BIOLOGICAL PEST CONTROL

Studies in Biological Control *(International Biological Programme 9), edited by V. L. Delucchi. Cambridge University Press, New York, 1976, 304 p., illus., $34.50 (75-16867).*

Beginning in about 1965, the IBP psychologically and financially supported variously coordinated studies of the basic biology of five major widespread arthropod pests: fruit flies (Tephritidae), *Myzus persicae,* rice stem borers, armored scale insects, and spider mites. The emphasis was on natural history data that could be used in biological control programs, integration of programs in different countries, and aiding collaborative efforts among far-flung researchers with research organisms in common. A detailed historical study of these efforts and the personalities involved would be of great interest. Detailed reviews of the studies belong in appropriate review journals. This book is a watered-down hybrid of the two.

The book perpetuates several unfortunate myths. It suggests that there is a use for chatty reviews of natural history where many of the statements lack either the data to substantiate them or a reference to that data. I do not doubt that most of the statements made are true, but when made at a general level (e.g., "chemical control of armoured scale is often difficult," or "the best alternative to chemical control is still biological control"), they are of no use in any particular situation if a planner cannot get at the basis for the statement to find out if it applies to the problem at hand.

The book promotes the idea that control per se is a good thing, that the only good pest is a dead pest; the concept of raising the economic thresholds rather than lowering pest density, for example, seems totally foreign to this book. It perpetuates the unfortunate dichotomy between "chemical control" and "biological control" at the expense of integrated control programs. The goal is to maximize sustained yield crop production at minimal cost to society; there is no other possible criterion of success. To support a biological control program of any pest, rather than integrated control as part of an integrated agroecosystem, is like putting all the engineers in Detroit to work on antipollution standards and ignoring marketing, highway construction, tire longevity, etc. Let us hope that the days of chemical control, biological control, genetic control, or whatever control are numbered. If there is ever to be another IBP or its analogue, let us hope that it promotes sustained yield agriculture at minimum cost to society as its international activity, rather than any particular kind of pest control.

The book does offer an annotated bibliography on the five pests involved, though its 1976 publication time renders its up-through-1972 literature review a bit dated. I wonder why the authors did not instead put their time into more thorough and up-to-date reviews in the *Annual Review of Entomology,* and thereby eliminate the need for the book. The commentary throughout makes a strained effort to convince us that the IBP was somehow necessary or at least conducive to the studies performed. However, only 6% of the 983 references cited were "the result of the IBP collaborative activities." What I find most distressing is the idea that workers on any given pest should require any organization (IBP or otherwise) to coerce them to correspond and work together on their pest in common.

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CLASSIC BOTANY TEXT

Strasburger's Textbook of Botany *(New English Edition), translated from the Thirtieth German Edition by Peter Bell and David Coombe. Longman, Inc., New York, 1976, 877 p., illus., $25.00 (75-11731).*

Some books live for years, carried from edition to edition until a time comes when contemporary users are too young to have known the original. These are the "classics": Gray's *Anatomy,* Bergey's *Manual of Determinative Bacteriology,* or Strasburger's *Textbook of Botany.* Longman has now published an English translation of the 30th edition (1971) of the famous Strasburger text, an encyclopedic resumé of botanical information whose nearly 900 closely packed pages rival in quantity the newer treatments of biochemistry.

To us old botanists of the early thirties, who regarded Strasburger as the Bible of Botany, the new book will seem familiar. Much of the same impact is there: the numerous plant types, the voluminous structural detail, the global viewpoint, the line drawings, the business-like format. Only the color is gone.

In many ways the new edition is disappointing. I could find only the briefest mention of (or nothing at all on) parasexuality (except as a bacterial phenomenon), energy flow in ecosystems, wall-free protoplasts, in vitro cloning, numerical taxonomy, diatom movement, lichen acids, fungus hormones, or photorespiration. A few lines are given to abscisic acid and a few to the role of nucleoli in ribosome assembly. The one page on phytochrome is skimpy and confused. The treatment of plasma membranes includes only the Davson-Danielli model. Warburg's belief in the carbon dioxide source of photosynthetic oxygen rates a paragraph, but four-carbon acid photosynthesis is not mentioned. Sigillarias (p. 597) are indicated as persisting to the present.

Chemcial compounds are mentioned, but structural formulas are rare, and reactions are almost never shown. The following parenthetical comment is an example: "All isoprene derivatives . . . . are synthesized by way of mevalonic acid and acetyl-CoA," but that is all there is about mevalonic acid, and even CoA is merely named as being associated with the Krebs cycle.

In spite of its rather high price, the new Strasburger is not physically impressive. The hard cover is plastic-coated paper, and the pages are so thin that print shows through. The scant three dozen or so electron micrographs, gray-on-gray, lack contrast. Even in the engravings, as on pages 705 and 714, lines are run together or lost.

Although the translators state that they regard themselves "as translators rather than as editors or commentators," they have added many up-to-date bibliographic references, which might be used to fill the omissions in the text. Even so, the value of the book as a reference work or as a textbook is seriously reduced by its omission of current ideas. Finding that an old, once-illustrious friend has gone seedy is sad; having to report the fact is sadder. Contemporary students, I fear, will find Strasburger's 19th century flavor makes heavy reading, and unless they supplement the text with voluminous additional material, they will have an unfortunate impression of present-day plant study.

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