

Contents

Contributors vii

Preface ix

1 Social Influences on Circadian Rhythms and Sleep in Insects 1

Ada Eban-Rothschild and Guy Bloch

I. Introduction 2

II. The Circadian System of Insects 3

III. Social Influences on Circadian Rhythms in Insects 5

IV. Sleep 17

V. Social Influences on Sleep in Insects 22

VI. Conclusions 24

Acknowledgments 26

References 27

2 Interplay Between Social Experiences and the Genome: Epigenetic Consequences for Behavior 33

Frances A. Champagne

I. Epigenetic Mechanisms and Development 35

II. Epigenetic Impact of Social Experiences 38

III. Role of Epigenetics in Shaping Social Behavior 48

IV. Conclusions and Future Directions 50

Acknowledgment 50

References 51

3 One, Two, and Many—A Perspective on What Groups of *Drosophila melanogaster* Can Tell Us About Social Dynamics 59

Jonathan Schneider, Jade Atallah, and Joel D. Levine

I. Introduction 60

II. The Behavioral Effects of Social Context 62

III. System-Level and Network Approaches to Social Context	70
IV. Conclusion	74
References	76

4 The Circadian Clock of the Fly: A Neurogenetics Journey Through Time 79

Özge Özkaya and Ezio Rosato

I. Introduction	80
II. The Molecular Components of the Clock	82
III. Entrainment	99
IV. Which Clock Is It Anyway?	109
V. Conclusions	112
Acknowledgments	114
References	114

Index	125
-------	-----