



BOOK REVIEW

A Fascinating Study of Snakes

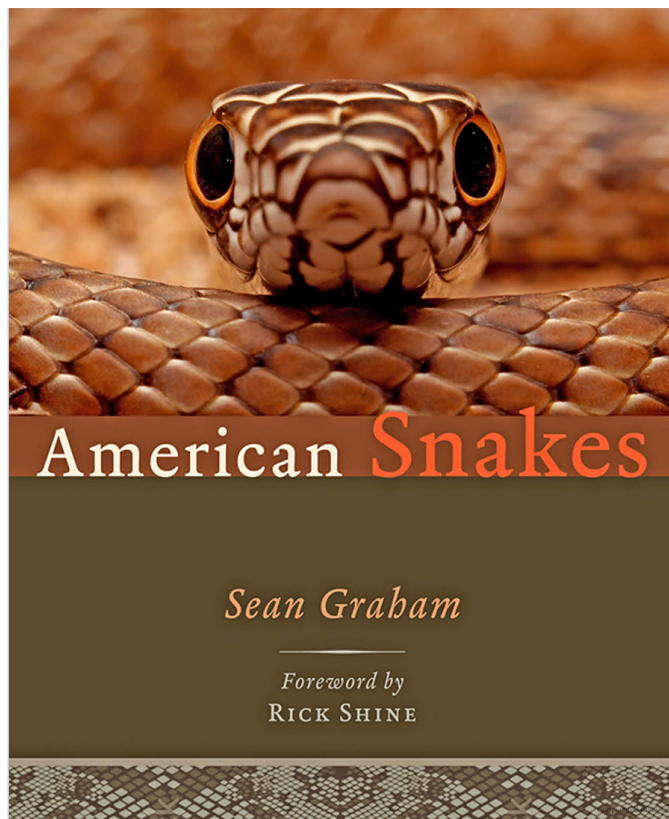
American Snakes. S. P. Graham. 2018. Johns Hopkins University Press, Baltimore, Maryland. xviii + 293 pp. Hardcover — ISBN-13: 978-1-4214-2359-3. ISBN-10: 1-4214-2359-6. \$29.95.

I am a huge fan of books about snakes—especially those that do more than merely identify a species and map its distribution. I want insights into natural history that can be provided only by authors who know the animals about which they write. Sean Graham fills that bill. The dust-jacket quote by Harry W. Greene (author of *Snakes: The Evolution of Mystery in Nature*—arguably the best snake book ever written) states: “Sean Graham is a fine field biologist and scholar, an unusually talented writer, and he’s provided the best imaginable book on my favorite organisms. Here new converts to pondering serpents will get the most up-to-date facts, skillfully sifted and presented, all enlivened by a vibrant array of illustrations; those with more experience will be reminded over and over again how we became fascinated with these limbless reptiles. *American Snakes* is truly a gift for everyone who wants to savor their wonderful world.” I agree with every word.

The dust jacket also lays out what amounts to the goals achieved when writing this book: It (1) “explains the everyday lives of American snakes, from their daily routines and seasonal cycles to their love lives, hunting tactics, and defensive repertoires,” (2) “provides basic information for identifying species,” (3) “debunks harmful myths about snakes and explores their relationship with humans,” (4) “highlights the contribution of snakes to the American wilderness,” and (5) “tells tales of ‘snake people’—important snake biologists with inspiring careers.” The book accomplishes all of those (excepting maybe the second point, although that clearly wasn’t a major focus) with aplomb, but it’s the last point that brings the book to life. Vignettes about Frank Burbrink, “punk taxonomist,” Alex Pyron, “recovering the snake tree of life,” Harry Greene, “getting in the snake’s skin,” Tony Farrell and Peter May, Whit Gibbons, “the communicator,” Natalie Hyslop, “tracking endangered species,” Joanna Burger, “Pine Barrens naturalist,” Rick Shine, “the biggest dog in herpetology,” Emily Taylor, “unraveling the sex lives of rattlesnakes,” Rulon Clark, “the watcher,” Henry Fitch, “radio-tracking rattlers at age 93,” Sara Ruane, “revealing the mysteries of milksnakes,” Jayme Waldron, “rattler tracker,” Erika Nowak,

“champion of snakes,” and David Steen, “the next big thing,” go well beyond mere tales, highlighting important contributions and other aspects of herpetology while simultaneously revealing the infective passion of these ophiophilic scientists for their favorite creatures.

Promotional material clearly states that *American Snakes* is “neither a typical field guide nor an exhaustive reference,” but is “instead a fascinating study of the suborder Serpentes.” That is both the book’s greatest strength and its most obvious weakness. In the context of the latter, I wanted more (see also my quibbles below), especially since several relevant topics were not explored as extensively as I might have wished. In particular, I would have liked more extensive discussions of habitats (i.e., why snakes are where they are) and how snakes respond to human-mediated changes emanating from urbanization and modern agriculture. I also kept looking for additional information about the biotic communities in which snakes often play substantive roles beyond predator and prey.



Still, by not getting bogged down in detailed descriptions and distributions of every species, Graham instead was able to describe the lives of snakes, using various species as examples to illustrate patterns, variations, and both common and unusual behaviors. By not trying to be exhaustive, Graham could effectively tell stories that collectively reveal insights that might not otherwise have risen higher than just one more fact among many. As a result, reading this book brought back fond memories of my own encounters with American snakes that include a Western Diamond-backed Rattlesnake (my first) alerting me to its presence one night in Texas, although I was still some distance away and might never have noticed it otherwise, a gravid Scarlet Kingsnake emerging from a rotten log in South Carolina, a large Pinesnake, also in South Carolina, that threatened to eat me after I disturbed its quiet retreat, a tiny Cornsnake in the Florida Keys that valiantly held its ground against an oncoming car, a plethora of Ring-necked Snakes, as many as 20 under a single rock, in western Kansas, and many more. I imagine most snake lovers who venture into the field have had similarly memorable experiences — and will be enticed to recall them when reading this book.

Consequently, the intended audience is quite diverse. The book is sufficiently detailed and insightful that a professional herpetologist will benefit from (and certainly enjoy) reading it, but not so comprehensive and filled with scholarly references to discourage the amateur naturalist. If anything, the book leans to the latter with somewhat generic explanations (e.g., “snakes are vertebrates,” “the sinuous body,” and “an efficient metabolism”), especially in the early chapters. Even here, however, comments like the somewhat tongue-in-cheek reference to the head of snakes as “the business end” make the mundane a bit more palatable. The story-telling, however, takes over in later chapters, and it’s here that the reader quickly becomes enthralled.

The layout begins with a preface that introduces the reader to many prevalent attitudes toward snakes (“Southerners are legendary snake haters”) while remaining hopeful (“the time has finally come when most people are at least curious about [snakes]”). Next is an introduction that starts with a delightful story subtitled “a mamba in Utah” before more ordinary but unavoidable sections addressing diversity, snakes as animals, vertebrates, and squamates, origins, distinctions between snakes and legless lizards, and synopses of families represented in North America. The second chapter, titled “form and function,” begins by explaining how a sidewinder moves, a “simultaneously graceful and effective adaptation, which enables existence within one of the world’s harshest environments.” Subsequent sections on the aforementioned “business end,” “oral weaponry,” “the sinuous body,” “an interesting tail,” “an efficient metabolism,” and “movement” are unexciting but enlivened a bit by Graham’s knack for choosing just the right language to make a point. For exam-

ple, when describing lateral undulation, the most common form of locomotion, he says: “They can throw themselves into sideward arcs that push from the substrate, and these arcs move down the body in waves, creating constant forward motion,” certainly an instance of waxing poetic on a rather routine topic.

It’s in the subsequent chapters, “a day in the life of a snake,” “a year in the life of a snake,” “snake sex,” “snake food,” “snake eaters,” and “snake defense,” that Graham’s command of language and tale-telling talent emerge. Alternating stories and information-laden explanations, he entertains while educating. Even the most hardened professionals will enjoy reading about aspects of snake biology with which they are quite familiar, not only for the occasional new tidbit, but especially for the eloquent presentation. For example, when describing the continuum of active foraging to ambush hunting, he states that “most American snakes are what can perhaps more appropriately be termed ‘raiders,’” using as one illustration the “reason why a Tennessee pinesnake moves from one series of burrows to an equally fine series of burrows a kilometer away is that it has checked the first burrows for food, and, finding no rodents, it moves on to the next one. Having checked the fresh burrows, it might then return to the first burrows to try its luck again.”

The last chapters, “dangerous snakes,” “snake invaders,” and “snake conservation” are a bit less exciting but extremely important and, like earlier chapters, enlivened with sometimes delightful but always eloquent vignettes. This is where many myths are put to rest. Occasionally verging on confrontational, but more frequently assuming a gently chiding tone and never resorting to the sensationalism so prevalent in many media accounts, Graham debunks the legends, most of which emanate from fear, distrust, and ignorance, without minimizing the real dangers that can accompany encounters with the few snakes that are truly dangerous. The epilogue, another engaging tale, is followed by references and an index.

I would be remiss in reviewing this book without commenting on the remarkable photography assembled by Graham to illustrate this volume. I have been known to say that “even the pros like pretty pictures,” but when the pictures also tell stories that complement the eloquent text, it just doesn’t get any better. Just one of many examples is the photograph by Noah Fields that graces the dust jacket and illustrates the forward-facing eyes of a Coachwhip, which provide “excellent daytime vision with excellent depth perception.” If that portrait doesn’t elicit a desire to delve into the book, the prospective reader is either immune to the wonders of nature or dead.

As you can tell, I really liked this book, although I do have a few, albeit mostly minor quibbles. Although mentioned from time to time (most obviously in the vignette about Frank Burbrink (“punk taxonomist”), Graham largely

misses an opportunity to educate the less technically inclined reader on the vagaries and frustrations inherent in classifying animals. Whether one agrees with or cringes at the use of “Suborder Serpentes” or retention of an all-encompassing family Colubridae (despite the comment that “prudent calls have been made to split this unwieldy group into several smaller families”), I think a more extensive and focused conversation about the fluid nature of taxonomy would have been appropriate and valuable. I also thought that Graham should have chosen to follow the recommendations of the Committee on Standard English and Scientific Names, which represents all major North American herpetological societies, that formal common names be treated as proper nouns and capitalized. Some of the diagrams (e.g., the world-wide distributions of snake families, the responses by ectotherms and endotherms to environmental temperatures, and the frequently employed pie charts) take up space that could have been more productively used for photographs of more and different kinds of snakes engaged in various behaviors or in different situations. Also, I was a bit surprised that Graham didn’t clearly state that the admonition “red on yellow, kill a fellow, red on black, venom lack” applies only in North American coral snakes. Finally, despite the chapter dedicated to conservation, I believe that a much stronger emphasis on conservation is necessary in a modern book about snakes. I realize that the greatest threats to snakes (and other wildlife) are habitat destruction and alteration and that a more extensive exploration of those threats would have required

a great deal of attention to habitats exploited by snakes (a topic addressed peripherally throughout but never in great detail). Nevertheless, any additional pages devoted to the topic would have been well spent. Also, Graham makes only passing mention of the potential effect of snake fungal disease, which is spreading in many populations and might be much more widespread than currently documented. Ultimately, I think the author missed an opportunity to promote the many worthwhile conservation-oriented and educational efforts worthy of support by readers interested in snakes.

I dispute the statement on the dust jacket that “This proud celebration of a diverse American wildlife group will make every reader, no matter how skeptical, into a genuine snake lover” (the reality is that the folks who are already so inclined are most likely to read this book and those who readily buy into the myths aren’t going to let facts get in the way of what they want to believe). Nevertheless, in summary (and despite my quibbles), this is an excellent book about snakes (maybe second only to Harry Greene’s previously mentioned opus), well worth the price, and worthy of finding a home in the libraries of herpetologists and all naturalists. I anticipate pulling my copy off the shelf again and again, if only to while away cheerless winter days until I can go looking for snakes again.

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