

Book Reviews

Nonsystematists' Systematics

A Classification of Living Animals.

Lord Rothschild. Longmans, Green, London; Wiley, New York, 1961. vii + 106 pp. \$4.75.

It is notorious that physiologists, biochemists, biophysicists, and other scientists dealing with animals but not directly with systematics have often been vague as to the animals from which their research materials were derived. That was sometimes due to lack of interest, which is now properly considered inexcusable. The results of research are invalid if its materials are not adequately specified and placed in a taxonomic frame of reference. In other instances the fault was ignorance, sometimes excused on the grounds that the needed information was not readily accessible. Lord Rothschild's aim is to meet the latter complaint by providing an outline classification of the whole animal kingdom in one small, convenient volume.

A summary of a little over one page first lists the phyla and a few classes, with estimates of the numbers of known species. The body of the work, in 41 pages, is an outline classification of living groups, only, down to orders and sometimes, where these are in common use, suborders. For each order or suborder, one or more genera are named as examples, to the number of about 2000 in all. Synonyms still in frequent use are given parenthetically. For many genera and a few other groups an English common name is indicated. No other data are included. All names in the classification are indexed. For each common name the genus and order or suborder, as well as the page number, are given, and for each genus the order or suborder and page. The index also includes about 850 genera that are *not* listed in the classification, with page reference to the appropriate order or suborder. The more convenient inclu-

sion of those genera in the classification itself would not significantly have expanded the small book.

The classification depends largely, but by no means wholly, on Hyman for groups so far covered in her great treatise, *The Invertebrates*, and on the various authors of Grassé's *Traité de Zoologie*. Two classifications each are given for the Porifera (one by Burton and one by Hyman), Platyhelminthes (by Baer, hitherto unpublished, and by Dawes), and Nematoda (by Chitwood and Chitwood, and by Hyman). Rothschild has been assisted throughout by a large and distinguished body of British systematists, who are listed in the second appendix. The first appendix gives suggestions for further reading on each major group, and the works cited are listed bibliographically in the third appendix (5 pages).

The nonsystematist workers for whom the book is intended should be warned that this work will not suffice for purposes of their actual research and publication. They are told only that for the approximately 200,000 genera here necessarily unmentioned the most likely place to look is in Neave's *Nomenclator Zoologicus*. They are not told that research materials must be identified to species, at least, and that genera must be placed in families, nor are there any suggestions as to how one goes about this. Not even the *Zoological Record* is mentioned. The reading lists will often serve as a first step toward the necessary details, but often also will not. For example, the 11 citations under Reptilia include two monographs, each on a single genus (both genera unusual and one not included in the classification) but do not include Romer's *Osteology of the Reptiles*, the only work that gives a complete, modern, authoritative classification of all genera of living (as well as extinct) reptiles. As another example (one among many that could be given): the most recent

reference on Amphibia in general is 30 years old; there are no references on urodeles ("Caudata"); and the only reference on anurans ("Salientia") is to a paper on a single species. There is no mention of various textbooks, for example Storer's, that cover the whole field of this outline, that give more useful information, and that are, it would seem, equally accessible to nonspecialists.

Although Rothschild has admirably achieved his aim, it does seem a pity that the aim was quite so limited. With only a little more effort and still within the bounds of convenience and easy accessibility, this fine array of talent could have produced a work even more useful to nonsystematists. The book is nevertheless highly recommended for what it is: a handy, authoritative outline of animal classification, intermediate between a mere listing of phyla and the more extensive technicalities of textbooks, treatises, and monographs.

G. G. SIMPSON

*Museum of Comparative Zoology,
Harvard University*

Nomad and Villager

Prehistoric Man on the Great Plains.

Waldo R. Wedel. University of Oklahoma Press, Norman, 1961. xviii + 355 pp. Illus. \$5.95.

This is not a "popular" book but an annotated text and reference work in which one of the leading students of Plains archeology has effectively summarized the current knowledge of his field. The first part is a review of archeological techniques, the environmental background of the Plains area, and the story of the earliest occupants. Then the prehistoric evidences within each subarea are covered chronologically, beginning with the earliest evidences, more than 10,000 years old, and ending with the historically documented tribes of the last few centuries. A final chapter pulls the information together; this chapter is followed by an extensive bibliography and a detailed index.

In the final chapter Wedel reemphasizes his main themes. First, to understand human history on the Plains, one must take the geographical background into account. Second, there were two major native economies in the area: that of the nomadic bison-hunters of the western Plains, whose well-known 19th-