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## BOOK REVIEWS

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*Herpetological Review*, 2010, 41(2), 249–250.  
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**Natural History of West Indian Amphibians and Reptiles**, by Robert W. Henderson and Robert Powell. 2009. University Press of Florida ([www.upf.com](http://www.upf.com)). Hardcover. xxiv + 495 pp. US \$85.00. ISBN 978-0-8130-3394-5.

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The West Indies are home to more than 6.3% of the world's reptile species, including more than 600 species found nowhere else on earth (Hedges 1996). This extraordinary diversity, combined with the presence of herpetology's best-known example of adaptive radiation (*Anolis* lizards) and the region's proximity to the United States have made the West Indies a Mecca of herpetological research for over a century. When it comes to comprehensive book length treatments of this herpetofauna, West Indian herpetologists have tended to prefer substance over style. For nearly two decades, the best example of this was Schwartz and Henderson's (1991) *Amphibians and Reptiles of the West Indies: Descriptions, Distributions, and Natural History* (hereafter S&H), which makes up for a lack of illustrations with comprehensive species descriptions, dot maps, and natural history notes for every species of West Indian amphibian and reptile. S&H remains one of the most impressive compendia ever published on a regional herpetofauna and has served a foundation for herpetological research in the West Indies for nearly two decades.

Henderson and Powell's (2009) (hereafter H&P) new compendium on the natural history of West Indian amphibians and reptiles expands the foundation provided by S&H, and provides an impressive resource for the next generation of West Indian herpetological research. Although it shares S&H's emphasis on style over substance (there are few illustrations), it is much more than a mere rehash of S&H's classic work; instead, H&P focus primarily on updating and expanding the natural history information included in S&H. H&P also provide the first comprehensive

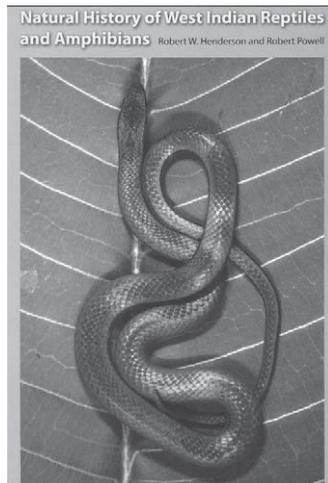
assessment of the conservation status of reptiles and amphibians—a key contribution given the relatively small ranges of many of the region's endemic species. Along the way, H&P nearly triple the number of references contained in S&H, a testament to H&P's scholarship and the expanding body of literature pertaining to the natural history, ecology and conservation of West Indian herps (over 2600 references in H&P versus 883 in S&H).

Henderson and Powell lead off with an insightful review of the West Indian herpetofauna and efforts to study it, including a wide-ranging consideration of this fauna's future. The "Where We are Today" section includes an excellent summary of the history of West Indian herpetology. H&P also use informal meta-analyses to illuminate the uniqueness of the West Indian herpetological fauna and to highlight the taxonomic imbalance of previous work on West Indian herps; some taxa have enjoyed sustained natural history research while little is known of many other taxa beyond their existence. Following up on this observation, H&P's introduction closes with a discussion of the future of West Indian herpetology that serves as both a roadmap for future research and a call to arms for the herpetological community.

One of the most important features of H&P is the information it contains on the conservation status of West Indian reptiles and amphibians, including a comprehensive summary of the various threats facing this fauna. Although the West Indies are home to hundreds of narrowly distributed endemic species living in heavily disturbed environments, conservation efforts are focused almost exclusively on a few particularly charismatic species like rhinoceros iguanas, boas, and racers. One reason for this is that the tenuous status of many lesser-known West Indian reptiles and amphibians has been overlooked by the broader community of conservationists. H&P begin their efforts to overcome this oversight with an extensive review of the literature that considers the impact of threats like introduced species, habitat loss, accidental and intentional killing by humans, climate change, natural disasters, non-native parasites, pollution, loss of prey sources, human overpopulation, and commercial exploitation.

The remainder of the book is composed primarily of species accounts (arranged alphabetically and by Linnaean rank). The structure of the species accounts in H&P differs substantially from those found in S&H. Gone are range maps, physical descriptions of species, type specimen and locality data, and discussion of the systematic relationships among species. Missing from both books are images of species and characterization of calls for amphibians, although H&P point to other resources for these data. Information on natural history, meanwhile, is greatly expanded. Material new to this volume includes impressive species-by-species conservation summaries including IUCN, CITES, or other assessments as well as any relevant literature on specific threats to each species (e.g., habitat loss, active hunting/extermination by Amerindians or current residents, etc).

H&P contains accounts for 152 species not recorded in S&H (an increase of 26%), reflecting both increased interest in West Indian Herpetology as well as a shift in taxonomic methods over the last two decades. Unlike S&H, however, subspecies are only rarely discussed and phenotypic or ecological distinctions among subspecies are not addressed. The content of each species' Natural History section varies depending on the available references. Headings include: abundance, activity, behavior, biomass, competition, diet



and foraging, dispersal, growth, home range, movement, parasites, population size and density, predation, reproduction, sex ratio, size, tail autonomy, thermal biology, as well as ecomorphology information for anoles. H&P draw upon years of field experience, an exhaustive literature review, and an international network of West Indian herpetologists to compile each detailed and rigorously researched species account.

We have only a few minor complaints with H&P, including unqualified use of generalizations and anecdotal field observations, the absence of a small number of natural history references, and the potential that geographic variation in the natural history of species is overlooked by focusing exclusively on taxa recognized at the species level. The inclusion of anecdotes and antiquated natural history observations is a double-edged sword. Although we agree with H&P's comprehensive approach, we caution readers against over-interpreting information that is presented in accounts without bias or explanation. Anecdotal claims like the suggestion that *Anolis strahmi* is "[n]ot easily alarmed," for example, are often oversimplifications. The *Bothrops caribbaeus* account cites Tyler (1849) on envenomation: "If not bitten in a large blood vessel, little danger exists for a loss of life if a mixture of lime juice, rum, and salt is imbibed, followed by intoxication and sleep." Although amusing to the experienced herpetologist, this account could easily be misconstrued as factually accurate information by the uninitiated. Although this is an extreme example of the potential problems with anecdotal information, it might be useful to include some evaluation of poor or unreliable references.

We conducted basic literature searches for natural history information on 73 taxonomically dispersed accounts; this work confirmed the thoroughness of H&P's scholarship. In most cases H&P cited every reference to a species that we could find, in many cases supplementing the references we were able to find with somewhat more obscure references that could not be located with internet-based searches. The few neglected references we did find tend to originate from journals outside the purview of practicing herpetologists; for example, H&P missed a note on Burrowing Owl predation on *Typhlops hectus* from the Journal of Raptor Research (Wiley 1998). In other cases, individual species accounts did not reference relevant material that is cited elsewhere in the volume. Species accounts for *A. porcatius* and *A. allisoni*, for example, should have included some mention of the character displacement that Schoener (1977) reported in central Cuba.

Although it may be asking too much, including some information on taxonomic relationships among species would have been a useful addition. With such information, it might be possible to extract some suggestive information about the natural history of recently described or relatively poorly known species by examining accounts of closely related taxa. For instance, the account for *A. marron* contains very little detail. This species was elevated to species status from populations previously placed in *Anolis brevirostris* (Arnold 1980). Although specific natural history studies since this elevation are lacking, the close evolutionary relationship of these species suggests some overall similarity between the two.

H&P's book is a monumental contribution to West Indian herpetology. Its comprehensive coverage and the level of detail afforded each species is virtually unparalleled among references for diverse herpetofaunas. H&P is a necessary companion to S&H for any herpetologist working in the West Indies. Henderson

and Powell's new volume provides much more comprehensive natural history information for the West Indies than its predecessor, although S&H remains important because of its dot maps, type records, and morphological descriptions. We can now look forward to the forthcoming field guide (S. B. Hedges, *in prep.*), complete with range maps and color photographs for every West Indian species, which will complete an important trinity for West Indian herpetology.

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*Herpetological Review*, 2010, 41(2), 250–252.  
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**Timber Rattlesnakes in Vermont and New York—Biology, History, and the Fate of an Endangered Species**, by Jon Furman. 2007. University Press of New England ([www.upne.com](http://www.upne.com)). Softcover. xiii + 207 pp., 8 pp. pls. US \$24.95. ISBN 978-1-58465-656-2

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What better way to demonstrate obstacles and solutions to conserving and saving a sometimes misunderstood endangered species than to document the process in a readable fashion? Conservation can be particularly difficult with long-reviled and late-maturing species such as venomous snakes, which engender an innate response of fear and repulsion in many people. Herpetologists are thoroughly familiar with common negative attitudes among the general public toward snakes, especially venomous ones (but you'd never know it if you visit a reptile house at any zoo). Furman

