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BOOK REVIEW

CHRISTENSEN T.A. (ed.): METHODS IN INSECT SENSORY NEUROSCIENCE. CRC Press, Boca Raton, 2004, 435 pp. ISBN 0849320240. Price GBP 79.99, USD 139.95.

It is a great pleasure to review for EJE readers, Methods in insect sensory neuroscience, edited by my friend, the outstanding neurophysiologist, Dr. Thomas A. Christensen. The book is an overview of the methods currently available for studying insect senses (mechanosensation, audition, vision, chemoreception), information processing, multimodal signal integration and behaviour. The book is intended not only for established neuroscientists, but also newcomers who are considering new avenues of sensory neurophysiology research by using insects as models. Contributing authors, all prominent scientists within their fields, provided generously not only thorough descriptions of the respective methods, but also important methodological "tricks" and "tips", which seldom appear in mainstream publications. The book thus can serve as a guide for those who like to broaden their experimental approach by putting into practice some of newest neurobiological techniques, like brain imaging, single- and multi-unit electrophysiological recording, computer modelling, signal processing, robotics, behavioural observation and others. As Dr. T.A. Christensen says in the preface, the book also aims to facilitate much closer understanding and cooperation between experimentalists, engineers and theorists, and so facilitate much needed multidisciplinary synthesis of all aspects of sensory-information processing.

Insects are among the most diverse and adaptable organisms on Earth. Their success is due in large part to their well-developed sensory systems, which possess many unique physiological, biochemical and behavioural attributes. Investigations of insect sensory physiology promise important insights into the general principles of the neurobiology of sensation and perception. Understanding of the processes by which insects use their senses to explore the environment might also help develop novel strategies for reducing or eliminating insect disease vectors and agricultural pests. In addition, insect sensory systems represent excellent models for designing practical devices that humans can use to enhance their own sensory experiences.

The book "Methods in insect sensory neuroscience" is the 11th title published in the "Frontiers in neuroscience" series. Previous titles included "Methods for neural ensemble recordings", "Methods of behavioral analysis in neuroscience", "Neural prostheses for restoration of sensory and motor function", "Computational neuroscience", "Methods in pain research", "Motor neurobiology of the spinal cord", "Nicotinic receptors in the nervous system", "Methods in genomic neuroscience" and "Methods in chemosensory research". The book is recommended for experimental neuroscientists, neuroethologists, psychologists, computational biologists and geneticists.

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