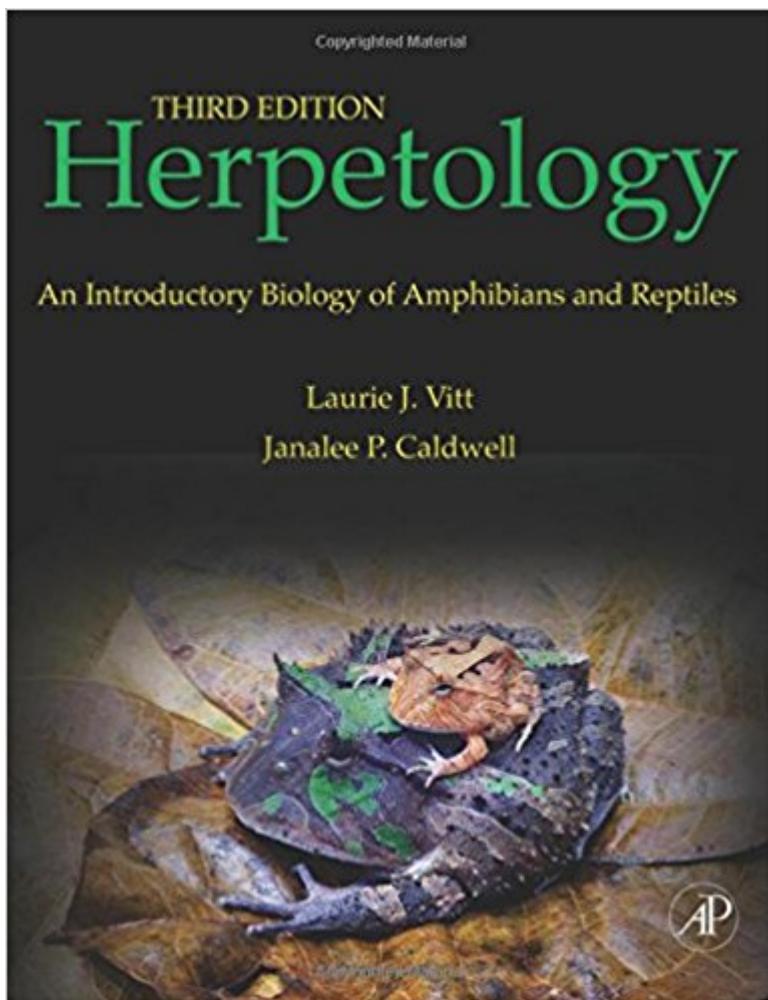


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# Herpetology, Third Edition: An Introductory Biology Of Amphibians And Reptiles



## **Synopsis**

This third edition, now fully revised and updated by two of Dr. Zug's colleagues, provides herpetology students and amateur reptile and amphibian keepers with the latest taxonomy and species developments from around the world. Herpetology is a rapidly evolving field, which has contributed to new discoveries in many conceptual areas of biology. The authors build on this progress by updating all chapters with new literature, graphics, and discussions—many of which have changed our thinking. With a new emphasis placed on conservation issues, Herpetology continues to broaden the global coverage from earlier editions, recognizing the burgeoning reptile and amphibian research programs and the plight of many species in all countries and all biomes. New information on the remarkable advances in behavioral, physiological, and phylo-geographical data provide students with the current research they need to advance their education and better prepare their future in herpetology.

\* The latest taxonomy data\* End-of-chapter discussions for classroom use\* 90% new photographs, now all in full color for an enhanced visual representation\* Most recent information on the exciting and developing herpetological communities in Australia, Europe, Asia, South and North Americas \* New emphasis on conservation issues surrounding herpetology

## **Book Information**

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## **Customer Reviews**

"The volume successfully captures the state of the art in leading research programs on amphibians and reptiles. Professional herpetologists will discover that it is an exemplary teaching resource. This

new edition will prove indispensable in courses on herpetology and vertebrate diversity..."--The Quarterly Review of Biology - David C. Blackburn, Natural History Museum & Biodiversity Institute, University of Kansas, Lawrence, KS "[T]his third edition of a leading herpetology textbook speaks for itself. The study of amphibians and reptiles is revealed as a dynamic field serving as a portal into a diverse range of biological disciplines. [T]here are now more than 500 figures (an increase of more than 35% over the second edition and more than 320% in the first) and color appears throughout the volume not just in the taxonomic chapters. This alone makes this book an invaluable teaching tool. [T]he volume successfully captures the state of the art in leading research programs on amphibians and reptiles. Both undergraduates and beginning graduate students as well as amateurs will find this book to be an engaging entry into the field of herpetology. Professional herpetologists will discover that it is an exemplary teaching resource. This new edition will prove indispensable in courses on herpetology and vertebrate diversity..."--Quarterly Review of Biology

Dr. Vitt is a reptile ecologist who received his Ph.D. from Arizona State University in 1976. He was a Professor at UCLA for 8 years and Professor and Curator at the Sam Noble Museum at the University of Oklahoma for 21 years. He currently maintains Emeritus status. He has had extensive field experience in American deserts and New World tropics, especially Brazil. He has published more than 250 research articles and 8 books. Awards include appointment as a George Lynn Cross Research Professor at the University of Oklahoma, membership in the Brazilian Academy of Scientists, Distinguished Alumnus (Western Washington University), Distinguished Herpetologist (Herpetologist League), and two book awards. Dr. Caldwell is an amphibian biologist who received her Ph.D. from the University of Kansas in 1974. She was a Professor of Biology and Curator at the Sam Noble Museum at the University of Oklahoma for 21 years, where she received recognition for outstanding research. She is now Professor Emeritus and Curator Emeritus. Dr. Caldwell conducted field research in tropical forests in Brazil and other South American countries that resulted in publication of numerous scientific articles. She served as President of the Society for the Study of Amphibians and Reptiles and as editor of several scientific journals. She participated in various projects with the goal of encouraging young people, especially girls, to choose careers in science.

I got the book on [Amazon](#) at a better price than the campus bookstore. It's a good beginning Herp book as it assumes you do have some background in biology, but it's not overly technical in its writing. So far, I've found it pretty reader friendly... with one exception; the author introduces a lot of scientific

names for the various animals used as examples with few or no common names to help smooth things over. If you're not a taxonomist you'll have to look them up on the net.

I am very much enjoying learning about lizards. This book is a little above my grade level, but with the vertebrate zoology dictionary I am making my way through it. I wish I could find something more specific to lizards and even more specifically to my Lizard (bearded dragon) yet as detailed in anatomy and physiology and behavior and care. I am however learning tons!!!

It talks about the development, structures and some specific families, mainly anura. Good one. Reasonable price and you can carry it wherever you go with the mobile phone.

Prompt Shipping, Quality product as described.

great gift

I bought this book for some "light reading" while I was in between semesters at school due to residency issues. I found it to be very informative. I didn't buy the book for a college course, just for my enjoyment and to self educate myself. The first chapter is kind of hard to get through but after that I think the book is very well laid out and easy to read and follow. I recommend it to any one who is generally interested in herpetology.

I do NOT recommend HERPETOLOGY to anyone wishing to learn about herptiles! The book is a compendium of all known minutia, which makes for very boring & labored reading. The first few chapters utterly carpet bomb the reader with terminology and nomenclature. If the young Zug had begun reading this, he would have turned to malacology! I often read 3 or 4 pages before finding a fact worth knowing. Despite many references to glands and toxins, no glandular histology is shown nor are the structures/actions of toxins are shown/explained. On p 364, India collides with S India.... very strange plate tectonics.

Herpetology is an odd biological field, combining as it does the study of two distantly related groups of animals, amphibians and reptiles, yet excluding closer reptile relatives, the birds and mammals, which each claim a field of their own. An eloquent justification for taxon based science in the forward (written by Rick Shine) to this new edition of what is now a classic textbook skims over this jarring

fact. This dissonant science arose more from past mistakes in classification rather than from any biological justification but errors of history may lead to unexpected insights, and this has occurred frequently for herpetologists. Besides being housed together in natural history archives (museums), suites of amphibian and reptile species co-occur in the wild and are subject to similar ecological constraints due to the fluctuation of their daily activities and metabolic processes with the vagaries of the weather. It is this comparison, between distantly related taxa that have found independent solutions to the same environmental problems, that makes herpetology a dynamic and meaningful field, as is demonstrated throughout this readable and attractive book (which I was given by the publisher for examination as a course textbook). The book provides precisely what might be expected from the subtitle - an introduction to herpetology. It is not a comprehensive account of reptile and amphibian biology but it covers most general topics in enough detail to form a solid basis for an advanced undergraduate course. The turgid descriptions of anatomical characters and repetitive lists of species data or diagnostic traits can be found elsewhere. Instead this book focuses on the historical relationships among taxa, life history and the scientific methods of herpetology. I would particularly like to complement the authors on the figures and photos, which are embedded at appropriate places alongside the text. The line drawings, graphs and colour figures, many adapted from primary research sources, are generally crisp, clear, of a reasonable size and relevant to the text. Almost all the colour photos are striking images, with few artefacts of cutting out and placement on an artificial background. Unfortunately, the particularly stunning photo on the cover is staged and seems unnatural. The authors have gone to a great effort to bring this third edition up to date with recent research, including much of the molecular phylogenetic work that is still in a process of integration with previous knowledge. The bibliography is monumental and the categorization of references at the end of each chapter makes this list of sources more accessible. There is a short but useful glossary along with taxonomic and subject indices both of which appear comprehensive. This gives the book a long shelf life as a reference for anyone interested in doing herpetological research. Being up to date, however, also risks being swept along with the hubris of current opinion. In particular, amphibian classification has been extensively reformulated in the past few years and a textbook like this is a prime opportunity to help us digest these changes in more friendly environment than the original research papers - with photos, maps and time-. These changes are contentious, especially where large genera such as *Rana* and *Bufo* were broken into many smaller genera on the basis of limited data. This introduces the problem of linking old and new names raised by David Hillis and colleagues, which is incompletely addressed in the taxonomic index, with little discussion of the controversy. Part of the introduction and half of the first chapter present the

case for phylogenetic taxonomy. This is well reasoned and informative but to me jars with the preceding sections of these chapters, largely due to the sparsity of herpetological reference points provided. Strangely, given the authors' critique of Linnaean taxonomy, the book is replete with tables giving hierarchical lists of names, most of which would have been better placed on a cladistic tree-of-life for those groups. I also feel that the final chapters, on classification, overemphasises the tongue-twisting clade names formed as byproducts of phylogenetic taxonomy (Phthranobatrachia; Xinosyneunitanura!). A picture tells a thousand words and a phylogenetic branch shown beside each distribution map, referring back to a complete phylogenetic tree figure for each major lineage of amphibians and reptiles, at a readable scale and including time-calibrated branch lengths and some indication of support, would be a preferable way of indicating where each group fits in the tree-of-life (the current figures are too small to achieve this). The emphasis on cladistic nomenclature over phylogeny itself becomes more irksome where the classification is unstable, usually because too few of the key species have been analyzed. I feel that the authors' might have done better at showing which groups are well supported and which are likely to change in the future. Another minor annoyance for me were the contrived or non-specific colloquial names that have no currency where the frogs occur ("Tropical Frogs" for the Indian genus *Micrixalus*, or "Ameroaustralian Tree Frogs" for Hylids, a group that also occurs widely in Asia and Europe). In general I found that groups from the Americas were better covered than those from elsewhere and as this tends to reflects the authors' experience as much as the state of research. For groups that I know well in Australia and Africa I found several minor errors and more substantial omissions that should be addressed in the next edition. For example, the Cacosternine frogs are characterized as "mostly small (< 30 mm)" yet this is a diverse group with four of the eleven genera typically larger than this, including the Maluti River-frog, *Amietia umbraculata*, which grows to around 150 mm in Snout-Vent length. *Sphenophryne cornuta* is from New Guinea and does not occur in Australia (Fig 8.16). The Myobatrachid (Fig. 17.11) genus *Myxophyes* occurs in the highlands of eastern New Guinea, beyond the area depicted. Contrary to Fig. 17.44 there are no Ranid frogs near the southern end of Africa (having been shifted to other families in the taxonomic changes mentioned above). Neither Ptychadenid (17.39) nor Microhylid (17.32) frogs occur along the southern edge of Africa but Rain Frogs (Brevicipitids, 17.34) do occur along the south and south-west coast (not shown), and separately extend west to Angola further north (not shown) but are highly restricted to a fragmented chain of coastal mountains of East Africa and a single range in southern Ethiopia, rather than the broad sweep shown that encompasses everything from around Lake Victoria to the horn of Africa (they do not occur in either region). Figure 17.42 shows a detailed, spuriously fragmented

distribution for African Rhacophorid frogs yet Figure 17.41 confounds five African and Asian frog families in the smallest map in the book; each of these has a substantially different distribution and should have been mapped separately. The written examples are similarly patchy, with no obvious reason why some genera are discussed and others ignored (for example, *Myxophyes* species show a variety of egg-laying behaviours from throwing their eggs out of water on to overhanging rocks, to the excavation of 'nests'). Throughout the book I felt that the diversity of published behaviours, life-histories and ecological stories of African, Asian and Australian frogs was underrepresented and should be looked at again for future editions. There are several other gaps that I believe might have been covered better in this general book. Amphibians differ from reptiles in their free-living larval life-stage. Although there are scattered references to tadpoles throughout the book I felt that this was insufficient and that the book could better address the diversity of tadpole forms, feeding, antipredation adaptations, movements and factors affecting development time and metamorphosis. Also, the rapidly expanding field of phylogeography is mischaracterized here as molecular phylogenies and biogeography of species and higher taxa. This neglects the more typical characterization of phylogeography as the geographical interpretation of gene-trees within species. Consequently, although phylogeography is emphasized as an important field in which herpetology has contributed greatly, there are no actual examples used either of insights from single species studies or from comparative phylogeography. Overall, however, these are relatively minor quibbles that can be addressed in future editions. This is really a superb book which I unhesitatingly recommend it to teachers, students and anyone who would like to gain more general knowledge of amphibians and reptiles.

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