collect anole lizards. Topics covered include planning a field trip to collect anoles; how to find and catch anoles using snaring techniques; how to find and catch anoles via spotlighting; how to find and catch anoles using other methods; and executing a collecting field trip. Although I am not a huge fan of collecting and removing animals from a population, I feel that some collecting is beneficial for research purposes. Collecting for the sake of collecting has little conservation value.

Chapter 3 covers identification of mainland anoles. Poe starts off with a simple approach: (1) know where you are (see Appendix 2 in the guide and map figures

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3.1 and 3.2 on p. 35); and (2) "catch a male anole and compare its dewlap to the plates in this book" (on pp. 50-65). Poe continues by saying that this two-step method can lead to the identification of most anole species. If the reader is satisfied with this approach, then they can move on to the Species Accounts! Of course, the rest of the chapter is well worth reading, and includes topics such as problems and approaches; characters; computer ID keys; species accounts; variation within species; and concluding remarks.

The bulk of the book is encompassed by Chapter 4, the Species Accounts. These accounts are key to the identification and description of the 240 anoles covered in the guide. The chapter begins with full color plates of the male dewlaps of most of the species. Males, in many species, have a large dewlap, whereas in females the dewlap is small or absent. Dewlap is defined as an "extensible signaling organ under the neck" (p. 1). The plates easily demonstrate that these dewlaps, as seen on the males, are incredibly colorful and striking. However, not all species have a representative photo in the plates; for 26 species, where the photo should be, a blue block is substituted with supportive text providing dewlap identifying information and other details and references. The accounts begin on page 66 and include the Latin name; plate numbers that inform the reader where to find the representative photos of the species; description (literature citation of the original description of the species); type specimen; type locality; morphology (body measurements and other description information); and a similar species section. Each account is accompanied by a gray scale relief range map showing known locations (red dots) sourced from *iNaturalist* submissions, collections, personal observations, and other vetted resources. The accounts are rather short and succinct (basically a page in length), as expected when 240 species need to be covered in one book. At the end of the Species Account section is a color plate section providing body photos of 171 anole species, as some photos were not available.

Following Chapter 4 are two appendices; (1) Evaluation of Validity for Some Species of *Anolis*; and (2) Species Lists of *Anolis* by County, Region, and Gestalt. Appendix 2 is especially important for species identification with Appendix 1 being a reminder that taxonomy is always a potential struggle. The final sections of the guide include a notes section (in numerical footnote order); References (38 pp. worth!); photo credits; and an index.

Poe's **Guide to the *Anolis* Lizards** is a must for those researching anole lizards or have a genuine interest into these fascinating critters. Although the book specializes on a single genus and focuses on a specific region, the guide lends itself as a remarkable reference and will remain a benchmark authority for decades to come. Resources of this caliber are rare and the collaboration and teamwork behind this guide must have been staggering. As more and more research and discovery of new species is achieved, this guide will certainly be a steppingstone to a better understanding of anole ecology.

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Literature Cited

Ayala-Varela, F.P., D. Troya-Rodríguez, X. Talero-Rodríguez, and O. Torres-Carvajal. 2014. A new Andean anole species of the Dactyloa clade (Squamata: Iguanidae) from western Ecuador. Amphibian & Reptile Conservation 8[Special Section]:8-24 (e76).

Poe, S. 2004. Phylogeny of anoles. Herpetological Monographs 18:37-89.

Poe, S., J.T. Giermakowski, I. Latella, E.W. Schaad, E.P. Hulebak, and M.J. Ryan. 2011. Ancient colonization predicts recent naturalization in *Anolis* lizards. Evolution 65:1195-1202.

Poe, S., and M.J. Ryan. 2017. Description of two new species similar to *Anolis insignis* (Squamata: Iguanidae) and resurrection of *Anolis* (*Diaphoranolis*) *brooksi*. Amphibian & Reptile Conservation 11[General Section]:1-16 (e141).

Poe, S., S. Scarpetta, and E.W. Schaad. 2015. A new species of *Anolis* (Squamata: Iguanidae) from Panama. Amphibian & Reptile Conservation 9[General Section]:1-13 (e94).