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**Insect Pests of Farm, Garden and Orchard.** *L. M. Peairs and R. H. Davidson.* John Wiley and Sons, Inc., New York. Fifth edition, 1956. viii+661 pp. \$8.50.

The fifth edition of this economic entomology text comes to us at a most appropriate time. During the past ten years, there has been a veritable revolution in insect control with insecticides and it has been necessary to use technical papers or bulletins to keep pace with these advances. Now in one volume, Peairs and Davidson have assembled the last word in insect pest control for use by the entomologist and agricultural adviser. It is the opinion of this reviewer that we have now attained a period of relative stability in the recommendation of insecticides for our major insect pests and yet-to-be discovered insecticides will be slow to replace the toxicants included in this volume.

The authors include pertinent information on insects recently introduced or established as pests in this country in addition to providing the latest distribution of all important economic insects. Basic concepts dealing with insect morphology, metamorphosis and classification are presented in introductory chapters. Biological, mechanical and cultural control methods are presented in proper perspective.

The entomologist will find that some scientific names are not in accord with the approved list published in the December, 1955 Bulletin of the Entomological Society of America. The revision of scientific names is an ever continuing process which creates a source of error in textbooks regardless of publication date. Too often, a person will employ a scientific name used in a general text with the belief that presence in a "book" establishes authenticity.

JAMES W. APPLE.

**The Honey-guides.** *Herbert Friedmann.* United States National Museum Bulletin Number 208, Smithsonian Institution, Washington. 1955. xxxi+292 pp. \$1.75, paper bound.

This is the museum's newest bulletin and is a monograph of a family of old-world birds. Dr. Friedmann discusses the systematics of the Family Indicatoridae, and reviews many of these birds' unusual habits. One new discovery is that the birds eat the beeswax instead of the honey, as was formally assumed.

Other interesting topics discussed are the guiding habit, mammalian symbionts, the antiquity and evolution of the guiding behavior, and the origin of cerophagy. One phase of the life history that will require more research is how the birds are able to digest the highly complex wax. The two theories brought forth in the paper were either the possibility of an undescribed enzyme or an unknown bacteria in the digestive tract.

In reviewing the taxonomy, Dr. Friedmann considers all eleven known species in the family. These species are distributed among four genera (*Indicator*, *Melichnentes*, *Melignomon*, and *Prodotiscus*). He also discusses the evolutionary trends of the family and the relationship to other families such as Capitonidae, Picidae, and other families in the superfamilies of Capitonoidea and Gabuloidea.

The bulletin is one of the finest examples of a monograph that the reviewer has seen. The monograph is made more complete by the excellent choice of plates, five of which are in color. All the known species of Indicatoridae are represented on these color plates, done by the well known artist, Walter A. Weber of the National Geographic Society.

JOHN M. CONDIT

**Climates in Miniature.** *T. Bedford Franklin.* Philosophical Library, Inc., New York. 1955. 137 pp. 10 Figs. 11 Tables. \$3.75.

T. Bedford Franklin is an English amateur gardener-naturalist who, for more than fifty years, has been keenly interested not only in the plants and animals of his gardens and nearby country-side, but also the immediate environments in which they occur. He has conducted numerous short-lasting, small experiments with simple equipment concerning various environmental factors, especially the temperature factor. The reader will find a good discussion of the dynamics of soil heating and cooling and how it varies with soils of different textures, colors, moisture contents, and with different mulches such as leaf litter, loose soil, ashes, manure, short turf and snow. Temperature data are also included of such items as rabbit burrows, mole runs, hedgehog hibernating quarters, compost heaps, and cranberry marshes. Other chapters include general discussions of the following in relation to the home-gardener: frost formation, humidity and dew, wind and shelters, light and shade, and cold frames. The book is written in non-technical, home-gardener style, and unfortunately contains numerous teleological "explanations". Also, the author without scientific botanical training attempts a discussion of the effects of numerous environmental factors on plant physico-chemical processes, as well as a discussion of the processes themselves, with the result that numerous statements are made which are partially or completely in error. This book is not designed as a text; no references are included.

G. E. GILBERT

**General Biology.** *Gordon Alexander.* Thomas Y. Crowell Company, New York. 1956. xiv+881 pp. \$6.75.

This new textbook is a comprehensive presentation for a full year's course in general biology. By presenting a wealth of material through a wide range of topics the author makes it possible for a teacher to select the content and sequence he wishes in adapting the book to a great variety of teaching plans. This book combines classical emphasis on structure with modern emphasis on function. Biology of the frog and of man are featured throughout much of the book as types of vertebrate animals and are treated comparatively throughout. In addition to this extended comparative study of structure-function, other outstanding features are the modern treatment of taxonomy and ecology.

Part one deals with fundamental principles of biology; part two considers metabolism and irritability in vertebrates; part three is devoted to reproduction and development in vertebrates; part four is on metabolism and irritability in higher plants; while part five deals with reproduction and early development in higher plants. Part six is a unit on heredity; parts seven and eight are surveys of the animal and plant kingdoms; part nine is devoted to distribution and includes chapters on ecology and conservation; while the final unit, part ten, covers organic evolution.

At the end of each chapter there is a summary and a list of review questions. There are approximately four hundred illustrations and a detailed index. This should be a successful text for college classes in introductory biology.

RALPH W. DEXTER.