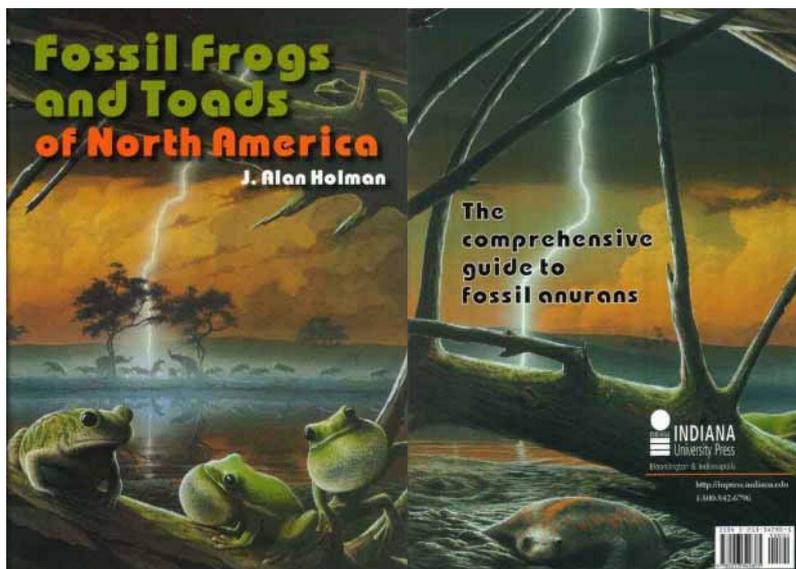


Holman, J.A. 2004. Fossil frogs and toads of North America. - Bloomington, Indiana University Press

Book review by P. Storm



It is a long time ago that I had to dissect a frog. I come from Europe but the poor frog that was lying on my table did not; it was the largest North American frog, the American bullfrog, *Rana catesbeiana*. I guess that because of its large size these frogs often end on the dissection table for educational purposes, even on the other side of the Atlantic. I had to look for its intestines, urinary passages, cardiovascular system and nerves; the bones however, were given no attention. Later I became involved in (human) palaeontology, studying mammals, spending only little time at the bones of amphibians. So, I do not know anything about the skeleton of frogs. However, I hold a keen interest in living amphibians and reptiles and I usually plan my vacations at places where there are ample opportunities to see these animals in the wild. I also keep them at home and in my garden. Thus, this book brings two of my interests together; herpetology is my hobby, and studying fossil bones is my way of travelling through time.

The hardcover book has three main sections: an introduction, systematic accounts and chronological accounts. The core of the book is the systematic account, which consists of 149 pages. Several aspects of interests are easy to find in this book because of the list at the end: references, general index, taxonomic index and site index. The book is nicely laid out, with many drawings of fossils and 47 attractive clear colourful pictures of living frogs. It helps to remind the statement in the beginning of the book: "All frogs of which you are about to read have croaked". The book is illustrated with 102 figures, of which the majority are drawings of fossil bones. The quality of the drawings varies, and is not always good. It would have been more helpful if (relevant) characteristics of fossils, that could help to distinguish groups, genera and species, would not only have been explained within the drawings in the first section of the book but also more often in the second. It must be stated that throughout the book mostly the same bones of various species are shown, namely the ilium, sacrum, scapula and humerus, which makes comparison between different groups, genera and species, certainly possible. Unfortunately I came across a hitch. According to the contents, the taxonomic and site indices start at the pages 245 and 247 respectively. However, they do not because the indices start at pages 243 and 245 respectively.

The last sentence of the preface expresses the hope "that this book will be useful to neoherpetologists, paleoherpetologists, general paleontologists, biologists, zoologists, and of course anyone that has an interest in frogs and toads". My expectation is that non-specialists, like general palaeontologists and biologists, will especially enjoy the first and third section of the book, respectively 37 and 29 pages long. The first section is, just like the rest of the book, well written and deals with topics like biological aspects of living frogs and toads, the skeleton, early evolution and the history of studies of North American fossils. The third section gives a clear chronological overview of the occurrence of frogs and toads in North America, starting with the Jurassic *Prosalirus bitis* and ending with frogs and toads from the Pleistocene epoch. As stated before, the main part of the book is the second part, in which a systematic account is given of the order of frogs and toads (Anura), from suborders down to the species level. An impressive overview of fossils is given. Regularly we meet topics like holotype, etymology, fossil localities, diagnosis, identification of fossils and general remarks. The word is just many: many sites, many references and many characteristics of the bones are dealt with.

Personally, I missed a separate section about the palaeoecological implications and discussion of the occurrence of certain species; only few remarks are made about the ecology in the general account of the second section. Although comments are made about relationships and two phylogenetic trees are shown, another topic that is hardly present in the book is phylogeny. In the epilogue the reason is given: "It would be helpful to the cause of "a fossil frog phylogeny" if washing and sieving techniques were routinely done on all vertebrate fossil digs". I wonder, which field is richer in fossil bones, that of fossil Anurans or that of palaeoanthropology? In human palaeontology we have seen many phylogenetic trees, but these have been chopped down one by one. The question arises how many fossils we need before we decide to build phylogenetic trees?

Closing the book, I wondered why I did not save the bones of that beautiful American bullfrog, *Rana catesbeiana*, years ago? This book, 'Fossil frogs and toad of North America', is enthusiastically written by the right person. It is in the first place a book of reference, a taxonomic bastion. A useful book for people working with fossil Anurans and those interested in these North American amphibians. But it can also serve as an introduction to those who want to get acquainted with the field.

Holman, J.A. 2004. Fossil frogs and toads of North America. - Bloomington, Indiana University Press. 264 pp. ISBN 0-253-34280-5. Price US\$ 79.95. Hardcover.