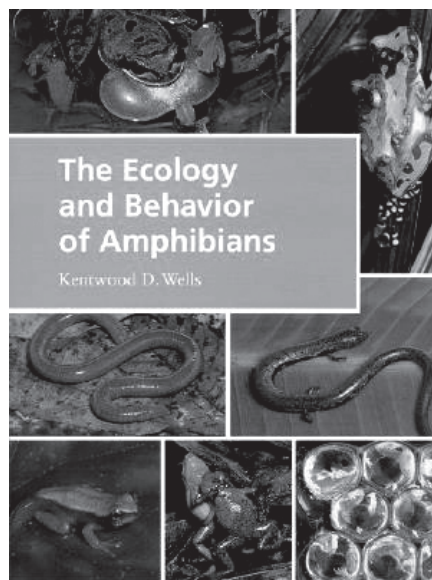


The Ecology and Behavior of Amphibians

Kentwood D. Wells.

2007, Chicago University Press,
1400 pp.



The 'Ecology and Behavior of Amphibians' has enormous breadth as a title and at 1400 pages has an equally wide impact on ones' bookshelf. Kentwood Wells was arguably one of the only herpetologists equipped with a wide enough grasp of Amphibia literature to amass a testament worthy of the title. The volume was patiently awaited by many herpetologists keen to enjoy an ecological compendium that would build upon the classic text of Duellman & Trueb (1986). Taking a mere thirty years to compile, it is therefore difficult for a young academic herpetologist of my standing to fully appreciate the effort that has been required. I was in ecological diapers when the conception of this book began and therefore my opinion of the book should only really be expressed as a token gesture of appreciation.

The book should be regarded among the herpetological masterpieces of our time. While numerous publications have flirted with specialist topics within the subject of amphibian ecology, the content of this book undoubtedly stands apart from all other attempts and easily stands out as the

current definitive guide to amphibian biology. Most of what many of us currently know about the world of frogs, toads, salamanders, newts and caecilians is documented in this book. The depth of literature reviewed is equally overwhelming.

The 'Ecology and Behavior of Amphibians' has been squeezed into 16 orderly chapters that have appropriate nested subsections. It begins with a detailed overview of the paleoecology and taxonomic origin of Amphibia. It commences by documenting the current evidence of morphological change that amphibians have experienced since their departure from the primordial swamps of Gondwana. This chapter also carefully dissects many phylogenetic relationships between extant families, allowing the reader to become immersed in a swathe of taxonomic source material. It also includes and adapts the recent Amphibian taxonomic shake up by Frost et al. (2005). Concise descriptions of each family follow and provide the reader with a full consideration of evolutionary contributions to amphibian diversity. The information presented is reinforced with high quality photographs that are used to illustrate a number of amphibian morphologies.

In chapters 2-6, the reader is presented with a comprehensive review of amphibian physiology. Wells covers a diversity of topics, from basic metabolism to behavioural navigation. What I noted from these chapters is that amphibians have a fascinating array of adaptation that is influenced not just by where they live but by the very extremes of those environments.

Moving along, Chapters 7-12 covers behavioural ecology. If a reader has never discovered the behavioural adaptation and bizarre evolutionary survival exhibited by the Amphibia, then they should consult these chapters as an immediate starting point of reference.

Chapter 7 treats mostly anuran vocal communication and when reviewed against previous literature, almost includes the entire published research that exists on the subject. Despite this, visual and chemical communication is unfortunately not treated in such detail but there is less known on the topic. The detail presented for communication is very diverse and surprisingly makes for easy reading on the topic. Chapter 7 does

prepare the reader for following chapters, where the topic starts to get to its fruition.

In Chapters 8-12 the reader is totally spoiled with a rich insight into the diverse array of sexual behaviour exhibited by several groups of Amphibia. Most conceivable sexual strategies are presented including polygamy and mate competition. A good summary of amphibian mating also clearly exhibits the interest that scientists have paid to amphibians in the deciphering of sexual selection theory. Wells also treats the reader to the basics of genetic sexual selection and provides ideas for further research.

Chapters 13-15 ramp up current knowledge on metamorphosis, predation and community dynamics of Amphibia. The taxonomic coverage in these sections is massive, with countless examples summarised, both classic and new in origin.

Chapter 16 appropriately concludes the book by delving into Global Amphibian Decline. This chapter heeds good warning to readers of the perilous state of amphibian populations in all areas of the planet and categorises some of the biological, behavioural and ecological susceptibilities of various species to current decline causes. Environmental causal factors are also connected with population decline thus presenting the issue of synergistic declines from a number of angles. Throughout this section I was left quizzically engaged in solving aspects of decline factors purely from Wells' engaging tone. The message from this chapter is on the negative, but truthful and realistic.

The citable work collated in this single volume accurately utilises over eight thousand references that include nearly all the key works performed on amphibians. Wells' style of writing also makes for easy reading for enthusiasts and I found the kitchen clock accelerated fast during this review. Each chapter also ends with a definitive summary, allowing the reader time to reiterate the core elements of what has been documented.

The 'Ecology and Behavior of Amphibians' should in my opinion be an essential blueprint for young and old herpetological eyes alike. It will likely stand as a popular reference book to a wide audience for many years to come. Anyone who is serious about amphibian ecology, and who doesn't already possess a copy of this book is strongly advised to procure it. Its reasonable cost on the UK market highlights Chicago University Press' commitment to providing an affordable price to students, amateurs and professionals alike. Like all literary masterpieces, my only complaint was that this book didn't achieve press sooner!

REFERENCES

- Duellman, W.E. & Trueb, L. (1986). *Biology of Amphibians*. New York: McGraw-Hill.
 Frost, D.R. et al. (2006). The amphibian tree of life. *Bull. Amer. Mus. Nat. Hist.* **297**, 1-370.

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