

Physiology of Molluscs

Volume 2: A Collection of Selected Reviews

Here is an informative two-volume set that brings together some of the most important recent and unique developments in molluscan physiology. Volume 1 focuses on shell structure, mineralization, the dynamics of calcium transport, shell drilling, byssus proteins, locomotion, and reproduction. Volume 2 includes reviews on the neural mechanisms of learning, reproductive behavior, responses to environmental stress and hormones, and neurotransmitters.

With the rapid development of cutting-edge proteomic, molecular biological, and cellular imaging techniques, our understanding of molluscan physiology, specifically in the areas of neurobiology, reproductive biology, and shell formation, has increased exponentially over the last several years. With contributions from some of the world's leading experts in the field of molluscan physiology, this valuable two-volume set fills this void and will serve as an important resource for researchers, professors, and students.

Chapters report on a variety of recent developments and new understanding, including

- biology of byssus threads
- physiology of reproduction in cephalopods
- learning and memory of molluscs
- endocrine disruption in molluscs
- nautilus biology and behavior
- cephalopod locomotion
- neuronal circuitry in molluscs
- reproductive endocrinology
- bioactive peptides in molluscs

The reviews in these two volumes will make a significant contribution to our understanding not only of molluscan physiology but also the physiology of animals in general.

ABOUT THE EDITORS

Saber Saleuddin, PhD, is University Professor Emeritus of the Department of Biology at York University in Toronto, Ontario, Canada. Dr. Saleuddin received his doctorate in molluscan zoology from the University of Reading in the UK. After an NRC Research Fellowship at the University of Alberta, studying biomineralization in molluscs, he continued his research on biomineralization in the laboratory of Karl Wilbur at Duke University. Though offered a position at Duke, he accepted a faculty appointment at York University in Canada, where he taught for 37 years. The university recognized his outstanding contributions to research, teaching, and administration by honoring him as a University Professor. He has published more than a hundred papers in international journals and has co-edited three books on molluscan physiology. He served as co-editor of the *Canadian Journal of Zoology* for 18 years and was president of the Canadian Society of Zoologists, from which he was awarded the Distinguished Service Medal.

Spencer Mukai, PhD, is currently an instructor and technician at York University's Glendon College campus (Toronto, Ontario, Canada), where he is facilitating the implementation of a new biology undergraduate teaching laboratory. Dr. Mukai's research interests are in the neuroendocrine regulation of reproduction, growth, and osmoregulation in molluscs. He has published in and served as reviewer for national and international journals. After receiving his BSc and PhD from the Department of Biology, York University, Dr. Mukai has spent time as a postdoctoral fellow and research associate as well as an instructor at York University's Keele campus. He has demonstrated labs in invertebrate physiology and zoology for many years and has taught a variety of courses, including invertebrate physiology and endocrinology, animal physiology, environmental physiology, histology, human physiology, parasitology, introductory biology, ecology, and conservation biology.

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