

Preface

The sixth edition of *Mammalogy* represents a significant revision because, although the basic framework of the book remains intact, all of the chapters have been extensively revised and updated with new information. We have not attempted to present an exhaustive review of the world literature on mammals, but we have tried to include many of the latest and most interesting discoveries. Because no two instructors cover the same material in exactly the same way, we treat the biology of mammals broadly enough to make the book appropriate for the variety of mammalogy courses currently being taught.

The first part of this book (Chapters 1 through 4) defines mammals and summarizes their origins. Chapter 2 summarizes the origin of mammals. Chapter 3 details the structural features that characterize mammals, and Chapter 4 introduces classification. In the second part of the book (Chapters 5 through 19), the orders and families of mammals are discussed in detail. These taxonomic chapters include information on the fossil history, current distribution, morphological characteristics, and basic behavior and ecology of each family of mammals. The third and fourth parts (Chapters 20 through 28) treat special topics such as mammalian echolocation, physiology, behavior, ecology, and zoogeography. From this coverage of the subject, students can gain a general understanding and an appreciation of the form and function of mammals. Two additional chapters (27 and 28), which were previously offered online and now included in the text, cover mammalian domestication and mammalian disease and zoonoses.

In the interest of reflecting the extraordinary recent activity in mammalian biology, one of the most important changes in the sixth edition is the more thorough use of phylogenetically based mammalian relationships. The widespread application of phylogenetic systematics in recent years has led to a new general agreement about the higher-level evolutionary relationships among living

mammals. In turn, this has led to a reorganization of mammalian orders and a new classification of the Mammalia. Accordingly, we have included cladograms to illustrate the hypothesized relationships among mammalian lineages. Because phylogenetic systematics, and particularly molecular systematics, are relatively recent advances, there are still many conflicting views and often many competing phylogenetic hypotheses. We point out those relationships that remain controversial and cite sources from both sides of the debate to facilitate class discussions. As a consequence of adopting a more cladistic approach, we have tried to place studies of ecology, behavior, reproduction, and physiology in an evolutionary context that reflects the interdisciplinary nature of the field of mammalogy.

New to the Sixth Edition

We have completely revised and updated our discussion of the fossil history of mammals, placed related topics in boxed inserts in each chapter, and included two new chapters: "Mammalian Domestication" and "Mammalian Disease and Zoonoses." We have also added many new photographs and drawings to illustrate key points made in the text, while retaining the original anatomical drawings by senior author Terry Vaughan. These drawings, which we regard as essential to the ordinal chapters, should help students to understand the descriptions of structure and function. We have made liberal use of these drawings, most of which illustrate skulls, teeth, or feet. The profiles of skulls are usually of the right side, and most occlusal views of teeth show the right upper or the left lower tooth row. When other teeth are shown, the legend indicates this. The chapter-opening illustrations were also provided by Terry Vaughan.

In an effort to provide additional pedagogical tools and resources for students, we have placed key terms in bold

font the first time they appear in text (these terms are listed at the end of each chapter and defined in the Glossary), included chapter summaries, and provided a list of useful books and journal articles at the end of each chapter. For the ordinal chapters, we also provide a list of characteristics; these traits should help students appreciate the morphological specializations of the group's members. Finally, as in the previous edition, we have included a detailed glossary and an updated bibliography. The literature citations have been brought up to date, with many citations from the period of 2009 to 2013. To help students access the primary literature, we have, where possible, selected literature that is synthetic, accessible (in widely available journals and online), and current. The advent of web-based literature searches makes finding these resources much easier than in the past; the bibliography uses a minimal punctuation format in recognition of this fact. If this text is useful, holds the interest of students, and is respected by members of the far-flung community of mammalogists, it is primarily due to the work of the researchers on whose studies we have relied. The organization, choice of topics, and selection of illustrative material are ours, but the book should be credited largely to those whose names appear in the Bibliography.

Ancillaries

An **Instructor's Media CD**, compatible with Windows® and Macintosh® operating systems, is available to instructors using *Mammalogy, Sixth Edition*. The media CD includes the following traditional ancillaries:

- The PowerPoint® Image Bank provides the illustrations, photographs, and tables (to which Jones & Bartlett Learning holds the copyright or has permission to reproduce digitally) inserted into PowerPoint slides. The images can be easily incorporated into existing lecture slides.
- The PowerPoint Lecture Outline Slides presentation package provides lecture outline notes for each chapter of *Mammalogy*. Instructors with the Microsoft PowerPoint software can customize the outlines, art, and order of presentation.

Also available to instructors are a downloadable set of **Discussion Questions**. These questions, presented in Microsoft Word documents by each chapter, provide starting points for classroom discussion or homework and come with suggested answers.