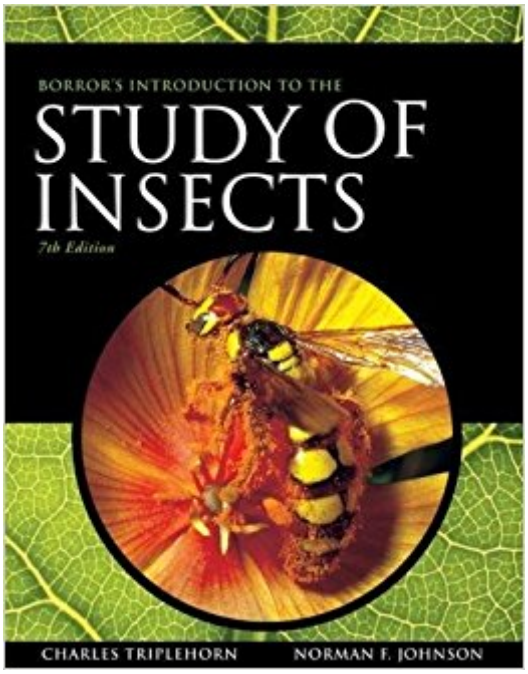
Borror And DeLong's Introduction To The Study Of Insects



Synopsis

First published in the 1950s by the late James Borror and Dwight Moore DeLong, this classic text, INTRODUCTION TO THE STUDY OF INSECTS 7TH EDITION, combines the study of insects with clear and current insect identification. In this new edition (available in a bundle with InfoTrac College Edition), Johnson and Triplehorn supply updated information on phylogeny using systematics while adding a greater emphasis on insect biology and evolution. This greater concentration on insect systematics necessitated many content changes including an added chapter for a newly described order, the Mantophasmatodea, as well as a new chapter reclassifying Order Homoptera (Cicadas, Hoppers, Aphids and Hoppers Psyllids) into Order Hemiptera. Nearly every order has been modified, sometimes substantially, to reflect new discoveries and scientific hypotheses. Many new families have been added throughout the book, some reflecting revised classifications, but many are the result of the discovery of new groups within the United States and Canada, particularly from the New World tropics. These include the families Platystictidae (Odonata), Mackenziellidae (Collembola), Mantoididae (Mantodea), and Fauriellidae (Thysanoptera). The results of molecular analyses are beginning to substantively contribute to the development of a robust and predictive classification. Thus, the phylogeny of insects has changed drastically from the last edition due to the incorporation of molecular data. The most conspicuous of these changes, for example, is the recognition that the order Strepsiptera is most closely related to the true flies (Diptera), rather than to the Coleoptera. Since it was first published in the 1950s, this text has played an important role in understanding and preserving the diversity of the insect world. This title’s long history, coupled with the authors’ passion for currency and accuracy, make it once again the classic text and reference.

Book Information

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Customer Reviews

1. Insects and Their Ways. 2. The Anatomy, Physiology, and Development of Insects. 3. Systematics, Nomenclature, and Identification. 4. Behavior and Ecology. 5. Phylum Arthropoda. 6. Hexapoda. 7. The Entognathous Hexapods: Protura, Collembola, Diplura. 8. The Apterygote Insects: Microcoryphia and Thysanura. 9. Order Ephemeroptera: Mayflies. 10. Order Odonata: Dragonflies and Damselflies. 11. Order Orthoptera: Grasshoppers, Crickets, and Katydids. 12. Order Phasmatodea: Walkingsticks and Leaf Insects. 13. Order Grylloblattodea: Rockcrawlers. 14. Order Mantophasmatodea. 15. Order Dermaptera: Earwigs. 16. Order Plecoptera: Stoneflies. 17. Order Embiidina: Webspinners. 18. Order Zoraptera: Zorapterans, Angel Insects. 19. Order Isoptera: Termites. 20. Order Mantodea: Mantids. 21. Order Blattodea: Cockroaches. 22. Order Hemiptera: True Bugs, Cicadas, Hoppers, Psyllids, Whiteflies, Aphids, and Scale Insects. 23. Order Thysanoptera: Thrips. 24. Order Psocoptera: Psocids. 25. Order Phthiraptera: Lice. 26. Order Coleoptera: Beetles. 27. Order Neuroptera: Alderflies, Dobsonflies, Fishflies, Snakeflies, Lacewings, Antlions, and Owlflies. 28. Order Hymenoptera: Sawflies, Parasitic Wasps, Ants, Wasps, and Bees. 29. Order Trichoptera: Caddisflies. 30. Order Lepidoptera: Butterflies and Moths. 31. Order Siphonaptera: Fleas. 32. Order Mecoptera: Scorpionflies and Hangingflies. 33. Order Strepsiptera: Twisted-Winged Parasites. 34. Order Diptera: Flies. 35. Collecting, Preserving, and Studying Insects.

Norman F. Johnson is a professor of biology at Ohio State University and curator of the Ohio State University insect collection. His research interests include the systematics of parasitic Hymenoptera and in particular the Proctotrupoidea. His focus to date has been on the Scelionidae, a speciose group important as biological control agents of their hosts. In 1992 he assumed the position of director of the OSU Insect Collection.Charles A. Triplehorn is emeritus faculty at Ohio State University and his broad interests include systematics and biogeography of Coleoptera. His research is primarily on the large family Tenebrionidae, especially those of the Western Hemisphere. Since his retirement from Ohio State in 1992, he has concentrated on two major projects: a revision of the genus Eleodes and of the Neotropical Diaperini. Triplehorn is the former president of the American Entomological Society.

"Borror and Delong's Introduction to the Study of Insects, 7th Edition" by Charles Triplehorn & Norman Johnson, Thompson-Brooks/Cole, Belmont, CA 2005. ISBN 0-03-096835-6. HC 864 pgs. 10 1/4" x 8 Ãƒâ Ã Â " x 1 Ãƒâ Ã Â " format on semi-glossy media to accommodate hundreds of black & white insect photographs and exacting images & sketches of insects with emphasis on detailed wing venation & discrete anatomical organ structures accompanied by short concise explanatory captions to help decipher the documented systematics. providing a wealth of informative detail on subject's organs photographed. In all, there are 35 chapters, the last devoted to collecting, preserving, and studying insects.The authors inform us this 7th Edition, "An Introduction to the Study of Insects", was based on prior editions by Borror & Delong's text, used in North America by entomologists and biologists for over 50 years. The authors, both renowned biologists specializing in entomology from Ohio Sate University have greatly added to this compendium by focusing primarily on updating the area of Systematics (nomenclature) that includes the most recent data on insect evolution: - this area of expertise requires keen knowledge of Latin and Greek (for the authors) on nomenclature.Herein is provided an overview of insect behavior: - a discussion of their anatomy, physiology, & development; an overview of insect systematics, classification, nomenclature & identification, and finally descriptions of insects from the phylum Arthropoda to the Hexapoda and 26 Orders along with the distinguishing characteristics of many, many individual Genus species to be precisely characterized. For the uninitiated student, individual insects identification goes far beyond size, color, shape, and gross markings, but delves into the microscopic anatomy of appendages, mouth & head parts, sexual organs, detailed descriptions of their molting's, metamorphosis, generation frequency, migration, & distribution (ecology). Most recently, DNA studies are being used to determine evolutionary origins.In the case of Order Lepidoptera (Butterflies & Moths), the various Families within the order uses wing venation as a primary key, and with the myriads of these 4-winged members we are not or should not be surprised to find a plethora of pages of wing venation keys (precise drawings), depicting the individual vasculature all regularly numbered. We might suppose the 2-winged Diptera to be more quickly identified - and perhaps this is often the case.If you fashion yourself to be a budding or learned entomologist, this is the book for you to have: - too big for a field manual but just right as a desk reference to the bugs, beetles, spiders, flies, ants, etc. Highly recommended.finis

The bible of entomology I go back to often! This book will be on my shelf for years to come.

Everything about insects is fascinating, and this book gives a comprehensive overview of their

behavior, anatomy, and classification. For non-experts in entomology, such as this reviewer, the book provides the necessary background for further study. Topics such as the molecular genetics of insects and the genetic engineering of insects are not covered, but there are plenty of other books that treat these topics in detail. Only the first four chapters were read by this reviewer, but only chapter four will be discussed here.Early on in chapter four, the authors dispel the prejudice that since insects have small nervous systems and have short life spans, they are not automatons and can exhibit a remarkable degree of spontaneity. Insects can adjust to the circumstances of their environment and the organization of their activities can be extremely complex. What is most interesting about their discussion of insect behavior is the emphasis on how it depends on the internal state of the insect, and not only its nervous system but also its internal organs.The authors view the basic unit of behavior in an insect as being a `reflex'. A receptor that is stimulated will cause a particular group of insects to contract, which is observed as a body movement of the insect. A `releaser' is the stimulus that actually triggers a specific collection of movements. This results in what is called a `fixed-action pattern', which, as the name implies, occurs the same way every time it occurs. To be contrasted with these are the `modal-action patterns' that adapt to changes in the body position of the insect relative to external objects. A `central pattern generator' the authors write, is responsible for the leg and wing movements of insects, and allows them to navigate in noisy environments. All of these considerations of insect behavior are interesting in themselves, but even more so considering that they are being applied to unexpected fields such as artificial intelligence. Indeed, the learning abilities of insects are being emulated in various machines in the last few years, with good success. And even, a new area of artificial intelligence called `swarm intelligence' has arisen that is based on the behavior of ants.Along these same lines, the authors discuss four categories that he believes are useful in characterizing insect behavior. These categories clarify to a large extent the difference between `preprogrammed' and modified behaviors. The first of these are called `closed instincts', which are fixed programs. The second is more flexible and are called `open instincts', where experience feeds back and changes the program. The third consists of `restricted learning' and is the analog of classical conditioning. The last one is `flexible learning', wherein experience can result in significant changes in the behavior pattern. All of these categories have found expression in machines, as well as the types of learning that the authors believe exists in insects: habituation, and associative, latent, and insight learning. The authors admit though that insight learning, where familiarity with relationships among (neutral) stimuli is obtained, has not been established without controversy in insects. Honey bees though they quote as examples of insects that can engage in insight learning. Very interesting also in this discussion of

the behavior of insects is the use of mathematical models. As expected intuitively, these models involve control theory, but even more "exotic" approaches such as optimality theory and dynamic stochastic modeling. Optimality theory is used with the assumption that insects evaluate their state variables and engage in decision-making that optimizes their gain according to some criterion.Needless to say the learning abilities and behavior of insects is fascinating, and no doubt there are many surprises waiting for future entomologists. Their research efforts will not only assist in the better understanding of the most important representatives of the animal kingdom but they will be immediately used by those who are attempting to emulate this "primitive" intelligence of insects in machines.

This book was a required text for my graduate level insect classification course. As it was required for me and I did not buy it just for fun as some reviewers, perhaps I take a more discerning view of it. I found the first few overview chapters to be well written and interesting. However, the chapters on each insect order with the keys had many many errors that led to much frustration and disbelief while I was working towards ID'ing my insect collection. Many places give the wrong page number for family info, many family descriptions are vague at best, and they present many terms in the dichotomous keys that they never define or describe in the book. So there were many couplets where I was left wondering "wtf is an antenna comb???". I don't know how all of the hobby bug people are finding it to be so great as with my educational background I find the text impossible at times. But I tend to despise dichotomous keys and prefer lucid keys anyway. Bottom line is it's a necessary text and very inclusive, just not always straight-forward, correct, or easy to understand.

I paid for expedited shipping, but still had to wait over a Week for the book to arrive. Other than that, excellent.

Truly a must have for insect identification. If you can't find it I here, you will be close enough to get it online quickly. No more blind internet searches for hours.

Book received in good condition

I wanted this book. This book is helpful to students who key out insects. Awesome book.

Borror and DeLong's Introduction to the Study of Insects By Leslie DeLong - General and Oral

Pathology for Dental Hygienists (DeLong, General and Oral Pathology for Dental Hygienists): 1st (first) Edition Eating Insects. Eating Insects as Food. Edible Insects and Bugs, Insect Breeding, Most Popular Insects to Eat, Cooking Ideas, Restaurants and Where to General and Oral Pathology for the Dental Hygienist (DeLong, General and Oral Pathology for Dental Hygienists) General and Oral Pathology for the Dental Hygienist 2nd (second) Edition by DeLong BS MHA, Leslie, Burkhart BSDH MEd EdD, Nancy published by Lippincott Williams & Wilkins (2012) Illustrated Book of Insects: A Comprehensive Color Guide to the Lives and Habitats of the Insects of the World An Instant Guide to Insects: The Most Familiar Species of North American Insects Described and Illustrated in Color 12 Australian Insects! Kids Book About Insects: Fun Animal Facts Picture Book for Kids with Native Wildlife Photos (KidÃ¢â ¬â„¢s Aussie Flora and Fauna Series 4) Insects: A Guide to Familiar American Insects (Golden Guides) Insects, a Guide to Familiar American Insects (225 Species in Full Color, a Golden Nature Guide) Insects: A Guide to Familiar American Insects Introduction to the Study of Insects, 6th Edition Introduction to Forest and Shade Tree Insects Bugs Rule!: An Introduction to the World of Insects 100 Day Vocabulary Word Devotional: Daily Bible Study & Guide: Learn a New Word, Read a Bible Verse or Passage, Study a Devotion and Apply The Lesson To ... Life: Daily Bible Study & Devotional Guide Pillbugs and Other Isopods: Cultivating Vivarium Clean-Up Crews and Feeders for Dart Frogs, Arachnids, and Insects Firefly Encyclopedia of the Vivarium: Keeping Amphibians, Reptiles, and Insects, Spiders and other Invertebrates in Terraria, Aquaterraria, and Aquaria Diseases and Pests of Mushrooms and Other Fungi - With Chapters on Disease, Insects, Sanitation and Pest Control The Natural History of Carolina, Florida and the Bahama Islands: Containing the Figures of Birds, Beasts, Fishes, Serpents, Insects, and Plants: ... or Very Incorrectly...; Volume V2 C1 Insects and Wildlife: Arthropods and their Relationships with Wild Vertebrate Animals