
The major factor in the choice of an introductory entomology textbook is the audience. Introductory courses are commonly taught for non-biologists, agriculture majors, entomology/zoolgy majors or a combination of these. Fundamentals of Entomology would be best-suited for students in the latter two categories, although it has some weaknesses as do all other available introductory texts. This edition is primarily an update of the second edition without major changes.

Contents: The Arthropod Plan (segmentation, tagmosis, exoskeleton, size, numbers, classes); The Insect Externally (tagmata); The Insect Internally (systems); Development And Specialization (embryology and post embryonic development, endocrine and evocine systems); Ecology (environments, population dynamics); Behavior (rhythm, feeding, mating, oviposition, orientation, migration, protective behavior, coloration, mimicry); From Solitary to Social (Isoptera, Hymenoptera); Parasitism By Insects (parasites to vertebrates and invertebrates, social parasites); Insects, Plants, And Humans (beneficial and detrimental aspects, pest management); Classification (synopses and keys to the orders, keys to the "common" families of adult and immature insects, tables listing major habitats and diets of common families of Hemiptera, Neuroptera, Coleoptera, Hymenoptera, and Diptera); Making An Insect Collection; Glossary (ca. 250 entries); Selected References (ca. 300); Index. Each of the chapters except the last two is followed by a list of study questions.

The author's goal was, "to write an introductory text that would condense the diversity of insects and their influence upon the ecosystem into a basic plan." Probably no two entomologists would agree on the results of any such attempt. I believe Elzinga has done an adequate job of accomplishing his goal, and the book compares favorably with others in its category. Some of the strong points of the book are the organization, some excellent illustrations and photographs (e.g., Melanoplus differentialis parasitized by a larval nemestrinid [Fig. 228, p. 256] and the scanning electronmicrograph of Pthirus pubis attached to a human pubic hair [Fig. 219, p. 248]), and the study questions which students should find helpful. The attempt to include material on classification of both adults and larvae of common families is also admirable, although the inclusion of keys to the common families may give the novice a false sense of security since common is a relative term, and there are many common insects which would not be represented in the keys. One might also question the inclusion of some of the families (e.g., Strobilidae and Nycteribiidae in the adult Diptera key and Blepharoceridae in the larval Diptera key).

A weakness of the book is that beginning students would likely have a difficult time understanding the discussions of some of the topics without previous training (e.g., the discussion of the evolution of social insects on p. 216). In a number of cases information is given without sufficient detail (the structures of α-ecdysone and 20-hydroxyecdysone are given with no explanation that α-ecdysone is a largely inactive form which is hydroxylated to the active 20-hydroxyecdysone; there is mention of r and K strategies on p. 168 without adequate definition, and their ecological characteristics are only given much later in the book). There are several errors of fact. The discussion of the variants of juvenile hormone which are mainly found in ferns and gymnosperms (p. 196) is more descriptive of phytoc Ocysteroids. Insects have antimicrobial peptides and lysozymes but not antibody systems as stated on p. 256. There are incorrect plural forms (gastric caeca, p. 69; encephalids, p. 283), outdated terminology (Arborovirus, p. 280), and the usual typographical errors (Scapelia, p. 265, prothoracictropic, p. 128, falsewire worms, p. 378). Overall, this book is a reasonable choice as a text for an introductory course.

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