

multitude of little color photos, and the ingenious natural-history charts—things a student or teacher could pore over, delightedly, for hours. But then, if you read one of the double-spreads on a region or subject that is quite familiar to you (say, p. 24–25, on the broadleaf woodlands of North America), you will find yourself counting errors of fact, misspellings of scientific names, examples of erratic punctuation and bad grammar, mixtures of metric and customary units, pictorial infelicities, and miscellaneous howlers. Indeed, you may be tempted to buy the book for its value as a parlor or classroom game, “Find the Boobos.”

The atlas was produced by Michael Beazley, Ltd., of London; Rand McNally is only the map-supplier and U.S. marketer. British scholars with lots of field experience, worldwide, were the consultants; but they don't seem to have read a word of the text. Julian Huxley accepts top billing; he should be ashamed of himself.

Most of the book is like a fish dinner: excellent, if you don't mind picking out innumerable tiny bones you could choke on. Zoogeography is, of course, the main theme; but every page carries one or two vignettes of zoology, botany, ecology, or geology. At the back of the book are pages (in uninviting black-and-brown) on natural balance;

man's influence, for good and evil, on nature; endangered species; zoos; and national parks and reserves (with error-ridden maps). There is a poor (41-item) glossary; an insufficient, ill-designed index; and a bibliography that is extensive and unreadable.

This book is likely to be bought, sight unseen, by every school in the country, I'm sorry to say. But to reject it would be difficult: doesn't every teacher want a book that is sure to “turn the kids on”—even if it fills their heads with inaccuracies, poor English, and violations of scientific usage? It's a dilemma best resolved, I think, by sticking with the superior nature-books from Time-Life, National Geographic, Golden Press, and Larousse.

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GENERAL ZOOLOGY, by Claude A. Villee, Warren F. Walker, Jr., and Robert D. Barnes. 4th ed., 1973. W. B. Saunders Co., Philadelphia. 912 p. \$12.95 (hardback).

This, the newest edition of a widely used zoology textbook, has a new co-author (Barnes). There is a general rearrangement from previous editions, some new material, and considerable revision. The organization is a classic one, with extensive sections on general

concepts, vertebrate form and function, animal groups, and animals and their environments. There certainly is sufficient material for use as a text for a full-year course in college zoology. Included as general concepts are such topics as the physical and chemical basis of life, cells and cellular metabolism, adaptation, reproduction, genetics, and evolution. The section on vertebrate form and function incorporates the frog material, formerly in a separate chapter, into the various chapters on biologic functions. Many users of the book will want to integrate the chapters on reproduction in the first section with the hormonal integration chapter in the second section.

The animal groups make up the largest portion (over 40%) of the book. This is as it should be in a general-zoology text. A general synopsis of metazoan taxonomy is given at the ends of the chapters on the various phyla. The vertebrates are handled with separate chapters on fish, amphibians and reptiles, birds, mammals, and catarhines, including man.

The short final section includes new chapters on animal behavior and human ecology, along with chapters including traditional ecologic concepts.

The authors are adept at both handling the historical development of a concept and modern alternative expla-

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nations of complex topics. There are excellent discussions of the identification and derivation of testosterone, the isolation of oxytocin and vasopressin, and oral contraceptives.

The authors have included some new illustrative material, and some will be familiar to users of earlier editions and to users of other books by the same authors. The reader may have some difficulty integrating new text material with older illustrations. The hypothalamic control of hormone production through FRF and LRF is included in the text, but the diagrams of the menstrual cycle from an earlier edition do not include feedback mechanisms.

In most chapters an effort has been made to include classic work and some new references in the annotated reference section. The study questions of former editions have been deleted.

Villee, Walker, and Barnes will continue to be one of the standard general zoology texts for introductory college courses and a standard reference book in the high-school biology classroom.

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*SPIDERS OF THE UNITED STATES*, by Richard Headstrom. 1973. Barnes & Co., Inc., Canbury, N.J. 267 p. \$9.50. (hardback).

This book accomplishes its main objective most thoroughly: to provide

those people who "hate to use keys" a means of identifying some common spiders. In doing so, the book has eliminated keys, to the point of actually making the identification of spiders more difficult. The entire utility of the book toward its main goal is bound to a highly abbreviated, two-page key (chapter 2) to families. Thereafter, the placement of a spider specimen to subfamily, genus, and species is a matter of elimination of possibilities as the reader skims through brief descriptive material. This will identify the very obvious spider species but will be the cause of much frustration to many students of this group of arthropods.

The construction of the key makes it difficult to use, which tends to defeat the main purpose of the book. Omission of the numbers referring to the next couplet to which one should go in the key is a serious deterrent to all users except those who are already experienced in the construction and use of keys. These steps and the corresponding couplet numbers can be deduced and the key made usefully workable only after several known specimens are obtained by the user and placed within the key.

The novice spider-taxonomist will also be led astray by the multiple, sometimes unpaired choices at certain points in the key. An experienced user of keys will duly overcome this problem, and the book will then be more useful for identifying spiders to family. Capitalization of the first letter of every word in the key is also a departure from the usual form.

Another difficulty placed before the casual naturalist (to whom the book is apparently dedicated) is the dependence of the key upon very minute characters at certain critical places. These cannot be seen without a powerful hand lens, in most cases, or a good binocular microscope, in others. The use of such minute structures most likely cannot be avoided, but the user should be warned in a subheading at the start of the key that such optical equipment is required. An expanded key, with each step illustrated, would have been vastly more useful.

Identification of a spider or an insect to genus and species through the process of elimination is a slow and often uncertain procedure, in many instances. Colors are relied upon heavily in this book for visual species identification; these frequently are misleading because of changes due to age, preservation, and regional variation. Size is also a rather uncertain criterion, for the same reasons.

This volume has many good points. Except for a few places where it was hastily written and not edited, the book presents in easily readable form a wealth of information on spider habits, habitats, and distribution. It is a shame that the tarantulas and trapdoor spiders

were omitted, making it incomplete in this respect. Future users of the book who are more serious about spider identification will construct distribution tables to use with the family key and to aid in the elimination of the "possibles."

Presentation of morphologic structure needed for identification is basically sound and nontechnical but at times is brief to the point of confusion. The glossary helps this but should be referred to in the introduction and at the start of the key. The illustrations are straightforward and useful, and the extensive use of common names is most commendable.

The casual naturalist will find in this book an excellent source of general information on spiders and will be able to identify a few of them after mastering the key. When the more serious student of the group has overcome the deficiencies of the key and has learned his way among the more obvious and easily identified families and species, he will find this book a useful reference. The book is also a valuable addition to the literature available to biology teachers and to us who are often called upon to identify a spider for alarmed housewives and backyard gardeners.

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**For Young Readers**

*ZOOS ARE NEWS: CONSERVATION OR EXTINCTION?*, by Cyril Bracegirdle. 1973. Abelard-Schuman, New York. 175 p. \$5.95 (hardback).

This book is very similar in content and scope to *Zoos of Today*, by Johnson; *Zoos*, by Perry; and *Our Captive Animals*, by McCoy—emphasizing the development and need for enlightened zoo management practices and the importance of zoos in preserving endangered species and conducting scientific research. The animals discussed are classical examples, such as Père David's deer, bison, giraffes, hippopotamuses, oryxes, the large cats, kangaroos, koalas, Przewalski's horses, rhinoceroses, primates, elephants, and platypuses. Like the previous works cited, the book is well written and aimed at the junior-high reader.

A. C. Haman  
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Cedar Falls

*HOW DID LIFE GET THERE?*, by Daniel Cohen. 1973. Julian Messner, New York. 96 pp. \$5.29 (hardback).

In this easy reading introduction to dispersal, the author begins with island colonization, recounting the stories of Krakatoa and Surtsey. Using these ex-