

A MANUAL OF COMMON BEETLES OF EASTERN NORTH AMERICA, by Elizabeth S. and Lawrence S. Dillon. Row, Peterson and Co., Evanston, Ill. and Elmsford, New York, 1961, viii+884 pp., clothbound, illus. \$9.25.

For many years anyone interested in beetles had to resort to Blatchley's monumental *Coleoptera of Indiana* for information on the common beetles of the eastern United States. This work is limited essentially to those found in Indiana, is 50 years out of date, almost impossible to find, and too expensive for the average entomologist. At last we have a general reference on beetles which does not have any of these drawbacks of Blatchley's work.

Any person who devotes his valuable time, in this day of rushing, to unselfishly write a book such as this, is to be heartily congratulated and complimented. The Dillons have filled a vast gap in our endeavor to learn more about one of the most dominant groups of animals on earth. For example, as the authors state, one family (Curculionidae) contains 50,000 species in the world—more than the combined total of mammals, birds, reptiles and amphibians!

Many young people are becoming vitally interested in the wonderful world of natural science and need our encouragement. This book should stimulate these inquisitive young men and women. Perhaps the greatest single deterrent to the study of insects is the overwhelming number of species and the often scattered, unavailable literature dealing with them. This book brings together much of this information, provides illustrations of most common species and in general facilitates the study of this interesting group of insects.

Many of the groups of vertebrates have been thoroughly covered in general manuals, suitable for both the amateur and professional. As Dr. Ross H. Arnett has put it in a recent review of this book, "The Old World has long ago put aside such immature notions that the study of beetles is to be confined to the odd and idle rich or to psycho-ceramic [*sic*] Generals. They have long had an abundance of manuals for all levels of study of this subject. We have never had such a book before; we will never be without such a book again. This is the beginning. Many more will follow. The date 1961 marks for beetle study what 1934 marks for bird study. For this, we shall all be ever grateful to the Dillons!" It may seem unusual to quote from another review of the same book, but I can think of no better testimonial than this.

The book is printed on good quality stock with a convenient generalized beetle drawing inside front and back covers. There are 544 text figures and 81 full page plates containing several hundred figures. There is a good glossary but technical terms are kept to a minimum in the text. The bibliography is divided into: 1) general, 2) ecology, 3) baits and trapping, 4) arrangement alphabetically by family, 5) state and Canadian lists. A short appendix contains names and addresses of suppliers of books and equipment, and the index is quite complete. The introduction contains sections on collecting, methods and materials, pinning and labeling, structure, larvae and use of the keys. There is a separate section on ecology of N. A. beetles.

Any work of this size and scope will naturally contain errors, and this one is no exception. Later editions undoubtedly will correct many of these.

For example, on p. 729, the names for figures 8 & 9 are reversed. Such an error undoubtedly will cause many misidentifications. The illustrations are excellent in general, but in some cases were hastily drawn without regard to specific characters. Figure 15 on plate LV is an example of this. The genus *Thylodrias* is described as "wingless" even though a fully-winged male is illustrated.

The greatest objection I have to the book is the fact that any beetle can be run through the keys and naturally will come to a species. The beginner should be cautioned repeatedly that many species not covered in this book will work through the key and the identification will be incorrect. This has been eliminated in part by the illustrations. However, many groups cannot be determined without the aid of generic revisions or assistance of a specialist. The genus *Phyllophaga* and the family Trogidae are good examples of this. Sixteen species of *Phyllophaga* are placed in the key, and four of these are illustrated, although approximately 200 species occur in the United States. I think it would have been simpler and better for the beginner for the authors to have indicated that it is necessary to examine the genitalia for identification of species in this genus and the beginner be referred to a recent revision for specific identification. This same suggestion holds for the family Trogidae, of which 9 of the 42 United States species are treated. The reader is not warned anywhere in the keys that he should consult other references or that many species are not included.

Despite any differences in judgement as to what species are to be included, a few mechanical errors and incorrect use of certain generic names, this book is a must for all interested in the study of beetles. It will be a welcomed addition to the library of the beginner and the professional, and should increase the popularity of this diversely interesting group of insects.—Robert E. Woodruff