

Contents

<i>Contributors</i>	viii
<i>Acknowledgments</i>	xi
<i>Preface</i>	xii
PART I PHYSIOLOGICAL AND LIFE HISTORY PERSPECTIVES	1
1 Insect Herbivore Outbreaks Viewed through a Physiological Framework: Insights from Orthoptera	3
<i>Spencer T. Behmer and Anthony Joern</i>	
2 The Dynamical Effects of Interactions between Inducible Plant Resistance and Food Limitation during Insect Outbreaks	30
<i>Karen C. Abbott</i>	
3 Immune Responses and Their Potential Role in Insect Outbreaks	47
<i>J. Gwen Shlichta and Angela M. Smilanich</i>	
4 The Role of Ecological Stoichiometry in Outbreaks of Insect Herbivores	71
<i>Eric M. Lind and Pedro Barbosa</i>	
PART II POPULATION DYNAMICS AND MULTISPECIES INTERACTIONS	89
5 Plant-Induced Responses and Herbivore Population Dynamics	91
<i>André Kessler, Katja Poveda, and Erik H. Poelman</i>	

Contents

6	Spatial Synchrony of Insect Outbreaks	113
	<i>Andrew M. Liebhold, Kyle J. Haynes, and Ottar N. Bjørnstad</i>	
7	What Tree-Ring Reconstruction Tells Us about Conifer Defoliator Outbreaks	126
	<i>Ann M. Lynch</i>	
8	Insect-Associated Microorganisms and Their Possible Role in Outbreaks	155
	<i>Yasmin J. Cardoza, Richard W. Hofstetter, and Fernando E. Vega</i>	
PART III	POPULATION, COMMUNITY, AND ECOSYSTEM ECOLOGY	175
9	Life History Traits and Host Plant Use in Defoliators and Bark Beetles: Implications for Population Dynamics	177
	<i>Julia Koricheva, Maartje J. Klapwijk, and Christer Björkman</i>	
10	The Ecological Consequences of Insect Outbreaks	197
	<i>Louie H. Yang</i>	
11	Insect Outbreaks in Tropical Forests: Patterns, Mechanisms, and Consequences	219
	<i>Lee A. Dyer, Walter P. Carson, and Egbert G. Leigh Jr.</i>	
12	Outbreaks and Ecosystem Services	246
	<i>Timothy D. Schowalter</i>	
PART IV	GENETICS AND EVOLUTION	267
13	Evidence for Outbreaks from the Fossil Record of Insect Herbivory	269
	<i>Conrad C. Labandeira</i>	
14	Implications of Host-Associated Differentiation in the Control of Pest Species	291
	<i>Raul F. Medina</i>	
PART V	APPLIED PERSPECTIVES	311
15	Disasters by Design: Outbreaks along Urban Gradients	313
	<i>Michael J. Raupp, Paula M. Shrewsbury, and Dan A. Herms</i>	

Contents

16	Resistance to Transgenic Crops and Pest Outbreaks	341
	<i>Bruce E. Tabashnik and Yves Carrière</i>	
17	Natural Enemies and Insect Outbreaks in Agriculture: A Landscape Perspective	355
	<i>J. Megan Woltz, Benjamin P. Werling, and Douglas A. Landis</i>	
18	Integrated Pest Management – Outbreaks Prevented, Delayed, or Facilitated?	371
	<i>Deborah K. Letourneau</i>	
19	Insect Invasions: Lessons from Biological Control of Weeds	395
	<i>Peter B. McEvoy, Fritzi S. Grevstad, and Shon S. Schooler</i>	
20	Assessing the Impact of Climate Change on Outbreak Potential	429
	<i>Maartje J. Klapwijk, Matthew P. Ayres, Andrea Battisti, and Stig Larsson</i>	
	<i>Subject Index</i>	451
	<i>Taxonomic Index</i>	459

Colour plate pages fall between pp. 196 and 197