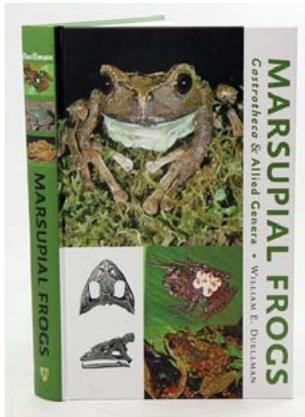


Marsupial Frogs: *Gastrotheca* and Allied Genera

William E. Duellman with Osteology by Linda Trueb

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When I looked through the Contents pages of this book I was concerned that the material would be so dense as to make it impenetrable to the average reader. I was pleased to find that this was not in fact the case. The book is divided into 13 chapters and an Index. The first eight chapters deal with descriptions of the marsupial frogs in terms of diverse subjects including, Phylogeny and Classification, Osteology, Morphology (both external and internal), Reproductive Biology, and Biogeography.

The first chapter introduces the scope of the book and sets out its goals and methodology. Duellman starts by introducing the Hemiphractid marsupial frogs, a unique family of frogs, the females of which carry their eggs in pouches on their backs. In spite of studying over 5000 specimens, the author is very transparent about the limitations of the information contained within the present work, and his expectations that the taxonomy of family will change in the future. Chapters two and three deal with the phylogeny of the Hemiphractids in terms of their relationship within the Anurans and of the family itself, respectively. Both chapters cover historical and contemporary views of the subject, and without going into too much detail the story is complicated. The current belief is that the Hemiphractid marsupial frogs are a subfamily of the Hylidae and consist of six genera and 106 species, although Duellman concedes that the overall placement within the phylogeny of the anurans is still unresolved.

The next three chapters deal with a variety of morphological characteristics of the Hemiphractids. Chapter four is written by one of the leading authorities of anuran osteology, Linda Trueb, and covers in great detail the cranial structure of the group. Trueb's amazing illustrations help to guide the reader through the descriptions contained within the chapter. The next chapter covers the topic of external morphology in the same detail. It starts with a huge amount of information on the characteristics of adult frogs, from concise definitions of the measurements used to descriptions of the variety of morphological variation found within the marsupial frogs (including the state of the canthus rostralis, finger and toe lengths, webbing, and opening of the brood pouch, and so the list goes on). The format is then repeated for tadpoles. The final chapter deals with further internal characteristics including chromosomes, throat musculature, and vocalisations

complete with oscillograms of the various calls for species where recordings exist.

Probably the most interesting aspect of the marsupial frogs is their unique reproductive biology. This subject is covered, in the same great detail we come to expect from Duellman, in chapter seven. Of particular interest are the various structures of the brood pouch, which can range from simple open pouch on the back to closed pouches on the back and sides and even inside the body cavity. Other aspects covered by this chapter include embryonic development and respiration, hatching methods, and the possible evolution of this amazing life history. In an attempt to understand the current diversity of marsupial frogs, Duellman goes on to describe the biogeography of the group, starting with the history of South America and finishing with present distributions and habitats.

Chapters nine through 12 comprise the vast majority of the book and describe in some great detail the genera, subgenera, species that make up the Hemiphractidae. All the chapters in this main section follow a similar format and cover details of the descriptions and characteristics of each genera and species in evolutionary order. Each chapter is illustrated with photographic examples of frogs belonging to the group in question and distribution maps. The thirteenth, and final chapter, entitled "In Retrospect" is more personal than the rest of the book and includes the authors opinions on the state of the taxonomical discipline.

The marsupial frogs of the family Hemiphractidae are truly some of the worlds most fascinating amphibians. While we currently know more than ever about them, there is still much more to learn. This book does a great job of achieving its goal of summarising the current knowledge of the family and highlighting where knowledge is currently lacking. The writing style is easy to follow and concise making this book a very compelling read. I very rarely use the following words when writing book reviews, but this book is a must for anyone with an interest in neotropical herpetology or amphibians in general.

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