

This volume lacks papers discussing work on  $\text{Ca}^{2+}$  uptake by reconstituted sarcoplasmic reticulum membranes, an important research undertaking in which there have been many recent advances. On the whole, however, it should have a widespread appeal to both researchers and teachers in biology.

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## Fruit Flies

**The Genetics and Biology of *Drosophila*.** M. ASHBURNER and E. NOVITSKI, Eds. Academic Press, New York, 1976. Vol. 1a, xx pp. + pp. 1-486, illus., + plates + index. Vol. 1b, xx pp. + pp. 487-954, illus., + index. Vol. 1c, xvi pp. + pp. 955-1430, illus., + index. Each volume, \$42.50.

In their preface to this first volume of a three-volume work, the editors point out that it has been 50 years since the publication of *The Genetics of Drosophila* by Morgan, Bridges, and Sturtevant and 25 years since the publication of *Biology of Drosophila*, edited by Demerec. The immense literature that has developed in the intervening years poses an awesome hurdle for anyone planning to work with *Drosophila*, and even the active researcher can be familiar with only a limited portion of this literature. A major aim of this work is to bring together a collection of reviews that would serve as a guidebook for the newcomer and be useful to workers in the field as well. In addition to summarizing the present state of our knowledge, the editors hoped that the work would serve to point out areas of deficiency.

Volume 1 (really three volumes labeled 1a, 1b, and 1c) is devoted to the formal genetics of *Drosophila*. Its 31 chapters represent the efforts of 39 authors plus a collective entity, the "UBC *Drosophila* Research Group." A task of this magnitude poses seemingly insuperable logistic problems at every step in production and demands extensive compromise. Nevertheless, the volume is a pleasant surprise. In general, the aspirations of the editors have been fulfilled, and this collection will surely find its place beside other standard reference works found in every active and well-financed *Drosophila* research laboratory.

The chapters that focus on genetic studies with *Drosophila melanogaster* fall roughly into six overlapping areas—cytogenetics, radiation and chemical studies, recombination, chromosome distribution, mosaics and related phenome-

na, and organization of genetic material. Studies with *Drosophila hydei* and *Drosophila virilis* are treated in separate chapters. Each of the three parts of volume 1 has its own extensive author, subject, species, and genetic variation indexes. Readers will undoubtedly differ in their assessment of the various chapters, but all are at least of considerable use as bibliographic sources.

My chief adverse comment relates to the price of the volume. In view of the cost, the editors might have restricted the volume to topics with the greatest general usefulness and longevity rather than attempting broad coverage. Indeed, some of the chapters were badly out of date by publication time. Others review subjects on which no substantial progress has been made in recent years. For example, little has been added to our understanding of interchromosomal effects (chapter 7) and position-effect variegation (chapter 24) over the past 25 years. Except for minor additions to bibliography, ample reviews of these (and several other topics) are readily available elsewhere. At least a third and possibly half of the coverage might well have been eliminated on these grounds.

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