EXOTIC FISH AS PETS, by Paul Villiard. 1971. Doubleday & Co., New York. 187 p. $4.95 (hardback).

A free-and-easy style of writing, combining accurate information with a "May I share this with you?" attitude, characterizes this fine work. Villiard has organized the material systematically. His intention is to present the most common exotic forms. Even so, this appears to be the most thoroughgoing work on exotic fishes: there are chapters on the aquarium, plants, diseases of aquarium fishes, fish foods, and water conditions; and the instructions for providing appropriate environments for the various species and strains, with regard to health, breeding, display, and pure enjoyment, are helpful to both the novice and the experienced aquarist. The photographs are especially good. Any aquarist should find new or reinforcing information in Villiard's book, and libraries should certainly find an extensive demand for it.

J. Carl Bass
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Pittsburg

ON THE SIDE OF THE APES, by Emily Hahn, 1971. Thomas Y. Crowell Co., New York. 239 p. $7.95.

The author traces the advance of primatology from the first attempts of Robert Means Yerkes to develop an anthropoid experiment station at Orange Park, Fla., to the current development of primate centers throughout the United States. The book provides general information about baboons, rhesus monkeys, gibbons, orangutans, chimpanzees, and gorillas, as well as descriptions of the use of primates in medical research and behavioral studies. Accounts of past and current field studies and laboratory research are illustrated with photographs.

Senior high school students, college students, and instructors interested in medical research or animal behavior should find this a useful book.

George H. Ratzlaff
Central Junior High School
Hutchinson, Kan.

AN INTRODUCTION TO THE STUDY OF INSECTS, by Donald J. Borror and Dwight M. DeLong. 3rd ed., 1971. Holt, Rinehart & Winston, New York. 756 p. $17.50.

In this massive textbook the introductory and final chapters are generalized treatments of insect morphology, metabolism, natural history, life cycles, and economic importance. The greater part of the book is devoted to an order-by-order description, with black-and-white illustrations, covering taxonomy, morphology, physiology, natural history, and the like. Each order is elaborately keyed. Unfortunately, there is practically nothing about insect control and related ecologic matters. Otherwise there is not much about insects that is not at least touched upon. This updated edition is a tremendous resource for the teacher.

Paul Klinge
Indiana University
Bloomington

VERTEBRATE PHYSIOLOGY, by William J. McCauley. 1971. W. B. Saunders Co., Philadelphia. 422 p. $9.75.

This book, thoughtfully directed at the undergraduate student, emphasizes the comparative approach to vertebrate physiology. The book is very readable; the diagrams are complete and easy to follow; and the organization is flexible enough to allow instructors to choose their own sequence of presentation. However, even for an introductory book it does not contain quite enough material to make it a useful reference book. Chapter bibliographies are lacking.

Robert H. Buchholz
Monmouth (Ill.) College

METHODS IN MAMMALIAN EMBRYOLOGY, ed. by Joseph C. Daniel. 1971. W. H. Freeman & Co., San Francisco. 547 p. $22.50.

In 34 chapters various authors present, in greater or lesser detail, methods useful in the study of the mammalian embryo. Most of these methods are aimed at the manipulation of the living organism or parts thereof, but some deal with the techniques for obtaining embryos at particular times and in particular stages of development.

In general the methods (supported by the extensive bibliographies) are given in enough detail to allow a comparative novice a reasonable chance of success. However, almost all the techniques require considerable technical facilities as well as workers with experience in the handling of delicate living material. The book should be of principal use to persons doing upper-undergraduate and postgraduate research.

Werner G. Heim
Colorado College
Colorado Springs

AN EXPERIENCE WITH ORGANISMS, by Darrel L. Murray. 1971. Addison-Wesley Publishing Co., Reading, Mass. 208 p. $3.95 (softback).

To describe this manual as mediocre would be a compliment. The author aspires to provide the student a glimpse of the world as seen through the eyes of the biologist, but he offers only a superficial cookbook for a descriptive laboratory experience. The student is led by the hand. He is asked to make observations and is then told what they should have been. Experiments are set up in advance, and the student only records observations; in some cases even these are provided. Certainly this is not seeing through the eyes of a biologist.

The book is poorly illustrated, and many figures lack adequate explanation in the legends or in the text. An attempt is made to stimulate the student's thinking by the inclusion of fill-in-the-blank questions of a trivial kind. The one feature that might lure someone into adopting this manual would be the low cost and the minimum of equipment required.

David O. Norris
University of Colorado
Boulder

INSECTS AND HOW THEY FUNCTION, by Phillip S. Callahan. 1971. Holiday House, New York. 183 p. $4.95.

Judging from its style, this book is intended primarily as an introduction to insect morphology and physiology for high school students. It probably would also be instructive to naturalists who have special interests in entomology. Parts of the book, however, are too detailed for either kind of reader. The nervous system is too extensively treated in terms of physical structure; more emphasis could have been placed on the insect endocrine system and the possibilities it offers for biologic control. The mechanisms of flight are also treated in more detail than would be meaningful for anyone who is not familiar with the principles of aerodynamics. The discussion of insect vision is very good.

There are a few errors in the book. It is commonplace to hear a nonbiologist call any insect a bug, but it is surprising to find an entomologist referring to a member of the order Hemiptera (true bugs) as a beetle.

The photographs and drawings are of high quality. The scanning electron-micrographs, many of which are Callahan's own work, are really exciting. Even a person who detests anything that goes on six legs would be amazed by the beauty of form and symmetry of the insect integument and its various sensory outgrowths.

Callahan writes lucidly, and he conveys his enthusiasm effectively. There is a glossary and a list of suggested readings. This book will stimulate further interest in insect physiology, in many of its readers.

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