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ACKNOWLEDGMENTS: -- REFERENCES -- THE INTRIGUING CASE OF STENISCADIA POLIOPHAEA (NOCTUIDAE): POTENT MOTH ENEMY OF YOUNG MAHOGANY TREES IN AMAZONIAN FORESTS -- ABSTRACT -- 1. DIVERSITY OF MOTHS AND TREES IN TROPICAL FORESTS: THE HERBIVORY NEXUS -- 2. STENISCADIA POLIOPHAEA: A NOCTUIDAE SPECIALIST HERBIVORE -- 3. IMPACT ON MAHOGANY JUVENILES AND POPULATIONS IN SOUTH AMERICA -- 4. ECOLOGICAL SIGNIFICANCE OF STENISCADIA POLIOPHAEA VS. HYPsipyla grandella -- 5. FOREST MANAGEMENT IMPLICATIONS OF STENISCADIA POLIOPHAEA -- 6. ARE ALL HERBIVORES EQUAL? MOTH HERBIVORES AND THE JANZEN-CONNELL HYPOTHESIS -- REFERENCES -- MICROLEPIDOPTERA OF ECONOMIC SIGNIFICANCE IN FRUIT PRODUCTION: CHALLENGES, CONSTRAINTS AND FUTURE PERSPECTIVES FOR INTEGRATED PEST MANAGEMENT -- ABSTRACT -- 1. INTRODUCTION -- MICROLEPIDOPTERA OF ECONOMIC SIGNIFICANCE IN FRUIT PRODUCTION -- INTEGRATED PEST MANAGEMENT AND INTEGRATED FRUIT PRODUCTION -- 2. INSECT FORECASTING MODELS -- 3. DAMAGE FUNCTIONS AND ECONOMIC INJURY LEVELS -- 4. BIO-RATIONAL INSECTICIDES -- Insect Growth Regulators (IGR's) -- Fenoxycarb -- Diflubenzuron -- Indoxacarb -- Tebufenozide -- Methoxyfenozide -- Emetectin-Benzothate -- Spinosad -- Azadirachtin -- Bio-Insecticides -- Bacillus thuringiensis -- CpGV - Granulovirus of Cydia pomonella -- Entomopathogenic Nematodes -- 5. SEMIOCHEMICALS AND PRINCIPAL STRATEGIES IN IPM -- Mating Disruption -- Attract and Kill -- Push and Pull -- CONCLUSIONS -- REFERENCES -- MOTH SEX-PHEROMONE PRODUCTION: BIOSYNTHETIC PATHWAYS, REGULATORY PHYSIOLOGY, INHIBITORY PROCESSES AND DISRUPTION -- ABSTRACT -- 1. INTRODUCTION: MOTH REPRODUCTIVE BEHAVIOR -- 2. FEMALE SEX-PHEROMONE PRODUCTION -- 3. MALE MOTH PHEROMONES -- 4. REGULATORY PHYSIOLOGY -- 4.1 PBAN/PK Neuropeptide Family -- 4.2. PBAN Gene and Expression Profiles -- 4.3. PBAN-Receptors and Receptor-Ligand Interactions -- 4.4. PBAN Mode of Action. 4.5. PBAN-Receptor Differential Gene Expression Profiles -- 5. INHIBITORY PROCESSES -- 5.1. Post-Mating Behavior and Role of Seminal Fluid Peptides from Male Accessory Glands -- 5.2. SP-Like Peptide and Its Receptor in Moths -- 6. POTENTIAL BIO-RATIONAL STRATEGIES TARGETING REPRODUCTIVE BEHAVIOR -- 6.1. Targeting the Biosynthetic Pathway -- 6.1. Regulatory Peptide Mimics and Antagonists -- 6.2. Silencing of Key Regulatory Genes -- 6.3. Utilizing Seminal Peptides to Augment the Sterile Insect Technique -- CONCLUSIONS -- ACKNOWLEDGMENTS -- REFERENCES -- HOST PLANT SELECTS FOR EGG SIZE IN THE MOTH LOBESIA BOTRANA: INTEGRATING REPRODUCTIVE AND ECOLOGICAL TRADE-OFFS IS NOT A SIMPLE MATTER -- ABSTRACT -- INTRODUCTION -- MATERIALS AND METHODS -- Insect Life History -- Field-Derived Populations of L. Botrana -- Laboratory Tests -- Heritability Estimates -- Data Analysis -- RESULTS -- Detailed Comparison between Vine (V1) and Daphne (D1) Populations (First Trial) -- Overall Comparison between Vine and

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Sommario/riassunto

This book presents topical research from across the globe in the study of the types, ecological significance and control methods of moths. Topics discussed include the moth *Steniscadia poliophaea* (Noctuidae) as a potent enemy of young mahogany trees in Amazonian forests; pest management of the microlepidoptera in fruit production and its economic significance; moth sex-pheromone production; the moth reproductive physiology and natural enemy pressure; sublethal effects of pesticides on exposed moths and their unexposed progen and the genetics of interactions among moths, their host plants and enemies in Crimean oak forests.
