

The Bats of Texas. By David J. Schmidly. Drawings by Christine Stetter. Texas A&M University Press, College Station, TX. W. L. Moody, Jr., Natural History Series, Number 11. 1991. xv + 188pp., 37 figures, 16 color plates, 32 black and white photographs, 27 maps, 8 tables, 428 literature and reference citations, index. \$34.50 (cloth), \$19.95 (paper).

This well-researched, well-organized, and well-illustrated volume synthesizes available information on identification, distribution, natural history, and conservation of the 4 families and 32 species of bats known to occur in Texas. The bat fauna of Texas contains all of the families and all but 9 species of bats that occur in the United States. In the preparation of this volume, the author examined >6,000 specimens of Texas bats that are deposited in scientific collections throughout the United States. Data on fossil species also are presented. The author states that the ultimate aim of the book is to stimulate interest and provide a better understanding about these often-maligned mammals, and to promote greater appreciation of their role in our biological communities and of the need to conserve them. The volume meets these goals.

In the preface, the author presents introductory comments, describes the format of the volume, and points out some common misconceptions about bats, e.g., that they are blind, that they fly into people's hair, and that they are flying mice. However, the facts that bats can see quite well, they do not fly into people's hair, and they are not closely related to mice are clearly presented. Examples of many unique biological properties and beneficial contributions are cited as important reasons for studying these flying mammals.

The volume is arranged into 4 chapters. The introductory chapter presents information about bats in general. Basic information is provided about their appearance, distribution, classification, evolution, flight, echolocation and vocalizations, vision and olfaction, roosts, thermoregulation, life history, populations, parasites, relation to public health, and conservation. In this chapter and throughout the volume,

information is presented in a writing style that effectively communicates with a range of persons from non-biologists to professional mammalogists.

The second chapter contains 2 dichotomous keys to aid in the identification of Texas bats; one key is to external features and the other is to skull characteristics. Distinguishing characters referenced in the keys are clearly illustrated by excellent drawings. These keys also will prove useful to bat enthusiasts outside of Texas.

The third chapter presents a synopsis of current knowledge of bats in Texas, including a detailed listing of specimens examined. Accounts for each species are arranged so that they contain: a photograph and brief description of the bat, with special emphasis given to distinguishing features and comparisons to similar species; a description of the distribution of the species in Texas, with reference to a map; the name and appropriate scientific authority for all the subspecies of a particular bat in Texas, as well as the most recent taxonomic treatment of the species; a discussion of the life history of the species, including habitat and roosts, reproduction, and diet; a list of localities where scientific specimens have been obtained, including the number of specimens examined and the acronym for the museum or collection where the specimens are housed; and a comprehensive listing of published material about each species.

The fourth chapter contains a detailed bibliography and list of references regarding bats in Texas, other parts of the United States, and northern Mexico. Literature listed in this section is divided into general works, accounts published in *Mammalian Species*, and technical papers. The volume concludes with an index.

The quality of the color and black and white photographs used to illustrate the volume is excellent. The clear and detailed drawings found in chapters 1 and 2 are effective in illustrating general anatomical, facial, external, and cranial features that are useful in recognizing the various species of bats. The distribution maps of Texas show county boundaries, upon which are plotted localities of occurrence based upon museum specimens, records published in the scientific literature, and records of the Texas Department of Health. The range of each species is drawn to estimate its probable distribution in Texas.

Typographical errors are rare; most are misplaced or missing commas. There are some inconsistencies in style, e.g., spelling out numbers in some places and not in others, using 1-sentence paragraphs, using Imperial units of measure in the text (i.e., other than in listings of specimens examined), and misplacing some adverbs. However, none of these significantly detract from the overall quality of the volume.

The author has done an excellent job of bringing together available information on the bats of Texas, as well as information from adjacent areas of Mexico and the United States. Because many species of bats that occur in Texas also are found elsewhere, information regarding Texas bats should be useful to persons in other geographic areas. I have found this volume to be packed with useful information about bats in general and Texas bats in particular. I highly recommend this volume to anyone interested in the biology of North American bats.—**Troy L. Best**, De-

partment of Zoology and Wildlife Science and Alabama Agricultural Experiment Station, 331 Funchess Hall, Auburn University, AL 36849-5414.