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pages, is a major contribution to ichthyology and fishery biology and is an outstanding buy.

ROBERT RUSH MILLER, *Museum of Zoology, University of Michigan, Ann Arbor*

TRAITÉ DE ZOOLOGIE. *Anatomie, Systématique, Biologie. Tome XIV. Fascicule II. Reptiles: Caractères Généraux et Anatomie.*

*Edited by Pierre-P. Grassé. Masson et Cie, Paris. 225 F. xlv + 680 p. + 2 p. pl.; ill.; subject index. 1970.*

This is the first of two volumes on reptiles in this well-known series. The traditions of high quality production, excellent illustrations, and outrageous cost are maintained in this book, which is concerned with general characters and the anatomy of reptiles. A short introduction is followed by treatments of the skin, skeleton, musculature, locomotion, limb reduction, peripheral nervous system, the olfactory, stato-acoustical and gustatory organs, and the circulatory, respiratory, and digestive systems, all by Jean Guibé. In contrast to these rather short chapters, the central nervous system is described in a relatively exhaustive manner, at both gross and histological levels, by Jean Anthony. This chapter accounts for about 20 per cent of the volume. Anthony also contributes a good chapter on the venom apparatus. There is a badly out-of-date chapter on the eye, by Rochon-Duvigneaud; an account of the blood, by Duguy; and a chapter on venoms, by Bouquet. A short note on venomous lizards by Grassé, concludes the book.

Unfortunately, this work appears at a time when it suffers by comparison with two recent efforts to summarize reptilian biology, the excellent two-volume account by Bellairs and the detailed, multi-volume and multi-authored *Biology of the Reptilia*, edited by Gans and others, which is still in progress. Almost all of the chapters in the present volume have good features and some are of high quality. They are written as review articles. However, without exception they are several to many years out-of-date, or have missed major references. The chapter on skin makes no reference to the work of Bellairs, Maderson, or Ruibal and their co-workers, and cites only one post-1960 reference. The chapter on the olfactory apparatus does not refer to the work of Parsons, and the most recent reference is 1951! The section on the ear cites some recent work by Miller, but none by Baird. Neither of the books by Walls and by Polyak is cited in the eye chapter, nor is there reference to the recent work by Underwood and others. Cranial kinesis is discussed without reference to the work of Frazetta.

This is a very uneven volume, with good, rela-

tively current accounts (especially those by Anthony) and poor, incomplete chapters. It is difficult to recommend this volume to anyone, except those who read only French, for there are better accounts in English for both the general reader and the specialist.

DAVID B. WAKE, *Museum of Vertebrate Zoology, University of California, Berkeley*

HANDBOOK OF THE BIRDS OF INDIA AND PAKISTAN, TOGETHER WITH THOSE OF NEPAL, SIKKIM, BHUTAN, AND CEYLON. *Volume 4, Frogmouths to Pittas.*

*By Salim Ali and S. Dillon Ripley. Oxford University Press, Bombay, London and New York. \$17.00. xvi + 265 p. + 1 p. pl.; ill.; index. 1970.*

This volume is the fourth in a monumental work that will eventually be completed in about ten volumes. The *Handbook* will describe the 1200 species of birds which, in nearly 2100 forms, are to be seen or are known to occur in India, Pakistan, Nepal, Sikkim, Bhutan, and Ceylon. Volume 4 describes 228 forms, covering the Caprimulgiformes, Apodiformes, Trogoniformes, Coraciiformes, and Piciformes, and beginning the Passeriformes.

The distinguished authors, already well known for their important contributions to the highly diversified ornithology of Southern Asia, have confined their efforts in the *Handbook* to recording information on the distribution, habits, breeding biology, diet, voice, and the like of the birds in the area. In some cases, distribution maps are included. The descriptions of adult and immature plumages in the text are supplemented in some cases by well-executed color plates, while such diagnostic features as bills and feet are presented in the text by means of line drawings. Unfortunately, only 88 forms are included in the eleven color plates, and of these, some, including several owls, are not described in this volume. Also, we find that we must await the publication of Volume 10 before we can see color plates for some of the Passeriformes described in the volume under current review. These minor shortcomings arise from the use of illustrations prepared for other works.

DENNIS PULESTON, *Brookhaven National Laboratory, Upton, New York*

THE NORTH AMERICAN BUFFALO. *A Critical Study of the Species in its Wild State. Second Edition.*

*By Frank Gilbert Roe. University of Toronto Press, Toronto and Buffalo. \$35.00. xii + 991 p.; index. 1970.*

The first edition of this book appeared in 1951 (see *Q.R.B.*, 28:51, 1953 for review). The unique parts of this second edition have to do with information that