Ford's method for the estimation of population size (pp. 430-434) only after several readings and after inferring how Table 8 indicates how many marks a given captured insect has.

In short, this is an important work which fills a definite need in medical entomology. It is well done, comprehensive, and critical. Although it is expensive, I feel certain that it will find its way to the desks of most serious mosquito workers, and that it will stay there for a number of years.

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It is easy to herald any new publication as 'long awaited' but in this instance the claim is well justified in view of the comprehensive guide to the Caribbean butterflies that has previously existed. It is necessary to add a note of caution, however, in that the area covered does not include all that the geographer or politician might understand from either the term 'Caribbean' or the term 'West Indies'. The author has, of necessity, confined his thesis to the West Indies as a faunal region and so has avoided the risk of it becoming too large or too superficial. As a result, 292 species are included, few of which are as spectacular as many of the South or Central American species occurring on the mainland or associated islands. The 24 colour plates—painted specially for the book by Gordon Riley and Brian Hargreaves—illustrate the upper and underside of almost all the butterflies. The detail and quality of reproduction are excellent. The text describes each species in detail with notes on range, type locality and early stages. The descriptions are preceded by a concise introduction to the subject, including the inevitable guide to collecting. A check list and distribution table, short bibliography and index complete the picture.

For its quality and size, this book represents extremely good value for money. Though it is presumably aimed at the many amateur lepidopterists anxious to enrich their bookshelves or check off their captures, it is hard to see how it could be improved for the specialist in the field. Norman Riley's style is concise and business-like and the print is clean and neat.

Most people contemplating buying this book will already have a copy of Malcolm Barcart's 'Butterflies of Trinidad and Tobago', published in 1970 and similar in price and format. It is interesting to compare the 2 works. Barcart illustrates only the upper sides of the more attractive species and uses photographs rather than paintings. His less orthodox arrangement using habitats, beauty and rarity as criteria may fire the schoolboy enthusiasm but also emphasizes the need for an effective index. Riley's book is certainly far easier to read and index complete the picture.

Perhaps the most useful contribution made by this new book is to fill in some of these gaps—a challenge to professional and amateur alike—and further enrich the knowledge of the region. It will certainly enrich your bookshelf as well.

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This work is part of a series of 3 volumes which attempt, for the 1st time since 1925, to give a comprehensive account of the genetics and biology of Drosophila. Vol. 1 is concerned with genetics. The 2nd of its 3 sections, Vol. 1b, comprises 13 individual reviews of selected topics in genetics. Analyses of normal and artificially constructed chromosomes, of simple and complex loci, and of altered segregation phenomena illustrate the depth and detail of the information gained through use of Drosophila as an experimental organism. Also included is an editorial note providing the reader with a list of the main reference sources of Drosophila literature.

The 1st 3 chapters (Chs. 11-13) deal with compound and ring chromosomes. In Ch. 11, "Compound Chromosomes Involving the X and Y Chromosomes", E. Novitski and D. Childress describe the construction of representative types of compounds involving the sex chromosomes. The literature draws heavily on Novitski's 1950 publications in which various X and X-Y compounds were first described and analyzed. Significant findings from other studies are noted. In Ch. 12, "Ring Chromosomes and Radiation Induced Chromosome Loss", B. Leigh provides a concise account of the origin and construction of ring X chromosomes, followed by a discussion of their mitotic and meiotic behavior. Emphasis is placed on incompletely understood aspects of ring and rod X chromosome behavior and add to the interest of the chapter. In Ch. 13, "Compound Autosomes", D. G. Holm analyzes the construction of the first and of subsequent compound autosomes. Experiments with these chromosomes have made important contributions in the areas of half tetrad analysis and distributive disjunction. The chapter fulfills the stated purpose of "serving as a practicable guide to those employing or considering compound autosomes as a basic genetic tool." An Appendix to Ch. 13 by Novitski details the construction of an additional compound, an entire compound 2 chromosome.

Chs. 14 and 15 are concerned with disturbed segregation. In Ch. 14, "Genetic and Cytogenetic Aspects of Altered Segregation Phenomena in Drosophila", S. Zimmering reviews meiotic nondisjunction and meiotic drive. Mechanisms and factors affecting nondisjunction in females are treated in some detail. Segregation distortion is the favored explanation of the 4 best studied cases of meiotic drive, including the segregation distorter chromosome (SD). The section on SD mechanisms overlaps slightly that in Ch. 15. However, in Ch. 15, "Segregation Distortion", D. L. Hartl and Y. Hirataumi add evidence that sperm dysfunction operates through an effect on SD on its homologue. They condense with commendable clarity the extensive and frequently complex literature dealing with the genetic structure, mechanisms and modifiers of SD.

Ch. 16 by J. H. Williamson and Ch. 17 by J. H. Williamson and D. R. Parker focus attention on the Y chromosome. In ch. 16, "The Genetics of the Y Chromosome", the reader is impressed by the complexity
of the genetic system born on the Y chromosome, especially since it was once thought to be largely inert. A broad spectrum of Y chromosome characteristics, ranging from its genetics, function and fate in spermiogenesis to effects on other genetic systems, is reviewed. Also covered are specially marked Y chromosomes. Ch. 17, "Recombination Between the X and Y Chromosomes", treats spontaneous and induced X-Y exchanges separately. Attention is given to the origin and analysis of useful spontaneous interchanges. Induced types are discussed in respect to occurrence in immature vs. mature oocytes.

The next 2 chapters shift attention from specialized studies of Drosophila to fundamental principles of genetic organization. Ch. 18, "Genetic Units of Drosophila—Simple Cistrons" by V. Finnerty, uses fine structural studies of the rosy locus to demonstrate the existence of intracistronic recombination. This particular locus is the structural gene for xanthine dehydrogenase. Consideration of other loci involved in the production and/or function of this enzyme is used to develop a concept that is far from simple—that of the many factors that may be involved in the final expression of a structural gene. B. H. Judd's review, "Genetic Units of Drosophila—Complex loci" (Ch. 19), is basically concerned with the organization of the genetic system of euchromatin of other loci. Attention is given to the correspondence between the cistron and chromosome and implications thereof are discussed. Also, it is hypothesized that each structural gene is united with an extensive set of control sequences—a situation differing from that of the prokaryotic operon.

Studies involving the X chromosome provide the material for Chs. 20 and 21. In Ch. 20, "The Bobbed Locus", F. Ritossa summarizes and comments concerning the nature and function of this unusual X chromosome locus. Apparently the bobbed alleles, including one on the Y chromosome, represent deletions of rDNA. The locus lies in the proximal X—the subject of Ch. 21, "The Proximal Region of the X Chromosome", by A. Schalet and G. Lefeve, Jr. The euchromatic section (Xe) is treated in most detail. The writers delineate problems stemming from attempts to correlate mitotic and salivary band observations of the Xe and Xh.

Attention is turned to an autosome in Ch. 22, "The Fourth Chromosome of Drosophila melanogaster", by B. Hochman. This relatively short but succinct chapter gives major characteristics and methods of analysis of chromosome 4. The chromosome is unusual in that aneuploidy and fertility and recombination do not occur in diploid females. Origin as part of an X chromosome is a strong possibility.

The concluding chapter, "Mutable and Mutator Loci", by M. M. Green, covers 3 classes of increased spontaneous mutation. Mutable genes, mutator genes, and extrachromosomal mutators are considered in respect to origin, properties, and possible modes of action. An Appendix to Ch. 23, "The Behaviour of a Transposing Element in Drosophila melanogaster", by G. Ising and R. Ranel, describes a system involving spontaneous transpositions.

The book is indexed for authors, subjects, species, and genetic variations. The illustrations are diagrammatic, in keeping with the technical nature of the subject matter. Although published in 1976, there are few references beyond 1972.

Overall, the individual reviews, though somewhat uneven in coverage, provide a comprehensive account of the topics selected for inclusion in Vol. 1b. The book is directed toward Drosophila geneticists and their more advanced students and should provide this group with a valuable reference in respect to tools, techniques, and research problems. However, its usefulness to most entomologically-oriented geneticists is questionable. It must be noted that chapters dealing with Drosophila in the recently published "Handbook of Genetics", vol. 3, are less technical, cover subjects of broader general interest, and are more up-to-date. I can recommend the present book only to those who are thoroughly conversant with Drosophila genetics and terminology.

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The Butterfly Book by W. J. Holland was published in 1899 and revised in 1931, for the first time providing lepidopterists in the United States with a reasonably priced text illustrating in color all known butterflies inhabiting America north of Mexico. Although little was known about most of our butterflies at that early date, resulting in the book's sparse distributional records and a few identification errors, it was without doubt the best work then available to lepidopterists and thus became immensely popular. Although the more recent (1961) How to Know the Butterflies by Ehrlich and Ehrlich provides keys to the butterfly species of the same region, the Hesperioidea is excluded as are some species. Only black-and-white drawings illustrate this book. Hence, there has been a great need for a more up-to-date work.

The long-awaited replacement, The Butterflies of North America with William H. Howe as coordinating editor and illustrator, is certain to become the standard reference work for North American distribution. The text is the work of 20 contributors, and general editing was done by H. Clench and A. Klots. The book's price might discourage a few potential buyers. Yet, when one considers the expense of producing 97 full color plates (picturing 2093 butterflies) in a 633 page, hard-cover book, the work almost seems like a bargain in the midst of continually rising publishing costs.

The general organization of the book is similar to that of Holland's work. The introductory chapter by H. Clench of the Carnegie Museum is well-written, informing readers of general morphological and life history characteristics, collection and preservation methods, and the hows and whys of classification. I found the section on butterfly biology (mating, life span, thermoregulation, species, and zoogeography) at times surprisingly descriptive for such a broad-scope work (e.g., "arid foothills and canyons up to 6500 feet in the Wasatch Mountains in Utah for Speyeria xerces platys"). No keys appear to the species.

The book terminates with a short Glossary, a Bibliography, list of North American Lepidoptera collections, index to larval foodplants and nectar sources, and general index.

The color plates, consisting of paintings by Howe, are