

BOOK REVIEW

Insect Physiology and Biochemistry

James L. Nation

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Written in a straightforward and highly readable style, *Insect Physiology and Biochemistry* is the hallmark of an experienced teacher who has dedicated 40 years of his career to teaching insect physiology and biochemistry.

In 15 chapters the author presents the principles and fundamentals of the major topics in insect physiology and biochemistry following a logical sequence. This involves a detailed outline of structure with physiological function and the underlying biochemical processes that mediate the latter. For each topic, the relevant terminology is well defined and examples describing various principles are drawn from different insect taxa and illustrated using clear and concise diagrams or models.

The chapters are also organised in a logical fashion that follows the life history and physiological processes in insects. The initial chapters progress from a general description of insect embryogenesis, digestion, nutrition, and integument, to in-depth discussions on hormonal control of development, and intermediary metabolism. Later chapters cover neuroanatomy, neurophysiology, muscular, sensory and

circulatory systems, while the final chapters provide a wealth of information on insect respiration, excretion, pheromones and reproduction. Where descriptions are brief, references to detailed information are provided in the text. The lists of up-to-date general references provided at the end of each chapter are a valuable resource for further reading on any of the topics. A handy appendix containing a brief introduction to the evolution of insects is provided for the general reader, followed by a comprehensive general index.

I particularly appreciated the author's effort to include, where appropriate under the various topics, a brief description of the practical applications of the knowledge within the context of insect pest management and control.

The principles, fundamentals and illustrative examples provided are certainly a major milestone as an update of previous textbooks on insect physiology and biochemistry. The title will be an excellent sourcebook for students in entomology and an invaluable reference for scientists in various disciplines of insect science and its application.

Baldwyn Torto, PhD
USDA/ARS Center for Medical, Agricultural &
Veterinary Entomology
1600/1700 SW 23rd Dr.
Gainesville, FL 32608 USA
btorto@gainesville.usda.ufl.edu