points. In that case the presumably desired purpose of bringing the author and the interested reader together is more likely to be served by publication of each individual article in an appropriate journal.

The contributions under review are of high quality and deserve to be read; but few readers will be interested in more than one or two of them. Unfortunately, between the hard covers of a vaguely, yet misleadingly, titled volume, each is likely to be missed by many of the workers most capable of benefiting from it.

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Pest-Control Method

Principles of Insect Chemosterilization. GERMAIN C. LABRECQUE and CARROLL N. SMITH, Eds. Appleton-Century-Crofts, New York, 1968. xii + 354 pp., illus. $16.

The concern that has been felt in recent years over the increasing incidence of insect resistance to insecticides and the possible hazards to man and wildlife associated with residues of some of the more persistent conventional pesticides has stimulated investigations into alternative methods of insect control. One of the methods which has met with some degree of success is that of inducing sterility in the pest population by means of either radiation or chemicals. Sterilization is of particular practical interest because it has the potential to counteract what is without doubt one of the major factors responsible for the success of our insect pests, namely, their awesome reproductive capacity.

Consisting of an introduction and six chapters by leading authorities in the field, this book covers comprehensively for the first time all major aspects of insect chemosterilization in a manner which is well coordinated, with a minimum of overlap and repetition.

A brief introduction (Lindquist) is followed by a discussion of the potential role of sterilization in pest control (Knipling) by either the mass release of sterile insects into a natural population or direct sterilization of the population itself. By referring to a number of simple mathematical models the author clearly emphasizes the theoretical advantages of sterilization over conventional chemical control and establishes basic criteria for the optimal utilization of the sterility technique in a number of practical situations.

The chapter on the techniques employed in the laboratory screening and evaluation of possible chemosterilants (LaBrecque) should prove a most useful source of reference to those directly involved in this kind of work. Included here is a comprehensive table of compounds reported to affect the reproductive capacity of many species of insects and mites.

In the course of development of new chemosterilants, compounds that have shown promise in initial laboratory screening tests must be evaluated under field conditions. Chemosterilant field studies with a number of insect species are covered in a later chapter (Weidhaas) which would have been more in context had it directly followed that on laboratory procedures. An interesting section of this chapter discusses the potential role of chemosterilants as biological tools which can be usefully employed in biological and ecological studies of insect populations.

Although the specific mechanism of action of chemosterilants remains largely unknown, much information exists concerning the results of cytogenetic and cellular interaction with the chemical. A chapter (LaChance, North, Klassen) discusses the various types of insect sterility that may result from these interactions and points out that, in addition to the cytogenetic damage to germ cells that results in dominant lethal mutations, aspermia, sperm inactivation, and infecundity, the chemical may also have important and more general somatic effects.

The chemistry and biochemistry of the chemosterilants themselves are presented in a chapter consisting of a series of sections concerned with specific compounds representing each of the major groups (Turner). Each section gives details of structure, physical properties, and methods of determination and purification of individual compounds in a form that will make the chapter invaluable for rapid reference. The sections devoted to the biochemical aspects of each chemosterilant are particularly interesting, for the author has drawn heavily on literature from the field of mammalian chemotherapy, where chemosterilants have been intensively studied as a result of their carcinostatic properties. Much of this information has not been previously published in a context of insect chemosterilization and its inclusion here might result in a useful cross-fertilization of ideas.

Although our present knowledge of the toxicological aspects—namely, mammalian symptomatology, metabolism, and chronic and acute toxicity—of chemosterilants leaves much to be desired, all available information is well summarized (Hayes) with direct reference to specific compounds.

This book can be highly recommended for all those interested in problems of pest control. A number of errors were noted which do not appear in the list of errata, but these do not generally detract from the overall value of the book, which will undoubtedly prove a major reference source in this important area of endeavor.

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A Metalloid Element

The Chemistry of Boron and Its Compounds. EARL L. MUETTERTIES, Ed. Wiley, New York, 1967. xvi + 699 pp., illus. $27.50.

The substantial growth in knowledge about the element boron and its compounds which occurred during the 1950's is now being reflected by the appearance of a number of books in the field. Certainly this book will stand as one of the major contributions. The full scope of the chemistry of boron has become fully apparent only within the last decade. The diversity of problems of chemical interest provided by this single element and the thorough and extensive coverage of the field by the present work make it possible to say with assurance that the book contains something of interest to every chemist. Topics covered range from the most fundamental structural problems to the applications of boron chemistry to organic synthesis. Each topic is treated by an acknowledged expert, and the resulting coverage is in general thorough and excellent.

The principal drawback to the present volume is one common to most collections of chapters written by different authors. For example, the termination date for coverage of the literature varies significantly from chapter to chapter. As a case in point, it is