

# Preface

**A**n *Introduction to the Study of Insects*: this is the seventh edition of a textbook that has been widely used in entomology classes in North America over more than 50 years. Its value has been demonstrated by the fact that it retains a prominent place on the bookshelves of professional entomologists, long after their first exposure to insects in class. Because the book has been widely known by the names of its first two authors, we are adding their names to the title. The contributions of these two men, in both style and substance, will still be immediately apparent to knowledgeable readers even though the formal authorship has now passed on to subsequent generations. We have prepared this new edition in recognition of the important role the text has played in the education of biologists of all specializations and in the hope that it can continue to play that role in the future. NFJ clearly recalls the nights and weekends spent at Cranberry Lake Biological Station in the Adirondack Mountains of New York, poring over this book in the excitement of new discoveries and with an ever-growing appreciation for the diversity of insects. CAT, too, was greatly influenced by Borror and DeLong, but in a more direct way. He took undergraduate courses from both of them and quickly abandoned his original goals in herpetology when exposed to "the wonderful world of insects" in a beginning entomology course taught by Borror.

In this new edition we have concentrated our attention on the subject of insect systematics. The most obvious changes in content are the addition of a chapter for a newly described order, the Mantophasmatodea, and the subordination of the Homoptera into an enlarged concept of the order Hemiptera. Beyond that, though, the classification of nearly every order has been modified, sometimes substantially, to reflect new discoveries and scientific hypotheses. The chapter on beetles has been updated considerably to reflect the changes in our understanding of the diversity and phylogeny of Coleoptera. Many new families have been added throughout the book, some reflecting revised classifications, but many 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), to name just a few. Changes in classifications also have been brought about by the widespread adoption of the methods of phylogenetic systematics and their application to a new source of information on insect relationships, molecular sequence data. Although these new data will not help the beginning student to identify specimens, the results of molecular analyses are beginning to substantively contribute to the development of a robust and predictive classification. Thus, our best hypotheses of the phylogeny of insects has changed rather drastically from the last edition, incorporating molecular data. The most conspicuous change is the recognition that the order Strepsiptera is most closely related to the true flies (Diptera), rather than to the Coleoptera.

As we turn to focus our efforts on the issues of insect systematics and evolution, a better appreciation for the magnitude of the diversity of life and Earth as well as the immediate and long-term threats to that same diversity have become important societal issues. It is our hope that this text will continue to have an important role to play in understanding and preserving this diversity for the benefit of all.

Donald Joyce Borror was the senior author on the first six editions of this book. He died before the last edition was printed. He was unsurpassed in his ability to construct keys for the identification of insects and was constantly modifying them to make certain that the user would arrive at the correct taxon. His discussion of the various families, containing facts gleaned from the literature, is amazing, considering that it was done before computers were available. Furthermore, the entire manuscripts were typed by Borror on an old manual typewriter. He was well-versed in Greek and Latin and also knew shorthand. His influence was missed in preparation of this edition, and we hope that it would have met with his approval.

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