

Preface

The seventh edition of *Vertebrate Life* expands the emphasis on integration of structure and function in a phylogenetic context with a large number of changes in both text and art, many of which were suggested by colleagues who are using the book. We have added a new chapter, "Living on Land", that emphasizes the physical differences between water and air and the consequences of those differences for organismal form and function. Another new chapter, "Synapsids and Sauropsids: Two Approaches to Terrestrial Life," provides an evolutionary perspective on the anatomical and physiological differences between these two lineages of amniotes that emphasizes interactions among lung ventilation, locomotion, metabolism, endothermy, nitrogen excretion, and sensory systems. We believe that this synthesis provides a context that will help students to understand the origin and significance of the anatomical and physiological differences between extant birds and mammals.

An enormous quantity of information about feathered dinosaurs and the evolution of birds has appeared since the sixth edition was published. The transition between birds and dinosaurs (in the popular sense) is so compelling that we have moved the description of the origin and early evolution of birds to the end of the chapter describing Mesozoic diapsids. This placement allows us to focus on extant birds in the following chapter, and our treatment of this group has been revised extensively.

Our understanding of human evolution has also been greatly extended. In this rapidly changing field, new fossils have extended the hominid record back to more than 6 million years ago and shown that early hominids were far more diverse than we had realized. At the opposite end of the time scale, fossils of *Homo erectus* from Indonesia indicate that three species of *Homo* coexisted as recently as 30,000 years ago.

The increased emphasis on conservation in the sixth edition was well received by users. We have brought that material up to date (a depressing process for the most part) and added new examples of the application of information about organismal biology to conservation and management throughout the text.

Acknowledgments

We were especially fortunate in this edition in having the assistance of two editors, Teresa Ryu Chung and

Colleen Lee, both of whom worked with us on the previous edition. Their skill in editorial direction and in working within the Prentice Hall organization provided the support and resources needed for the very extensive revisions of text and art in this edition and—remarkably—kept the project running smoothly and on schedule.

Maintaining a consistent flow of information during an extensive revision in which the sequence of topics is being changed is nearly impossible for authors—we know what we intended to say, and that's what we tend to see on the page. Ellen Smith, our development editor, traced the treatment of topics through the entire text and art manuscripts, catching gaps, overlaps, and inconsistencies. Her efforts greatly strengthened the presentation and development of biological information in this edition and have produced a product that is far more polished than it would have been without her help.

The meticulous attention to detail provided by our copy editor, Barbara Booth, has made the use of units, contractions, and compound constructions more consistent in this edition than it has ever been in the past.

We are delighted to have Jennifer Kane, a graduate of Brown University who has seen *Vertebrate Life* from a student's perspective, as the artist for this edition. She combines the ability to render anatomical information accurately and realistically with an empathy for vertebrates that allows her to produce drawings of animals that appear ready to walk off the page.

Ed Thomas, our production editor, provided a very welcome sense of security to the authors because he is master of every detail of the enormously complex process of bringing text and art together and getting everything in its proper place. His skill in rescuing us from potential disaster has been put to the test, not only in this book but also in two editions of the textbook *Herpetology*, and we breathe a sigh of relief when we hear that our editors have succeeded in having him assigned to work with us.

Writing a book with a scope as broad as this one requires the assistance of many people. We list below the colleagues who generously provided comments and suggestions and responded to our requests for information. Equally important, but impossible to record, are the ideas we receive in hundreds of casual conversations with students in class and colleagues at meetings.