

CONTENTS

1. Nervous Systems and Control of Behavior: An Introduction • 1
Charles D. Derby and Martin Thiel
2. Adaptive Trends in Malacostracan Brain Form and Function Related to Behavior • 11
David C. Sandeman, Matthes Kenning, and Steffen Harzsch
3. Sensory Systems of Crustaceans • 49
DeForest Mellon, Jr.
4. Peripheral Components of Crustacean Motor Systems • 85
Harold Atwood
5. Modulation of Crustacean Networks for Behavior • 114
Ronald Harris-Warrick
6. Synapses in Crustaceans • 147
Gregory Lnenicka
7. Adult Neurogenesis in Crustaceans • 175
Manfred Schmidt
8. Visual Systems of Crustaceans • 206
Raymon Glantz
9. Sensory Ecology of Vision in Crustaceans • 235
Thomas W. Cronin and Kathryn D. Feller
10. The Chemical Senses and Chemosensory Ecology of Crustaceans • 263
Charles D. Derby and Marc J. Weissburg

11. Mechanoreception in Crustaceans of the Pelagic Realm • 293
Petra H. Lenz and Daniel K. Hartline
12. The Geomagnetic Sense of Crustaceans and Its Use in Orientation
and Navigation • 321
Kenneth J. Lohmann and David A. Ernst
13. The Crustacean Stomatogastric Nervous System • 337
*Eve Marder, Marie L. Goeritz, Gabrielle J. Gutierrez, Albert Hamood, Ted Brookings,
Jonathan Caplan, Sara Haddad, Tilman Kispersky, and Sonal Shruti*
14. Neural Control of Posture and Walking in Crustaceans • 362
Daniel Cattaert
15. The Escape Behavior of Crayfish • 396
Franklin B. Krasne, William J. Heitler, and Donald H. Edwards
16. Biological Rhythms and Their Neural Basis in Crustaceans • 428
María Luisa Fanjul-Moles
17. Neurobiology of Social Status in Crustaceans • 457
Jens Herberholz
18. Path Integration, Vision, and Decision-Making in Fiddler Crabs • 484
Jochen Zeil and Jan M. Hemmi
19. Neurobiology of Learning and Memory of Crustaceans • 509
Daniel Tomsic and Héctor Maldonado
20. Crustaceans as Model Systems for Teaching Neuroscience: Past, Present,
and Future • 535
Bruce R. Johnson, Robert A. Wytenbach, and Ronald R. Hoy
- Index • 555