

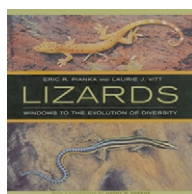


## Leapin' non-ophidian squamates!

**Lizards: Windows to the Evolution of Diversity** by Eric R. Pianka and Laurie J. Vitt. University of California Press, Organisms and Environments Series, 2003. US\$45.00/£29.95 hbk (xiii + 333 pages) ISBN 0 520 23401 4

**Kurt Schwenk**

Department of Ecology & Evolutionary Biology, University of Connecticut, Storrs, CT 06269-3043, USA



For too long, snakes have held the limelight. Snake biologists (or 'snake-grabbers', as we lizard biologists prefer to call them) have cynically exploited the public's unhealthy fascination with death-dealing serpents to advance their own dark and duplicitous agenda. No

matter that most snakes are harmless little things that eat the occasional mouse. No matter that snakes are really just tubes with teeth. And no matter that snakes are, in fact, just one of several groups of limbless lizards. The snake-grabbers aren't telling. But well known ecologists Eric Pianka and Laurie Vitt are fighting back. In their ambitious new book, they put forth the case for lizards, arguing that these beautiful and astonishingly diverse reptiles are deservedly a central focus of biological research. 'What we have learned about lizards is applicable to nearly every conceptual area in modern biology...entire fields of biology had their origins in the study of lizards.' Snake-grabbers, be afraid. Be very afraid.

*Lizards* is a worthy companion to Harry Greene's landmark book about snakes [1]. It is part of the University of California's series on *Organisms and Environments* for which Greene serves as consulting editor. The two books are large format and size-matched, and look great together on the shelf – an important consideration for any serious library. More importantly, Pianka and Vitt's claim for the centrality of lizards in modern biological thought is not the empty boast of chauvinists. Indeed, lizards can lay claim to the overworked term 'model system' with greater legitimacy than most taxa, having contributed fundamentally to the fields of physiological, behavioral, population and community ecology, sociality, communication, and biogeography, to name a few [2–4].

*Lizards* is a wolf in sheep's clothing. Beautifully designed and lavishly illustrated, its large format, generous use of colour and esthetic appeal might trick readers into leaving the book on living-room tables ready to entertain bored visitors. But beneath its warm and fuzzy façade is a formidable set of weapons ready to engage the receptive mind. Voluminous text, incisive prose and frequent reference to tables, graphs and cladograms (many containing original data or syntheses) reveal it to be a scholarly book of the first order. This melding of coffee-table appeal and scholarly substance, one of the authors' stated goals, succeeds admirably.

The book is divided into three main sections: Lifestyles, Diversity and Synthesis. The first section ably introduces biological basics with reference to lizards, including evolutionary history, physiology, locomotion, predation, and so on. The diversity section provides a thorough treatment of all lizard families and, in some cases, subfamilies. Here, Pianka and Vitt really shine. Between the two of them, the authors have hands-on, field experience with most of the world's lizard fauna. The depth and breadth of this personal experience is directly manifested in single-authored, special topic boxes that use first-person narrative to relate personal experiences, insights and epiphanies. These sections are rich in biological detail, but also provide glimpses into the lives and minds of the authors. The subtext here is especially interesting and should be a focus of student attention, because it reveals something about the process of scientific pursuit, including the important roles that personality, experience, environment and serendipity play in the path to knowledge.

Throughout *Lizards*, Pianka and Vitt illuminate their subject with the light of history. This is especially evident where the authors present an overview of lizard evolution in a phylogenetic context. They argue that, by breaking free of ancestral constraints, autarchoglossans (skinks, lacertas, alligator lizards and their relatives) have added important new features to the lizard arsenal, such as advanced chemosensory capability and elevated activity, that enable them to outcompete iguanians and gekkotans wherever they overlap. These interactions have shaped evolutionary trajectories and structured modern-day squamate communities (driving geckos into the trees and into the night, for example). Although one might argue details, the reasoning is sound. The overview is presented through use of 'scenarios', as is appropriate for a general audience. For those seeking more data and falsifiable hypotheses, the authors have explicated their synthesis in a recent publication [5] (honesty compels me to point out my minor contribution to the latter). *Lizards* concludes with a chapter discussing the mostly negative (for lizards) interactions of lizards and humans, making the too-familiar case that this large, important and beautiful part of our natural heritage is staring into the abyss.

*Lizards* represents the combined personal experiences of two great herpetologists and their astonishing synthesis of a vast and varied literature. A 'must have' for herpetologists, this book deserves a far greater audience than that. Snake-grabbers might find it especially educational.

Corresponding author: Kurt Schwenk (kurt.schwenk@uconn.edu).

**References**

- 1 Greene, H.W. (1997) *Snakes. The Evolution of Mystery in Nature*, University of California Press
- 2 Milstead, W.W. ed. (1967) *Lizard Ecology. A Symposium*, University of Missouri Press
- 3 Huey, R.B., *et al.* eds (1983) *Lizard Ecology. Studies of a Model Organism*, Harvard University Press
- 4 Vitt, L.J., Pianka, E.R. eds (1994) *Lizard Ecology. Historical and Experimental Perspectives*, Princeton University Press
- 5 Vitt, L.J. *et al.* (2003) History and the global ecology of squamate reptiles. *Am. Nat.* 162, 44–60