

Book Reviews

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BEHAVIORAL ECOLOGY

ANALYSES IN BEHAVIORAL ECOLOGY: A MANUAL FOR LAB AND FIELD

by L. Brown and J.F. Downhower. 1987. Sinauer Associates, Inc., Publishers (Sunderland, MA 01375-0407). 192 pp. \$12.95 paper.

The field of behavioral ecology has blossomed in the last 15 years. Although courses giving students field and laboratory experience in behavioral ecology are offered at a number of institutions, Brown and Downhower's book is the first manual specifically designed for such courses. Other lab manuals and handbooks in behavior have been of a more general nature.

Rather than being a specific course of study or a handbook of techniques, Brown and Downhower offer a smorgasbord of 27 laboratory and field exercises from which instructors can choose those suited to their needs and location. All the offerings look tempting. The exercises are nicely laid out in a standard format which includes background material, methods, suggested data analyses and questions to stimulate and aid in interpretation of the results.

Drawings that clearly illustrate study organisms and procedures appear in the text, although somewhat less often than one might like. The exercises cover a good mix of vertebrate and arthropod subjects and hit upon a number of issues in behavioral ecology. All the exercises sound possible, and I plan to try several variants in my own course in research techniques in animal behavior.

A large section (almost half the book) covers statistical summary and inference. The introduction to this section is clear and followed by descriptions of 19 statistical tests. A recipe for the execution of each test is

provided and illustrated with an example. Twelve statistical tables are provided for the evaluation of test statistics and other uses.

Analyses in Behavioral Ecology will probably be most useful as a source of ideas for instructors developing practical courses in the study of behavior. The table at the end of the book summarizes the location and season of each exercise and will help in selecting those appropriate for specific times and places. Several of the manual's features, however, detract from its potential value as a textbook to be purchased by all the students in a class. First, there are many more exercises than could be carried out in a quarter or semester. Second, many use organisms available only at certain places and at certain times. Those of us not teaching in the eastern or midwestern United States will have to modify many of the exercises to take advantage of local fauna. This handicap would require instructors to write addenda to or revisions of the exercises for students to use.

Another factor that limits this book's use as an assigned text is the sketchy nature of its introduction. Some coverage of the scientific method and the distinctions between proximate and ultimate causation would have given the book greater depth. Along these lines, I was sorry to see that the practice of making and testing specific predictions was not given greater emphasis.

The biggest pluses for this book as a text are its moderate price and the section on statistics which I found to be clear and well written. Even here, though, the diversity of tests covered seems somewhat greater than one would likely touch on in a course in behavioral ecology.

In summary, anyone teaching a laboratory/field course in behavior should find this book to be of great value. Brown and Downhower offer a cornucopia of ideas. However, its

utility as a text will depend on the resources, location and tastes of the individual instructor.

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REPTILES

LIVING SNAKES OF THE WORLD IN COLOR

by John M. Mehrtens. 1987. Sterling Publishing Co., Inc. (New York, NY). 480 pp. \$50 hardback.

The stated objective of this book is to provide an overview of living snakes with an emphasis on species kept in captivity. Mehrtens has long been associated with zoos in this country and is well qualified to fulfill the objective, but unfortunately falls short. For each snake covered, there is too brief a discussion of its natural

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habitat, geographic range and natural history.

Disappointing as this may be, the section on care of the snake is even worse. The care section is so condensed as to be of little use, and this is the biggest failure, considering Mr. Mehrtens' experience. While the data presented in all sections is usually accurate, it is presented in too superficial a manner to be of much help.

The book is clearly built around the more than 500 color photos with only limited text to supplement the illustrations. Most of the photos are of good to excellent quality, but some are slightly out of focus, often due to poor depth of field. While they are the major selling point for the book, they do not rate the price asked. This book is not meant to be a textbook and cannot be used as such. With its major flaws, it also cannot be seriously recommended for libraries.

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ZOOLOGY

INTEGRATED PRINCIPLES OF ZOOLOGY, 8th Edition.

by C.P. Hickman Jr., L.S. Roberts and F.M. Hickman. 1988. Times Mirror/Mosby College Publishing (11830 Westline Industrial Dr., St. Louis, MO 63146). 1024 pp. \$47.95 cloth.

This 33-year-old widely used book has undergone its seventh revision, this time after a scant four years. Users will find the same features—such as good illustration and an understandable reading level for introductory college students—which have made it popular since its inception but with considerable updating as suggested by users and a panel of distinguished zoologists. The book has something for everyone, more than some would include in even a two-semester zoology course. The heart of the book is contained in the 20 chapters on animal diversity, about half the content.

While the five kingdom system of Whittaker is acknowledged as being increasingly accepted by biologists, the seven phyla recognized by the Society of Protozoologists are continued as in the previous edition as an introductory chapter in the diversity section of the book. The coverage of metazoa has been shortened and the sponge material considerably revised.

The kinorhyncha are included along with the rotifers, gastrotrichs, nematodes, nematomorphs, acanthocephalons and entoprocts in the chapter on pseudocoelomate animals. A paragraph has been added to clarify the relationship of the lacunar system and musculature of the "spiny headed worms." The usual life cycles of both pseudocoelomate and acoelomate worms have been retained. The section of torsion and coiling of molluscs has been revised slightly. The arthropods have been reorganized to give both crustacea and uniramia the status of subphyla. The condensation of the insects into 17 pages is regrettable and must be regarded as a negative part of the revision. While the insects are referred to in other sections, this important group of animals are not used as examples nearly as often as they could be.

The "family trees" of the fishes, amphibians, reptiles, birds and mammals are retained from the last edition and are especially well done. These are most helpful to many instructors. Most of the vertebrate chapters are quite similar to earlier editions. The lesser protostome and protochordate material has been expanded.

The introductory chapters of the book include an excellent set of principles and concepts which can be referred to throughout a thorough zoology course. Additional material on cell structure, energy, cellular physiology and animal architecture is included. The classification chapter discusses numerical taxonomy and cladistics, as well as gives several helpful definitions and examples of terms such as primitive, advanced, specialized, generalized and cladogram.

Sections on Activity of Life, Continuity and Evolution of Animal Life, and the Animal and Its Environment complete the book.

A valuable added feature is the appendix which contains the origins of basic concepts and discoveries in zoology from Aristotle providing a foundation for zoology as a science to the sociobiology of Edward Wilson. A good glossary is also included. The phylogeny of major phyla superimposed on a generalized time scale inside the front cover has been retained and may be helpful to many students and teachers as is the more detailed chart on Origin of Life and Geologic Time Table inside the back cover.

A feature added in the seventh edition and continued in the eighth has been the use of the margins for interesting, usually up-to-date sidelights that can be read separately without interrupting the narrative.

The book will continue to be widely used in general zoology courses, particularly those stressing animal diversity, and will remain a good standard zoology reference book.

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AIDS

AIDS

by Alan E. Nourse, M.D. 1986. Franklin Watts, Inc. (387 Park Ave. S., New York, NY 10016). 128 pp. \$11.90.

Dr. Nourse has attempted to educate the general public and define the problems associated with Acquired Immunodeficiency Syndrome (AIDS). This book can easily be used as a supplement for high school biology teachers or as a library reference. The book is best suited for high school students interested in AIDS. I believe it is also adaptable to a first year (non-science major) college level course and for general reading. It is not recommended for advanced courses, even at the undergraduate level.

This book can be read by anyone with a good general science background. The subject is thoroughly covered from the possible evolution of the virus through the symptoms of the disease, protection from the virus to future progress in vaccine development, although very little information is given on the various approaches to vaccine development or treatment. The book contains eight chapters, a glossary of terms and less than ten illustrations.

The information in *AIDS* is centered around three major areas: understanding the terminology associated with this disease (and removing some of the stigma and fright associated with AIDS), risk groups and epidemiology of the virus, and lastly, defensive living and how to protect yourself against coming in contact with the virus. The text includes a question and answer section along with information concerning the "lowest risk group" to acquire the disease and lifestyle characteristics of this group. The book makes an excellent attempt to define in lay terms medical terminology, often giving everyday examples and root derivatives. The author uses a scientific approach in a very readable format.

The Human Immunodeficiency Virus (HIV) is referred to throughout the text as HTLV-III, the older nomenclature given to the virus. If you get