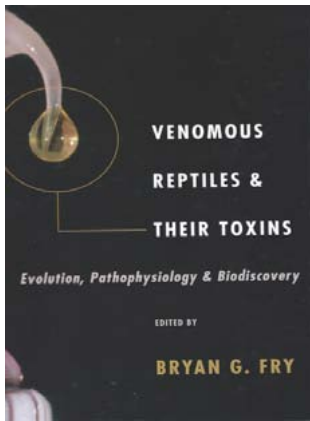


Venomous Reptiles & Their Toxins: Evolution, Pathophysiology & Biodiscovery

Edited by Bryan G. Fry

Oxford University Press, 546pp, ISBN: 978-0-19-930939-9. Hardback



One of the first things that struck me about this book is the number of contributors, 110 to be precise, that were involved on this project. That the editor has brought together such a thorough and international cast shows you immediately that this is a volume of some serious consideration. The second thing that struck me was the style in which the book is written. Unlike other recent

books on reptile venoms and toxins (Mackessy 2010; Weinstein et al 2011) that, whilst being in my opinion superb works on the subject, are on the impenetrable side without prior knowledge of the toxicological vocabulary, Fry's book is slightly more manageable for someone starting out with the subject. That is not to say that the book is not technical and precise. It very clearly is.

The first chapter is a detailed account of the controversial reptiles group the Toxicofera, as proposed by the editor. Regardless of which side of the "origins of reptile toxins" fence you sit this chapter gives a thorough overview and synthesis of the single origin argument. It is a very convincing account, as you would expect from one of the main proposers of the Toxicoferan clade at the current time. Although understandably so, given the editor's stake in the outcome of that argument, it is shame that the argument for multiple origins is not covered to give a full account of current ideas regarding the subject.

The next three chapters cover the symptoms and treatment of snakebite, antivenom research and ineffective treatments. All are thoroughly researched and presented in the same easy to read style. Chapters five through seven are detailed accounts of maintaining venomous reptile collections, veterinary care of venomous reptiles and research methods, respectively. Again all are well researched and thoroughly referenced. Each contain example protocols where appropriate that serve as excellent reference material and starting points for those creating their own protocols, whether in field or captive settings.

The next section of 17 chapters, the bulk of the book, deals with the different toxin families found in reptile oral secretions. Everything from 3 finger toxins,

metalloproteases to phospholipase and CRSPs are covered in the same meticulous detail. Each chapter is dedicated to a different family of toxins and tends to follow the same format, information and current knowledge permitting. Sections in these chapters cover the following subjects: evolutionary origins; structural and functional forms, both ancestral and derived including their physiological affects; current and potential therapeutic uses; and convergence with other toxins.

The final chapter deals with two subjects that are often misunderstood and ill-defined. The first is the subject of poisonous snakes of the genus *Rhabdophis*. These naticine snakes have nuchal glands that sequester the toxins of toads they eat and use them as a defensive mechanism. The genus also happens to include species that have caused human fatalities. The subject of the chapter deals with whether Komodo dragons kill their prey using oral bacteria as a weapon. I won't dwell on the details here as the information is far more interesting read first hand in the book itself.

The book is rounded off with a glossary and a huge 112 page bibliography. The glossary is very thorough, and while it does miss some technical terms included in the text, it is successful in enabling the reader to understand the technical terms in the text. I turned to it on several occasions while reading the book for the review.

Overall, this is a very thorough, well researched and referenced book that is easy to read and relatively easy to follow and understand its understandably technical aspect. A book that is well worth investing in for anyone with an interest in venomous reptiles.

REFERENCES

- Mackessy, S.P. ed (2010). *Handbook of Venoms and Toxins of Reptiles*. CRC Press, Florida
- Weinstein, S.A, D.A Warrell, J. White and D.E. Keyler (2011) "*Venomous*" *Bites From Non-venomous Snakes*. Elsevier, London

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Received: 21 January 2016