

A preparation manual describing displays and how to set up various demonstrations does not accompany this manual; however, a preparation outline will be made available upon adoption, giving such information as supplies needed and preparation methods. A large number of photographs will also be supplied depicting the setup of display stations for each unit.

Anyone considering the implementation of a one-semester, audio-tutorial course in biological principles should examine this material.

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## Zoology

### PHYSIOLOGY OF MAMMALS AND OTHER VERTEBRATES

by P.T. Marshall and G.M. Hughes.  
2nd ed., 1981. Cambridge University Press (32 East 57th Street, New York, NY 10022). 343 p. \$39.50 hardback, \$16.95 softback.

The authors' stated objective in writing this book is to present biological data "in a way which will prepare the sixth-former for the type of functional approach he will have at the university." A sixth-former, I am told, is approximately equivalent to an American twelfth-grade advanced biology student. This edition is an extensive revision of a "highly successful introductory textbook" first published in 1965.

The title is somewhat misleading, considering that the text contains a relatively large quantity of anatomical material. This, however, may better enable the student to relate structure to function. This integrated approach admirably overcomes many of the problems of presenting either an anatomy or a physiology course at the introductory level.

The major topics include nutrition, enzymes, digestion, respiration, circulation, excretion, skeleton and muscles, locomotion, nervous coordination, endocrine system, and reproduction. As an example of the type of presentation, the circulation chapter has an in-depth treatment of the anatomy of the heart, origin and conduction of the heart beat, blood pressure control, role of capillaries, fetal circulatory changes, comparison of circulation in various vertebrates with phylogenetic considerations, blood composition, immune responses, and the role of the liver in the ornithine cycle.

The authors' apparent assumption that the student has mastered the basics may be somewhat over-optimistic. As an example, the chapter on enzymes is good while the discussion on proteins is brief and the chemical nature of an amino acid is lacking. The reader also frequently finds technical digressions without accompanying illustrations. For instance, the embryological origin of the kidney from pronephric, mesonephric, and metanephric tissues is discussed without a single diagram. Similar digressions can be found in most chapters.

This book would most appropriately be used in a second-level biology course, possibly as a combination anatomy and physiology textbook for botany majors wishing a comprehensive animal science course. In summary, the text is too technical for an introductory course and not specialized enough for most advanced courses. If this book is widely used for high school-age students in England, then those students must be considerably more advanced than their American counterparts, since this book requires a substantial biological background.

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### MAMMAL COLLECTORS' MANUAL: A GUIDE FOR COLLECTING, DOCUMENTING, AND PREPARING MAMMAL SPECIMENS FOR SCIENTIFIC RESEARCH

by D.W. Nagorsen and R.L. Peterson.  
1980. Royal Ontario Museum (100 Queen's Park, Toronto, Ontario, Canada M5S 2C6). 79p. \$6.50.

This book is not intended for the ordinary biology student or the average teacher of biology. However, if you are involved in the serious collection of small mammals for scientific study, this book is for you.

Both authors are associated with the Royal Ontario Museum, department of mammalogy. Their purpose is to provide a guide setting standards for anyone collecting mammals for scientific specimens. By following the guidelines in the manual, the collected specimens and associated data should have the maximum possible research value.

Before getting into the actual collection of specimens, they deal briefly with collection policy and collection ethics. There has been a proliferation of laws covering collection of mammals. Endangered species are protected. Humane methods must be used. Licenses and per-



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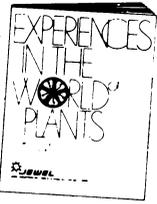
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## POISONOUS SNAKES

by Tony Phelps. 1981. Sterling Publishing Co., Inc. (Two Park Avenue, New York, NY 10016). 237p. \$27.50.

This is a distinctive book on the venomous snakes of the world drawing from firsthand experiences of the curator of the Poole Aquarium in Dorset, England.

The first half of the book is more or less an annotated checklist of the venomous snakes, including near-fanged colubrids, elapids, and vipers. The annotations include anecdotal records concerning the natural history and distribution of these reptiles.

The second half of the book is unique and will be of much interest to those individuals planning to become seriously involved with poisonous snakes in the field and laboratory. Topics include practical information on the habits and behavior of venomous snakes in addition to cogent discussions concerning venom, snakebites, and ecological interactions with humans.

The book concludes with relevant information concerning the care and breeding of venomous snakes in the laboratory and practical guidance in the methods and approaches of conducting field investigations. Special emphasis is on handling and safety procedures.

The book also includes a helpful bibliography for references, a glossary of technical terms, and listings of principal anti-venom sources and emergency procedures.

In summary, the book provides a useful introduction to venomous snakes of the world with special reference to their care, maintenance, and study in the field and laboratory.

A.C. Haman

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## Books Received

**BIOLOGY: THE SCIENCE OF LIFE**, by Joan E. Rahn. 1980. Macmillan Publishing Company, New York. 669 p. Price not given.

**SOMATIC CELL DIVISION**, by B. John and K. Lewis. 1980. Carolina Biological Supply Company, North Carolina. 31 p. Price not given.

**MICROBIOLOGY FOR THE HOSPITAL ENVIRONMENT**, by Lois M. Bergquist. 1981. Harper & Row Publishers, New York. 719 p. Price not given.

**COMPENDIUM OF COTTON DISEASES**, by G. M. Watkins. 1981. The American Phytopathological Society, St. Paul, Minnesota. 87 p. \$11.00.

mits must be obtained. With this out of the way, the authors describe various collection methods, and how to document the collected specimens. What basic field data should be recorded? They provide samples of tables for these records—field journal, catalogue, species account, identification tags, etc.

Then there is a section on the actual preparation of the specimens—skins, skeletons, complete animal in fluid, etc. The instructions are accompanied by excellent line drawings that are simple,

large, and clear. Finally, there is a brief section on special techniques such as karyotyping the somatic chromosomes, collecting endo- and exoparasites, preparing frozen tissue samples for later study, and taking samples of blood, stomach contents, and sperms.

The manual ends with a bibliography and a checklist of field equipment required for a collecting expedition.

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