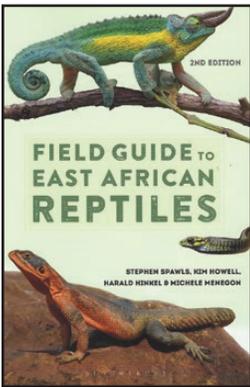


# BOOK REVIEWS

*Herpetological Review*, 2018, 49(4), 766–767.  
© 2018 by Society for the Study of Amphibians and Reptiles

## Field Guide to East African Reptiles, 2<sup>nd</sup> Edition

Stephen Spawls, Kim Howell, Harald Hinkel, and Michele Menegon.  
2018. Bloomsbury Wildlife, London (www.bloomsbury.com). 624 pp.  
Softcover. US \$38.00. ISBN: 978-1-4729-3561-8.



**KRYSTAL A. TOLLEY**

Kirstenbosch Research Centre  
South African National Biodiversity Institute  
Private Bag X7, Claremont 7735, South Africa  
e-mail: k.tolley@sanbi.org.za

It has been over 15 years since the first edition of the *A Field Guide to the Reptiles of East Africa* (Spawls et al. 2004) was published, and that original guide has served many herpetologists well. Indeed, the threadbare binding of my own copy will attest to the value of that book. This new updated edition (with a slightly

modified title) is no exception. It essentially provides a guided tour of the complete reptile fauna for a highly diverse region of the African continent in a compact form that is more user friendly than the original guide. The *Field Guide to East African Reptiles* is informative for both the expert and the layperson, demonstrating that the authors have hit the mark in providing an authoritative source that will be a standard for years to come. Each of the authors has decades of experience working in the region, which I would venture to say cumulatively amounts to a century of combined knowledge. This collective expertise makes for an exciting field guide with reliable contents.

The guide is intended for use in varied situations, whether in the office or lab, in the field, or at home. Notably, the compact softcover format makes this book easily portable when on the go. This is an improvement over the first edition, which was generally too heavy and bulky to squeeze into a backpack. Despite the reduced size, this new format does not compromise on important contents. Being intended as a field guide, all the relevant information for identification and distribution is still included. The new guide has slimmed down the background introductory information and made the species accounts more compact. Other important changes include taxonomic updates that affect 100 genera, including the addition of almost 60 new species to this region.

The guide is divided into three main sections: Introductory Essays, Species Accounts, and Appendices. The Introduction (20 pages) includes brief sections covering general information on reptiles, biogeography, conservation, identification techniques,

taxonomy and safety, providing a valuable general overview. This section covers key topics, and can easily be used as a reference source for general reptile information. There is some good advice on how to identify reptiles (how to use key features to narrow down the choices), and the biogeographic overview paints a clear picture of which types of reptile are where, and what contributes to species richness. There is some detailed advice on how to find and collect reptiles, although recommendations on whether non-professionals should be making collections, or whether they should rather focus on observing and photographing, are unclear.

The section with the Species Accounts is very stylish and modern looking. Each account covers approximately a page, including photos and a distribution map. While I have not yet had a chance to put this guide into action, it seems that the accounts provide ample content for species identification, particularly because there is consistency in the information provided. That is, the information in each account is organized by a 'formula' allowing for diverse species accounts to be easily compared and contrasted, so that distinguishing characteristics can be filtered out. Particularly helpful is specific mention of the characteristics that can be used to distinguish between similar species. The authors also include information on where the species are distributed elsewhere (outside the region), which is useful when consulting the guide as a wider reference. In general, the photos are of high quality, being attractive as well as good for identification. Each account also has concise and informative notes on natural history, habitats and distribution, which will aid species identifications. Some other worthwhile features are the brief family and genera introductions, as well as genus keys provided for families and species keys for some of the genera. I did not yet put these keys to practice, and thus I cannot attest to their reliability. However, they are likely to be useful identification departure points that can then be verified using the individual species accounts. The addition of the IUCN status (where possible) is a very welcome feature, although a reference key to what the various IUCN categories mean would have been desirable.

As for the appendices, there are some very clear line drawing showing identification features, which I think will be very useful, particularly for novices and those of us with bad memory for details. The Glossary covers some important terms, and these definitions are well written and understandable. The Index seems to cover all the relevant terms and species.

A few of the drawbacks are that repeated mention of 'reptiles and amphibians' in the Introduction detracts from the main aim of being a reptile guide. The book also adopts the 'traditional' approach to systematics that does not actually reflect evolutionary relationships. That is, snakes and amphisbaenians are treated as though they are separate from other squamates, rather than embedded within other lizard clades. Although this decision is

acknowledged as a choice by the authors, guide books that adopt the modern paradigm are going to be more useful as an accurate source of knowledge. A few of the identification photos are of individuals from outside the East African region, and it is unclear whether geographic variation in, for example, color or patterning could impact the usefulness of these photos. Finally, the running order of the species accounts is a little confusing. That is, the species accounts are organized according to evolutionary relationships, but where this is not possible, they are alphabetical instead, which makes it necessary to refer back to the Index to find your way around the accounts. Regardless, these are relatively small concerns, none of which diminish the overall quality of the book.

Overall, I think that the guide's best features are the individual species accounts, which are easy to follow, clear and concise, with exceptional identification photos. Aided by the identification keys, I am confident that the user will have little trouble identifying East African reptiles. Despite some of the drawbacks mentioned, the book will undoubtedly be extremely useful as a field guide, and there is no worthy competitor to this volume. While other smaller guides are available for the region (e.g. pocket guides), and there is also a website with similar content (<http://www.kenyareptileatlas.com/>) as well as more specialist field guides (area or taxon based), this book is portable and can be used in every situation, making it excellent value for the money.

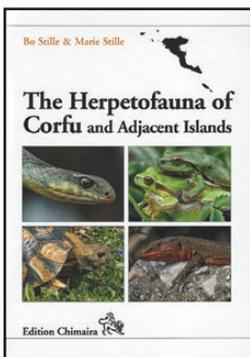
## LITERATURE CITED

SPAWLS, S., K. HOWELL, R. DREWES, AND J. ASHE. 2004. A Field Guide to the Reptiles of East Africa. A & C Black, London. 543 pp.

*Herpetological Review*, 2018, 49(4), 767–768.  
© 2018 by Society for the Study of Amphibians and Reptiles

## The Herpetofauna of Corfu and Adjacent Islands

Bo Stille and Marie Stille. 2017. Edition Chimaira, Frankfurt am Main, Germany ([www.chimaira.de](http://www.chimaira.de)). 354 pp., 291 color photographs, 44 maps. Hardcover. €49.80 (ca. US \$57.00). ISBN: 978-3-89973-524-6.



### PETROS LYMBERAKIS

Natural History Museum of Crete  
University of Crete  
Knosou Avenue  
Herakleio, Greece  
e-mail: [lyberis@nhmc.uoc.gr](mailto:lyberis@nhmc.uoc.gr)

A question which naturally occurs is, why a book on the herpetofauna of a single Greek island? Even though one could reply “Why not?,” some fact-based replies would include the island's young age, its isolation, and its poorly studied natural history. The

island of Corfu, Greece, which separated from the mainland as recently as 12,000 years ago (Perissoratis and Conispoliatis 2003), hosts the richest herpetofauna in Greece (Valakos et al. 2008). Northwestern Greece is a relatively poorly studied area with regard to its herpetofauna due to its isolation and relatively less popularity as a destination compared to the Aegean and its islands. Although a complete species list for the area could easily

be compiled, few studies have focused on Corfu's species despite the fact that it was a well-known migration corridor to and from refugia during successive ice ages (see e.g., Mezzasalma et al. 2015; Psonis et al. 2016; Marzahn et al. 2016). Finally, concentrating studies in a relatively small, well-defined area permits more fine-scaled observations of morphological and behavioral differences from populations elsewhere.

I found the authors' writing inspirational. Their writing style suggests a love, focus, and dedication to their work that can only be simplified by masterful writers. I never imagined that trained biologists with PhD's in systematic zoology could simplify scientifically diverse and complex ideas into a single book that is approachable to everyone. At the same time, their writing is systematically and meticulously based on classical literature and historical references, and these sources are integrated so that the reader can understand how the historical texts aid in understanding the island's contemporary landscape. Bo and Marie Stille use meaningful, thoughtful, and current literature that make the book a significant scientific contribution with data and references on taxonomy, phylogenetics, and ecology that are accurate and validated.

In general, the book is divided into three sections: An introductory section, species accounts, and an overview section. The introductory section begins with a prologue where the authors' state the primary scope of the book: “*The purpose of this book is to increase the knowledge and understanding of and respect for the herpetofauna of Corfu and its satellite islands as being an important part of the indigenous fauna that should be seen as an asset to be proud of and well worth protecting.*” I would agree with this sentiment, as I found the authors very committed to communicating the importance of these animals as biological resources in need of conservation and management, and of national identity.

The prologue is followed by four chapters: a short, descriptive, *Introduction* to the islands, *Geology, Geography and Climate*. These chapters are interesting, informative, and easy to read by a wide audience without sacrificing science for simplicity. The next section is a long description of important areas and habitats for reptiles and amphibians. It is written in the manner of “traditional” natural history. Some may consider this a flaw. Nevertheless, in an era of over-quantification and dominance by infra-organismic research, there are a considerable number of academics (e.g., Frazer 2014; Barrows et al. 2016; Callaghan et al. 2018) that have stressed the value of and the need for classical natural history approaches. Not only do they *not* consider it “dated” or old fashioned, but instead warn us of potential negative consequences for abandoning and downgrading the discipline. In any case, I feel it necessary to repeat that the authors do not sacrifice scientific information for style or simplicity. My only suggestion for improving this section would have been to include at least one, but preferably four, maps that readers could reference.

Three more chapters precede the species accounts: *Cultural Landscape; Legislation, Protection and Conservation;* and *Systematics, Taxonomy, Classification and Nomenclature*. The first adds to the spirit of the book as a natural history account. This along with other elements already described makes reading it appropriate, indeed necessary, for anyone interested in any aspect of Corfu's natural history. I would go one step further and recommend it for anyone interested in Greece's herpetofauna.

One might say that legal issues involving conservation should not be in such a field guide. However, this chapter, besides being

precise and informative, can play a utilitarian role for people or groups involved in local Greek conservation efforts. Moreover, it contains a very useful table (Table 1, p. 94) with a checklist of species and distributions per island. This section could have been greatly improved if it included a map of the protected areas that are only mentioned in the text.

The final part of this section introduces the reader to the complex and obscure world of systematics and nomenclature. It explains nomenclatural challenges, and continues by describing basic morphological characteristics that can be used in the identification of amphibians and reptiles. This section may be of great help for amateurs and local residents that cannot properly identify the animals and unnecessarily kill them or fail to protect them. This is especially true for snakes that many erroneously consider harmful.

The major section of the book, *Species Accounts*, follows the same natural history narrative style. Once again, information on the animals is given in flowing text rather than in a textbook style. I very much appreciated the informative and very useful figures on phenology. Other figures deal with length/mass or other important sexual dimorphic or age-class morphological characteristics. The photos are of very good quality demonstrating the phenotypic variability of the species. Other figures illustrate the differences between similar species. The species accounts include maps of good quality and are informative. However, the methodology used to construct these and the relevance of the blue dots on the maps (representing recent literature + interviews) is not clear. The quantity of distribution data collected by the authors is impressive, further highlighting their sincere dedication and considerable field efforts. In this section, the professional herpetologist will find a rich source of information on species' behavior and its associated literature.

In the third and final part of the book, the authors present a series of synthetic views, either by approaching specific questions or within the epilogue as a broad overview. The question section bears titles as "how common" and "how large." This section is particularly interesting as the value of such subjective discussions is usually underestimated and eliminated from most books. In other words, authors usually consider a discussion on the subject of, for example the length of snakes, redundant because data on maximum length are presented elsewhere. However, length is an obvious characteristic lay people note and discuss, and this book validates common conversation as meaningful to the conservation of Greek herpetofauna. The chapter on human's fear of snakes is an interesting and informative essay, showing once again the broad mind with which the authors approached their subject. The last section on predators, prey and parasites expands the usefulness of the book for any kind of naturalist, not just herpetologists. Finally, I found the four page table immediately after the *Acknowledgments* section significantly informative. This table contains Latin, English and Greek common names, and aligns these names for easy reference and clarity of terminology. This table, as well as several others in the book, also provides important ethnozoological information.

There is no doubt that the book is a must-have for anyone interested in the nature of Corfu. I recommend it for both professional and amateur herpetologists who I believe will find a rich source of information on the animals of the southern Adriatic – northwestern Greece region.

*Acknowledgments.*—Many thanks to Theodora Pinou for helpful comments and feedback.

## LITERATURE CITED

- BARROWS, C. W., M. L. MURPHY-MARISCAL, AND R. HERNANDEZ. 2016. At a crossroads: the nature of natural history in the twenty-first century. *BioScience* 66:592–599.
- CALLAGHAN, C. T., J. M. MARTIN, R. T. KINGSFORD, AND D. M. BROOKS. 2018. Unnatural history: is a paradigm shift of natural history in 21st century ornithology needed? *Ibis* 160:475–480.
- FRAZER, J. 2014. Natural history is dying and we are all the losers. <https://blogs.scientificamerican.com/artful-amoeba/natural-history-is-dying-and-we-are-all-the-losers/>
- MARZAHN, E., W. MAYER, U. JOGER, C. ILGAZ, Y. KUMLUTAS, A. NISTRI, N. SCHNEEWEISS, M. VAMBERGER, A. ZAGAR, AND U. FRITZ. 2016. Phylogeography of the *Lacerta viridis* complex: mitochondrial and nuclear markers provide taxonomic insights. *J. Zool. Syst. Evol. Res.* 54:85–105.
- MEZZASALMA, M., A. DALL'ASTA, A. LOY, M. CHEYLAN, P. LYMBERAKIS, M. A. L. ZUFFI, L. TOMOVI, G. ODIERNA, AND F. M. GUARINO. 2015. A sisters' story: comparative phylogeography and taxonomy of *Hierophis viridiflavus* and *H. gemonensis* (Serpentes, Colubridae). *Zool. Scripta* 44:495–508.
- PERISSORATIS, C., AND N. CONISPOLIATIS. 2003. The impacts of sea-level changes during latest Pleistocene and Holocene times on the morphology of the Ionian and Aegean seas (SE Alpine Europe). *Mar. Geol.* 196:145–156.
- PSONIS, N., A. ANTONIOU, O. KUKUSHKIN, D. JABLONSKI, B. PETROV, J. CRNOBRNJA-ISAILOVI, K. SOTIROPOULOS, I. GHERGHEL, P. LYMBERAKIS, AND N. POULAKAKIS. 2016. Hidden diversity in the *Podarcis tauricus* (Sauria, Lacertidae) species subgroup in the light of multilocus phylogeny and species delimitation. *Mol. Phyl. Evol.* 106:6–17
- VALAKOS, E., P. PAFILIS, K. SOTIROPOULOS, P. LYMBERAKIS, P. MARAGOU, J. FOUFOPPOULOS. 2008. *The Amphibians and Reptiles of Greece*. Edition Chimaira, Frankfurt-Am-Main, Germany. 463 pp.

*Herpetological Review*, 2018, 49(4), 768–770.

© 2018 by Society for the Study of Amphibians and Reptiles

### Vertebrate Life, Tenth Edition

F. Harvey Pough and Christine M. Janis. 2019. Sinauer Associates, Inc., Sunderland, Massachusetts (<https://www.sinauer.com/>). xviii + 552 pp. (+ Glossary, Illustration Credits, and Index). Hardcover and e-book. US \$129.95. Hardcover: ISBN 978-1-6053-5607-5, e-book ISBN 978-1-6053-5721-8.

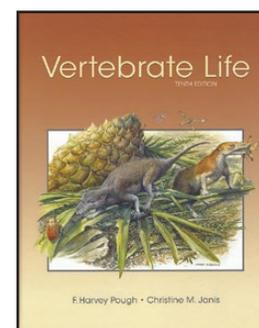
#### KEVIN G. SMITH

*Departments of Biology and Environmental Studies*

*Davidson College*

*Davidson, North Carolina 28035, USA*

*e-mail: kgsmith@davidson.edu*



In a seminar on scientific communication taken while I was in graduate school, my professor started the semester by saying, "Everyone has a bias and it's a good idea to examine and disclose your biases before presenting your work." Taking this advice to heart, it's important for me to disclose that I rarely use traditional textbooks in my teaching, having given them up for the primary literature, scholarly volumes and edited collections, and instructional materials designed with pedagogy and inquiry in mind. So, interestingly, I find myself in the position of reviewing a book, the Tenth Edition of *Vertebrate Life*, by Harvey Pough and Christine Janis, that I would not assign to my students as a text. In this

review, I hope to explain that this is not simply a personal bias, but one based on the flaws inherent to most traditional textbooks and based on recommendations from educational researchers and organizations such as AAAS. This is not to say that I would not recommend this 10<sup>th</sup> edition for purchase. Indeed, I would recommend it as a comprehensive volume that will serve as an essential reference for anyone teaching any one of several vertebrate biology courses. But in the decades that this text has been a mainstay of college vertebrate biology courses, educational best practices have shifted. Recommendations have moved away from large, comprehensive references filled with technical vocabulary and trivia and toward resources that focus deeply on the big, foundational ideas of biology and science and conceptual frameworks that provide students with the scaffolding for organizing scientific information and developing new lines of inquiry and scientific discovery (AAAS 2011). But like the 10<sup>th</sup> edition, few textbooks have acknowledged this shift in science pedagogy (but see Campbell et al. 2014; Cumming and Calin-Jageman 2016).

As far as traditional textbooks go, Pough and Janis have done a remarkable job with the 10<sup>th</sup> edition. This version includes far more revisions, additions, and improvement than average new editions, which are notoriously produced for the benefit of publishers and authors and not for students and teachers. This most recent iteration of a text that was appropriately deemed “venerable,” even while still in the relative youth of its 4<sup>th</sup> edition (Schwenk 1996) is worthy of the new edition number. At the time of the 4<sup>th</sup> edition, a major revision included the integration of cladistic and phylogenetic principles. These are still signature features of the 10<sup>th</sup> edition, illustrating the importance of evolutionary relationships to the study of vertebrate life. New revisions for this 10<sup>th</sup> edition include the use of full color throughout the text and significantly improved detail and anatomical realism in most illustrations. These are significant improvements. The breadth of content in this edition is impressive, even more impressive than previous versions. Within its 552 pages, the text moves through evolution, the origin of vertebrates, life in water, life on land, the radiation of tetrapods, extant and extinct vertebrate diversity, ecology, physiology and more, albeit quickly and often superficially. This illustrates the primacy of content coverage in textbooks, a symptom of the widespread “mile wide, inch deep” approach to teaching biology (Tanner and Allen 2005).

If a comprehensive textbook focusing on breadth of coverage is what you’re after, the content in this 10<sup>th</sup> edition is not only expanded, but also improved over that of previous editions. For example, the illustrations and figures for the two chapters on bony fishes have been enhanced, including three phylogenies (one of which shows key characters), where there were none in the 8<sup>th</sup> edition. In this way the 10<sup>th</sup> edition is inarguably superior to previous editions in showing *what we know* about Osteichthyes and other vertebrates. Yet importantly, it misses the mark in teaching students *how we know* these things. Indeed, there is a single chapter that seems to target the “how” of vertebrate biology: Chapter 1, “Evolution, Diversity, and Classification of Vertebrates.” This chapter packs a lot of key information into short sections, including such critical topics as “Phylogenetic Systematics” (ca. 2–3 pp.) and “Genetic Mechanisms of Evolutionary Change” (ca. 4 pp.). The more expansive sections on physiology (e.g., Ch. 15 and 20, Endothermy and Ectothermy, respectively) provide extensive summaries of known information on the thermal physiology of vertebrates. But are vertebrate physiologists nothing more than libraries of past

research results? How does an aspiring vertebrate physiologist reconcile this with their desire to learn *how* studies on water balance, thermoregulation, and freeze tolerance are designed and conducted? Does a comprehensive knowledge of facts make someone a biologist, or is it a firm grasp of experimental design, data analysis and interpretation, and synthesis of past results, leading to new hypotheses and conclusions? If the answer to these questions is as self-evident as I hope, then why is this information missing from this, and most, textbooks?

A thoughtful professor could rectify the lack of information on “how we do vertebrate biology” with lab exercises and group work focusing on some of the more detailed figures in the text, but this would be filling in the gaps left by the text itself. Returning to the example of bony fishes, the first chapter on the topic (there are two) includes only two “Discussion Questions” at its conclusion, and they focus on lower-order cognitive tasks such as “remember” and “define”. Adding to this with prompts or questions geared toward active learning and emphasizing the how phylogenetic trees work could help address this weakness, e.g., “Looking at Fig. 8.2, what information allows us to conclude that tetrapods are more closely related to lungfishes than coelacanths?” But the text’s lack of prompts for self-assessment and metacognition emphasizes its role as a reference for the professor, rather than a learning tool for the student. Although some tables and figures in the text provide data and the potential for more thoughtful analysis and interpretation by students (e.g., Fig. 1.6), these are few and far between. In contrast, most figures and illustrations are highly stylized, leaving out data and therefore most opportunities for higher order thinking by students. I should note that there may be better resources included in the publisher’s online supplements, but the “Companion Website for the Student” ([oup.com/us/vertebratelife10e](http://oup.com/us/vertebratelife10e)) was not available during my writing of this review.

At this point, it’s reasonable to conclude that I’ve set an unreasonably high bar for this text. How could a single text for a one-semester course cover all vertebrate life, including not only the diversity of vertebrates, but also their evolution, anatomy, physiology, ecology, and even conservation? Moreover, how could such a text possibly do all of this while going more than “an inch deep”? In short, there’s no way a single text can do this. We’re asking the impossible of authors like Pough and Janis, who are tasked with cramming an ever-increasing amount of scientific information into texts to be used during the same 15-week semester (or equivalent) that has always existed. While teaching breadth and depth are not mutually exclusive goals (Barsoum et al. 2013; Hoskins and Stevens 2009), if we focus solely on breadth, asking our textbooks to provide more and more content, then the depth of our students’ learning experiences will suffer. As a relevant anecdote, while reviewing the 10<sup>th</sup> edition I posted a sticky note on Ch. 25 (“Extant Mammals”) with an alternative title: “Things about Mammals.” Weeks later, I still see this as an accurate, if perhaps glib, summary. Is this how we would summarize what we wish our students of vertebrate biology to learn?

To be fair, Pough and Janis deserve credit for giving us almost exactly what we’ve been asking for: a beautiful, commendably comprehensive textbook that is a significant expansion and reasonable improvement from its predecessors. Nonetheless, it is a text that continues down the same unproductive path that texts have been taking for many years, focusing on relatively shallow coverage of more content than any of us could possibly teach, or at least teach well. A common rebuttal is that it’s up to us, the professors, to pick and choose the material that we want to focus

on and then provide more depth and opportunity for analysis and understanding than the text does. But this rebuttal concedes this text's lack of value to the student: Only some of it is assigned, with most of the depth (hopefully) coming from ancillary resources. In this case, at a US \$129.95 list price, exactly what are we asking our students to pay for and why?

If you are a vertebrate biologist, ecologist, conservation biologist, physiologist, evolutionary biologist, or study vertebrate behavior, morphology, or any number of other sub-disciplines, then you should absolutely have this textbook on the shelf in your office. It will be an invaluable reference for you, as it has been for thousands of other faculty, researchers, and graduate students in the past. But I cannot recommend this textbook for student use, where it would be, at best, an overpriced supplement to deeper teaching and learning focusing on other material that provides more opportunities for analysis and interpretation. In sum, in your office is where this text belongs, and not on a syllabus with the word "required" printed next to it.

## LITERATURE CITED

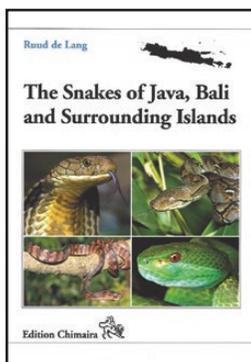
- AAAS. 2011. Vision and change in undergraduate biology education: a call to action. Washington, DC.
- BARSOUM, M. J., P. J. SELLERS, A. M. CAMPBELL, L. J. HEYER, AND C. J. PARADISE. 2013. Implementing recommendations for introductory biology by writing a new textbook. *CBE—Life Sciences Education* 12:106–116.
- CAMPBELL, M., L. J. HEYER, AND C. J. PARADISE. 2014. *Integrating Concepts in Biology*. Trunity, Palo Alto, California.
- CUMMING, G., AND R. CALIN-JAGEMAN. 2016. *Introduction to the New Statistics: Estimation, Open Science, and Beyond*. Routledge, New York. 564 pp.
- HOSKINS, S. G., AND L. M. STEVENS. 2009. Learning our L.I.M.I.T.S.: less is more in teaching science. *Adv. Physiol. Education* 33:17–20. DOI: <https://doi.org/10.1152/advan.90184.2008>
- SCHWENK, K. 1996. Vertebrate Life, by F. Harvey Pough, John B. Heiser and William N. McFarland. *Quart. Rev. Biol.* 71:581–582.
- TANNER, K., AND D. ALLEN. 2005. Approaches to biology teaching and learning: understanding the wrong answers—teaching toward conceptual change. *Cell Biology Education* 4:112–117.

*Herpetological Review*, 2018, 49(4), 770–771.

© 2018 by Society for the Study of Amphibians and Reptiles

## The Snakes of Java, Bali and Surrounding Islands

Ruud de Lang. 2017. Edition Chimaira, Frankfurt am Main, Germany (<http://www.chimaira.de>). 435 pp. Hardcover. €59.80 (= ca. US \$68.00). ISBN 978-3-89973-525-3. [also listed as Volume 66 of the series *Frankfurter Beiträge zur Naturkunde*]



### HINRICH KAISER

Department of Biology, Victor Valley College  
18422 Bear Valley Road,  
Victorville, California 92395, USA  
e-mail: [hinrich.kaiser@vvc.edu](mailto:hinrich.kaiser@vvc.edu)

It is perhaps astonishing that research into the biodiversity of Java and Bali is still incomplete, even though among the islands of the Greater Sunda Archipelago, these two are the ones with the greatest historic importance. After a millennium-long history of Java and Bali as independent

kingdoms, the port of Batavia (now Jakarta) on Java, from which the Dutch trading empire was run for the better part of 300 years, was critical to the exploration of the Indo-Australian archipelago. Both Jakarta and Bali are to this day centers of trade, as well as popular tourist destinations. Yet it appears that much of the biodiversity on these two islands, especially their true herpetological diversity, is still unknown. With the last broad, truly academic work on the region to include both Java and Bali, Nelly de Rooij's seminal two-part work on the *Reptiles of the Indo-Australian Archipelago* (Rooij 1915, 1917) now just over a century old, work to rectify the situation has been accelerating over the last decade, as evidenced by increasing numbers of publications in the primary literature. Two notable precursors for this book for Java (Hoesel 1959; Hodges 1993) are dated at this point and not well illustrated, and the two recent Bali field guides (McKay 2006; Somaweera 2018) had a much broader focus, and so Lang's effort comes at an exciting time for research on Indonesian snakes.

After *The Snakes of Sulawesi* (Lang and Vogel 2005), *The Snakes of the Lesser Sunda Islands* (Lang 2011a), and *The Snakes of the Moluccas* (Lang 2013), this is Ruud de Lang's fourth volume detailing the ophidiofauna of the Indonesian archipelago. A chemist by training with a professional career in the pharmaceutical industry, these works, as well as a scientific paper along similar lines (Lang 2011b), represent Lang's herpetological passion that he, in deserved retirement (Lang 2015), is finally able to indulge. We are fortunate that Lang decided to channel so much time into these volumes, given that the long and multinational history of the snake taxonomy in the Indonesian archipelago has created a lot of taxonomic confusion that is only slowly becoming clarified (e.g., Kaiser et al. 2018; Kieckbusch et al. 2016, 2018). Lang's meticulous attention to detail and the many excellent photographs of living snakes and museum specimens make these volumes required reading for anyone interested in Southeast Asian snakes – let alone those of us slogging through years of specimen work to figure out their taxonomy.

Lang's volumes all follow a similar layout, supported by the excellent glossy paper quality, solid cloth binding, and sealed hard cover supplied by Edition Chimaira, the publisher. After some preliminaries (a foreword by John C. Murphy of homalopsid snake fame, a preface, and acknowledgements), the author introduces the area of geographic coverage, briefly visits conservation aspects, and provides an exposé of his methodology. The introduction is very suitable for a volume like this: it is not overly long but touches on all relevant aspects of the region, including its history, geology, and several aspects of its biology. The final two components before the species accounts include a species checklist and an identification key.

After the species accounts (see below), at the end of the book, Lang provides a list with three doubtful records, a list of species he considers certainly not present on the covered islands (though having perhaps previously and erroneously been considered to occur there), selected habitat photos, a glossary, four maps to show species distributions, locality names (with GPS coordinates), a table with known distributions, a table of scale counts, and a listing of literature sources. It becomes apparent from the book's components, both before and after the species accounts, that this work is not merely a field guide, or a pictorial guide, but that the author presents bona fide research and excellent illustrations. These details alone make this book a nice resource, but there is much, much more!

Flipping through the pages of the book when I received it, I expected to see more of the high-quality photography as found in the author's other books, and I was not disappointed. Not only does Lang present images of type specimens (which are of key importance to a taxonomist audience), he also presents a plethora of live animal photos and habitats (for everyone's enjoyment), covering a majority of the more than 90 snake species featured in the book. There are some outstanding photographs of infrequently pictured species, including what appears to be the only color photo of a living *Tetralepis fruhstorferi*, a secretive, montane colubrid. Some species are pictured on very attractive two-page spreads. Also included are short biographies of five notable collectors, including Heinrich Kuhl, Johan Coenraad van Hasselt, and Heinrich Boie, who were among the earliest Dutch explorers of the territory and gave their young lives in the pursuit of science, as well as Felix Kopstein and Carel Pieter Johannes de Haas.

The bulk of the book is composed of the species accounts, which generally include thorough write-ups of distribution, description and identification, habitat and biology, and conservation status. Other sections, such as taxonomic notes and comments on venom toxicity, are added as required. Of course, given that the level of knowledge for these species is not uniform, the species accounts differ in their lengths, and the juxtaposition of some of the longer accounts with brief ones attests to the overall need for a better understanding of many species.

As in any volume of this nature, there are some quibbles, but these really do not detract from the overall quality and importance of the book. Here they are: Species accounts are arranged alphabetically by family, as opposed to the usual arrangement into an evolutionary (i.e., phylogenetic) order. There are only English common names provided, not Indonesian ones. According to Pauwels et al. (2003), the species name is *Gongylosoma baliodeira*, not *baliodeirum*. Some of the photographs of live snakes accompanying the accounts are not actually of Javanese or Balinese individuals but represent populations from throughout the region, and many were not taken by the author himself (for example, eight of the figures were already published as plates in Hodges 1993). End of quibbles.

Apart from these very minor "defects," *The Snakes of Java, Bali and Surrounding Islands* is a very useful, richly illustrated, scientifically important opus, and the author's meticulous attention to detail has to be commended. Lang has produced yet another significant advance in our knowledge of Indonesia's herpetofauna. With its pleasing presentation, many illustrations, detailed information on each taxon, and all the interesting bits and pieces, this book ought to become a well-worn reference for anyone with an interest in the ophidians of Southeast Asia.

## LITERATURE CITED

- HODGES, R. J. 1993. Snakes of Java with special reference to East Java Province. *Brit. Herpetol. Soc. Bull.* (43):15–32.
- HOESEL, J. K. P. VAN. 1959. *Ophidia Javanica*. Museum Zoologicum Bogoriense, Bogor, Java, Indonesia. 188 pp.
- KAISER, C. M., H. KAISER, AND M. O'SHEA. 2018. The taxonomic history of Indo-Papuan groundsnakes, genus *Stegonotus* Duméril et al., 1854 (Serpentes, Colubridae), with some taxonomic revisions and the designation of a neotype for *S. parvus* (Meyer, 1874). *Zootaxa*. In press.
- KIECKBUSCH, M., S. MECKE, L. HARTMANN, L. EHRMANTRAUT, M. O'SHEA, AND H. KAISER. 2016. An inconspicuous, conspicuous new species of Asian pipesnake, genus *Cylindrophis* (Reptilia: Squamata: Cylindrophiiidae), from the south coast of Jawa Tengah, Java, Indonesia, and an overview of the tangled taxonomic history of *C. ruffus* (Laurenti, 1768). *Zootaxa* 4093:1–25.
- , F. MADER, H. KAISER, AND S. MECKE. 2018. A new species of *Cylindrophis* Wagler, 1828 (Reptilia: Squamata: Cylindrophiiidae) from Boano Island, northern Maluku Province, Indonesia. *Zootaxa* 4486:236–250.
- LANG, R. DE. 2011a. The Snakes of the Lesser Sunda Islands (Nusa Tenggara), Indonesia. A Field Guide to the Terrestrial and Semi-Aquatic Snakes with Identification Key. Edition Chimaira, Frankfurt am Main, Germany. 359 pp.
- . 2011b. The snakes of the Lesser Sunda Islands (Nusa Tenggara), Indonesia. *Asian Herpetol. Res.* 2:46–54.
- . 2013. The Snakes of the Moluccas (Maluku), Indonesia. A Field Guide to the Land and Non-Marine Aquatic Snakes of the Moluccas with Identification Key. Edition Chimaira, Frankfurt am Main, Germany. 417 pp.
- . 2015. How to study a herpetological fauna? *Litt. Serpent.* 35:143–142.
- , AND G. VOGEL. 2005. The Snakes of Sulawesi. A Field Guide to the Land Snakes of Sulawesi with Identification Keys. Edition Chimaira, Frankfurt am Main, Germany. 312 pp.
- MCKAY, J. L. 2006. A Field Guide to the Amphibians and Reptiles of Bali. Krieger Publishing, Malabar, Florida. 138 pp.
- PAUWELS, O.S.G., P. DAVID, C. CHIMSUNHART, AND K. THIRAKHUPT. 2003. Reptiles of Phetchaburi Province, western Thailand: a list of species, with natural history notes, and a discussion on the biogeography at the Isthmus of Kra. *Nat. Hist. J. Chulalongkorn Univ.* 3:23–53.
- ROOIJ, N. DE. 1915. The Reptiles of the Indo-Australian Archipelago. Volume I. Lacertilia, Chelonia, Emydosauria. E.J. Brill, Leiden, The Netherlands. 384 pp.
- . 1917. The Reptiles of the Indo-Australian Archipelago. Volume II. Ophidia. E.J. Brill, Leiden, The Netherlands. 334 pp.
- SOMAWEERA, R. 2018. A Naturalist's Guide to the Reptiles & Amphibians of Bali. John Beaufoy Publishing, Oxford, United Kingdom. 176 pp.

## PUBLICATIONS RECEIVED

### Amphibians and Reptiles — Atlas and Determination

E. Dunaev and V. Orlova. 2017. Fiton XXI Publishers, Moscow (available from Edition Chimaira, Frankfurt-am-Main, <http://www.chimaira.de>). 328 pp. Hardcover. € 29.80 (ca. US \$35.00). ISBN: 978-5-906811-32-5.



Russia is the largest country on Earth, ranging from eastern Europe to the Bering Sea, and from the Arctic tundra to the high mountains and plains along its southern border with the Black Sea, interior Central Asian nations, China, and Mongolia. Because of its harsh climate, this immense territory has but a fraction of the species richness of some of its smaller neighbors to the south and east. *Amphibians and Reptiles – Atlas and Determination* provides a well-illustrated guide to 8 salamanders, 25 frogs, 7 turtles (including sea turtles), 32 lizards, and 44 snakes found

within the country, as well as an introduced turtle and gecko. Each taxonomic group has a short introduction defining the taxa, whether by Class, Family, or Genus; for speciose groups, a key is provided. Illustrations of reptile scale patterns are presented in striking colors making it easy to differentiate the different scales.

The bulk of the book is composed of two-page species accounts. Each account gives information on taxonomy, distribution, and life history, but there are no maps, a curious feature for a book with atlas in its title. Accounts are accompanied by vivid well-produced color photographs showing characteristics of the species, including (variously) dorsum and venter, eggs, larvae, tadpole mouthparts, pattern variation, and representative habitats. Not all of these features are included with each account, presumably because of a lack of availability and space, but insets allow additional details to be illustrated. After the accounts, there is a short section on snakebite and how to tell the differences between snakes and legless lizards, a glossary of terms, brief biographies of important contributors to Russian herpetology, and a Russian and Latin species index.

The book is entirely in Russian, and Latin names do not accompany the photographs. Thus, the book is aimed at a Russian audience. However, the exceptional photographs of the species and habitats may justify the cost to bibliophiles and those interested in Eurasian herpetology.

### Snakes – The Species of the Russian Fauna

E. Dunaev and V. Orlova. 2018. Fiton XXI Publishers, Moscow (available from Edition Chimaira, Frankfurt-am-Main, <http://www.chimaira.de>). 119 pp. Hardcover. € 16.80 (ca. US \$19.75). ISBN: 978-5-906811-39-4.

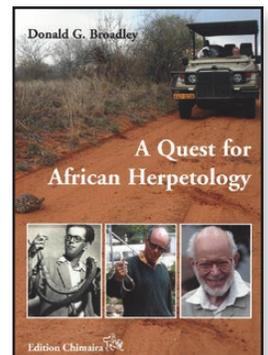
*Snakes – The Species of the Russian Fauna* is a small, almost pocket-sized guide to the 44 species of snakes found within Russia. As with Dunaev and Orlova's previous guide to Russian herpetofauna (*Amphibians and Reptiles – Atlas and Determination*), each taxonomic group has a short introduction defining the taxa, whether by Class, Family, or Genus, but no keys are provided. Unlike the previous guide, there are no illustrations of reptile scale patterns. The bulk of the book is composed of two-page species accounts with short bullet points of information on taxonomy, distribution, and life history. There are no maps. Accounts are accompanied by one or two good color photographs, usually dorsally of the entire snake or laterally of the head. Some accounts include a photo of the typical habitat where the species is found. The section on snakebite and how to tell the differences between snakes and legless lizards is repeated from *Amphibians and Reptiles – Atlas and Determination*. The book ends with a Russian and Latin species index, but additional references are not provided. The book is entirely in Russian and Latin names do not accompany the photographs. *Snakes – The Species of the Russian Fauna* is intended for Russian naturalists and interested amateurs rather than for a more specialized audience. It does have some nice photographs.



### A Quest for African Herpetology

Donald G. Broadley. 2018. Edition Chimaira, Frankfurt am Main, Germany ([www.chimaira.de](http://www.chimaira.de)). 265 pp. Softcover. €29.80 (US \$34.25). ISBN: 978-3-89973-439-3.

Don Broadley was perhaps the most influential herpetologist working in Africa over the last century. He painstakingly chronicled the then virtually unknown fauna of Zambesiaca (Zimbabwe, Zambia, Botswana, Mozambique, Malawi) from 1954 until his death on 10 March 2016, and built some of the largest herpetological research collections in Africa at the National Museum in Bulawayo and the Umtali Museum. He described >100 reptile species, five amphibians, a fossil tortoise, and named seven genera and subgenera by the publication date of this volume. He maintained a vigorous research program despite extreme political unrest, danger, and

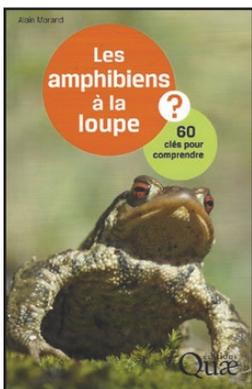


financial chaos, publishing many books, monographs, and papers, and still found time to start a research publication (*Arnoldia*) and be instrumental in the creation of the Herpetological Association of Africa. During his career, he kept a detailed account of who he met and where, correspondence, and the herpetofauna he collected during innumerable field trips. At the time of his death, Broadley was working on his autobiography detailing his life in herpetology in south-central Africa and beyond. *A Quest for African Herpetology* is the result of Broadley's recollections and diaries, completed by colleagues in Africa and Europe. It is a tribute to Don that his colleagues and friends saw the book through to publication.

*A Quest for African Herpetology* is not written in a narrative style, except for the first few short chapters dealing with Broadley's early life; the book is entirely in diary form, listing places, people, species caught, and contacts with colleagues abroad. As such, much of the book serves as a reference rather than an enjoyable read of African adventures. Its subject is entirely herpetological, with little or no reflection by Don on his personal life, wildlife issues, or the turmoil that must have swirled daily living during a tumultuous era. In that, it is very different from the writings of Arthur Loveridge, C. J. Ionides, Archie Carr, or more recently by Kate Jackson and Eli Greenbaum. The most enduring parts of the book are its 113 historical photographs covering every phase of Broadley's life, particularly with colleagues in the field or later at herpetological meetings or in museums. The book concludes with lists of the taxa described by Broadley and of the species named to date in his honor. Those who knew Don or are interested in the history of African herpetology will want a copy for their library.

### Les amphibiens à la loupe – 60 clés pour comprendre

Alain Morand. 2018. Éditions Quæ, Versailles, France ([www.quae.com](http://www.quae.com)). 152 pp. > 100 color photos. Softcover. €19.00 (ca. US \$22.00). ISBN: 978-2-7592-2743-3.



*Les amphibiens à la loupe – 60 clés pour comprendre* (roughly, *Amphibians in minute detail – 60 keys to understanding them*) is a well-produced booklet geared to French-speaking naturalists and amateur biologists interested in learning more about amphibian biology. The book approaches its subject in the form of 60 key questions about amphibians. Although there are no chapters per se, the 60 questions are grouped into five sections: Recognizing amphibians (8 questions), A little about their biology (14 questions), Sex and reproductive strategies (5 questions), Amphibians in their environment (12

questions), and Amphibians from the past and their current and future status (21 questions). For example, question 5 asks “Where do amphibians live?” and question 11 asks “How do amphibians breathe?” Question 53 poses “How do you protect amphibians along their migratory pathways?” Following each question is a detailed yet precise answer that runs anywhere from 2–5 pages. Excellent color photos are included to assist the reader in understanding or illustrating the answer, and interesting facts about amphibians are included in circular format (rather than boxes) accompanying every photo. The book has a very brief forward, a complete list

of the questions that serves as an index (pp. 144-145), a short bibliography and list of internet sites, and a list of Latin names for species mentioned in the text. Although focused on Europe, the book contains information on amphibians throughout the world making it suitable for use in French-speaking regions other than France. Éditions Quæ produces a number of books aimed at a non-professional audience that are highly informative to French-speaking amateur naturalists and the general public. Herpetological subjects include Snakes of France, Frogs and Toads of France, Sea Turtles, Keys to Understanding Reptiles, and the Eggs and Larvae of French Amphibians. Information on these books is available on their web site.

### My Husband and Other Animals 2

Janaki Lenin. 2018. Westland Publications, Chennai, India (available through [www.Amazon.com](http://www.Amazon.com)). 320 pp. Softcover. US \$13.28. ISBN: 978-9-3868-5092-8.

Janaki Lenin is a well-known Indian writer, conservationist, and film producer (Draco Films) living with her husband Rom Whitaker on a farm in Pambukudivanam. Although she grew up in the city, her marriage to one of Asia's foremost snake and crocodile authorities took her life and career in directions she hardly could have imagined. In *My Husband and Other Animals 2*, she recounts her personal journey from her familiar world to one she barely knew existed, but which she has come to embrace. It is a world of leopards, birds, leeches, and of course many varieties of snakes and other reptiles. Despite a 27-year age difference, it is also about her relationship with Rom Whitaker, a relationship that reflects both love and respect for one another over their 20-year marriage. Lenin uses a light-hearted approach to tell stories of encounters and adventures, from her first trip to Agumbe Forest in the hills of Karnataka (*A monsoon spectacle*) to stories of a shot elephant (*Why did Raja die?* — because he was fed too much by tourists causing dangerous familiarity) and a much-loved roaming Mugger Crocodile that died when his tunnel caved in (*The adventures of a crocodile stud*). Lenin also delves into reflections concerning biological questions, such as why some millipedes are avoided by certain predators but not others, and why some snakes are so venomous. And she tackles some difficult societal questions, such as the pervasiveness of rape in humans and the animal kingdom (*Why do men rape?*) and the evolution and prevalence of homosexuality (*Why did homosexuality evolve?*). A reader may not have the question answered, but Lenin will give them something to think about. Stories and reflections are presented in 81 short (3–11 pp.) vignettes, all of which are well-grounded in science. Herpetologists will enjoy the many stories covering snakes (particularly King Cobras), crocodiles, frogs and lizards, as well as those of minor vertebrate taxa (avian reptiles and mammals) and various Indian tribals, particularly the snake-catching Irula. Lenin has written an entertaining and enjoyable book with an accurate window into Indian biodiversity. At the same time, her musings give the reader serious topics to think about, from maintaining a long-term relationship in science to why people and other animals do the things they do.

