



Complex and Time-Dependent Process. *Front. Physiol.* 10:603. doi: 10.3389/fphys.2019.00603" (B) Figure from "Giuseppe Bari, Andrea Scala, Vita Garzone, Rosanna Salvia, Cem Yalcin, Pasqua Vernile, Antonella Maria Aresta, Osvaldo Facini, Rita Baraldi, Sabino A. Bufo, Heiko Vogel, Enrico de Lillo, Francesca Rapparini and Patrizia Falabella (2019). Chemical Ecology of *Capnodis tenebrionis* (L.) (Coleoptera: Buprestidae): Behavioral and Biochemical Strategies for Intraspecific and Host Interactions. *Front. Physiol.* 10:604. doi: 10.3389/fphys.2019.00604" (C) Figure from "Rosanna Salvia, Annalisa Grimaldi, Rossana Girardello, Carmen Scieuzo, Andrea Scala, Sabino A. Bufo, Heiko Vogel and Patrizia Falabella (2019). *Aphidius ervi* Teratocytes Release Enolase and Fatty Acid Binding Protein Through Exosomal Vesicles. *Front. Physiol.* 10:715. doi: 10.3389/fphys.2019.00715" (D) Figure from "Mariangela Coppola, Gianfranco Diretto, Maria Cristina Digilio, Sheridan Lois Woo, Giovanni Giuliano, Donata Molisso, Francesco Pennacchio, Matteo Lorito and Rosa Rao (2019). Transcriptome and Metabolome Reprogramming in Tomato Plants by *Trichoderma harzianum* strain T22 Primes and Enhances Defense Responses Against Aphids. *Front. Physiol.* 10:745. doi: 10.3389/fphys.2019.00745" (E) Figure from "Rosanna Salvia, Marisa Nardiello, Carmen Scieuzo, Andrea Scala, Sabino A. Bufo, Asha Rao, Heiko Vogel and Patrizia Falabella (2018). Novel Factors of Viral Origin Inhibit TOR Pathway Gene Expression X. *Front. Physiol.* 9:1678. doi: 10.3389/fphys.2018.01678" (F) Figure from "Sébastien Cambier, Olivia Ginis, Sébastien J. M. Moreau, Philippe Gayral, Jack Hearn, Graham N. Stone, David Giron, Elisabeth Huguet and Jean-Michel Drezen (2019). Gall Wasp Transcriptomes Unravel Potential Effectors Involved in Molecular Dialogues With Oak and Rose. *Front. Physiol.* 10:926. doi: 10.3389/fphys.2019.00926" (G) Figure from "Mariangela Coppola, Gianfranco Diretto, Maria Cristina Digilio, Sheridan Lois Woo, Giovanni Giuliano, Donata Molisso, Francesco Pennacchio, Matteo Lorito and Rosa Rao (2019). Transcriptome and Metabolome Reprogramming in Tomato Plants by *Trichoderma harzianum* strain T22 Primes and Enhances Defense Responses Against Aphids. *Front. Physiol.* 10:745. doi: 10.3389/fphys.2019.00745" (H) Figure from "Zbigniew Adamski, Sabino A. Bufo, Szymon Chowański, Patrizia Falabella, Jan Lubawy, Paweł Marciniak, Joanna Pacholska-Bogalska, Rosanna Salvia, Laura Scrano, Małgorzata Słocińska, Marta Spochacz, Monika Szymczak, Arkadiusz Urbański, Karolina Walkowiak-Nowicka and Grzegorz Rosiński (2019). Beetles as Model Organisms in Physiological, Biomedical and Environmental Studies – A Review. *Front. Physiol.* 10:319. doi: 10.3389/fphys.2019.00319" (I) Figure from "Surapathrudu Kanakala, Svetlana Kontsedalov, Galina Lebedev and Murad Ghanim (2019). Plant-Mediated Silencing of the Whitefly *Bemisia tabaci* Cyclophilin B and Heat Shock Protein 70 Impairs Insect Development and Virus Transmission. *Front. Physiol.* 10:557. doi: 10.3389/fphys.2019.00557" (J) Figure from "Rosanna Salvia, Annalisa Grimaldi, Rossana Girardello, Carmen Scieuzo, Andrea Scala, Sabino A. Bufo, Heiko Vogel and Patrizia Falabella (2019). *Aphidius ervi* Teratocytes Release Enolase and Fatty Acid Binding Protein Through Exosomal Vesicles. *Front. Physiol.* 10:715. doi: 10.3389/fphys.2019.00715" (K) Figure from "Lin Quan Ge, Sui Zheng, Hao Tian Gu, Yong Kai Zhou, Ze Zhou, Qi Sheng Song and David Stanley (2019). Jinglyngmycin-Induced UDP-Glycosyltransferase 1-2-Like is a Positive Modulator of Fecundity and Population Growth in *Nilaparvata lugens* (Stål) (Hemiptera: Delphacidae). *Front. Physiol.* 10:747. doi: 10.3389/fphys.2019.00747" (L) Figure from "Zbigniew Adamski, Sabino A. Bufo, Szymon Chowański, Patrizia Falabella, Jan Lubawy, Paweł Marciniak, Joanna Pacholska-Bogalska, Rosanna Salvia, Laura Scrano, Małgorzata Słocińska, Marta Spochacz, Monika Szymczak, Arkadiusz Urbański, Karolina Walkowiak-Nowicka and Grzegorz Rosiński (2019). Beetles as Model Organisms in Physiological, Biomedical and Environmental Studies – A Review. *Front. Physiol.* 10:319. doi: 10.3389/fphys.2019.00319" (M) Figure from "Sébastien Cambier, Olivia Ginis, Sébastien J. M. Moreau, Philippe Gayral, Jack Hearn, Graham N. Stone, David Giron, Elisabeth Huguet and Jean-Michel Drezen (2019). Gall Wasp Transcriptomes Unravel Potential Effectors Involved in Molecular Dialogues With Oak and Rose. *Front. Physiol.* 10:926.

doi: 10.3389/fphys.2019.00926" (N) Figure from "Gianandrea Salerno, Francesca Frati, Eric Conti, Ezio Peri, Stefano Colazza and Antonino Cusumano (2019). Mating Status of an Herbivorous Stink Bug Female Affects the Emission of Oviposition-Induced Plant Volatiles Exploited by an Egg Parasitoid. *Front. Physiol.* 10:398. doi: 10.3389/fphys.2019.00398" (O) Figure from "Marisa Skaljic, Heiko Vogel, Natalie Wielsch, Sanja Mihajlovic and Andreas Vilcinskis (2019). Transmission of a Protease-Secreting Bacterial Symbiont Among Pea Aphids via Host Plants. *Front. Physiol.* 10:438. doi: 10.3389/fphys.2019.00438" (P) Figure from "Alberto Santini and Andrea Battisti (2019). Complex Insect–Pathogen Interactions in Tree Pandemics. *Front. Physiol.* 10:550. doi: 10.3389/fphys.2019.00550" (Q) Figure from "Surapathrudu Kanakala, Svetlana Kontsedalov, Galina Lebedev and Murad Ghanim (2019). Plant-Mediated Silencing of the Whitefly *Bemisia tabaci* Cyclophilin B and Heat Shock Protein 70 Impairs Insect Development and Virus Transmission. *Front. Physiol.* 10:557. doi: 10.3389/fphys.2019.00557" (R) Figure from "Rosanna Salvia, Marisa Nardiello, Carmen Scieuzo, Andrea Scala, Sabino A. Bufo, Asha Rao, Heiko Vogel and Patrizia Falabella (2018). Novel Factors of Viral Origin Inhibit TOR Pathway Gene Expression X. *Front. Physiol.* 9:1678. doi: 10.3389/fphys.2018.01678" (S) Figure from "Sébastien Cambier, Olivia Ginis, Sébastien J. M. Moreau, Philippe Gayral, Jack Hearn, Graham N. Stone, David Giron, Elisabeth Huguet and Jean-Michel Drezen (2019). Gall Wasp Transcriptomes Unravel Potential Effectors Involved in Molecular Dialogues With Oak and Rose. *Front. Physiol.* 10:926. doi: 10.3389/fphys.2019.00926" (T) Figure from "Gong Chen, Qi Su, Xiaobin Shi, Huipeng Pan, Xiaoguo Jiao and Youjun Zhang (2018). Persistently Transmitted Viruses Restrict the Transmission of Other Viruses by Affecting Their Vectors. *Front. Physiol.* 9:1348. doi: 10.3389/fphys.2018.01348" (U) Figure from "Giuseppe Bari, Andrea Scala, Vita Garzone, Rosanna Salvia, Cem Yalcin, Pasqua Vernile, Antonella Maria Aresta, Osvaldo Facini, Rita Baraldi, Sabino A. Bufo, Heiko Vogel, Enrico de Lillo, Francesca Rapparini and Patrizia Falabella (2019). Chemical Ecology of *Capnodis tenebrionis* (L.) (Coleoptera: Buprestidae): Behavioral and Biochemical Strategies for Intraspecific and Host Interactions. *Front. Physiol.* 10:604. doi: 10.3389/fphys.2019.00604" (V) Figure from "Giuseppe Bari, Andrea Scala, Vita Garzone, Rosanna Salvia, Cem Yalcin, Pasqua Vernile, Antonella Maria Aresta, Osvaldo Facini, Rita Baraldi, Sabino A. Bufo, Heiko Vogel, Enrico de Lillo, Francesca Rapparini and Patrizia Falabella (2019). Chemical Ecology of *Capnodis tenebrionis* (L.) (Coleoptera: Buprestidae): Behavioral and Biochemical Strategies for Intraspecific and Host Interactions. *Front. Physiol.* 10:604. doi: 10.3389/fphys.2019.00604" (W) Figure from "Surapathrudu Kanakala, Svetlana Kontsedalov, Galina Lebedev and Murad Ghanim (2019). Plant-Mediated Silencing of the Whitefly *Bemisia tabaci* Cyclophilin B and Heat Shock Protein 70 Impairs Insect Development and Virus Transmission. *Front. Physiol.* 10:557. doi: 10.3389/fphys.2019.00557" (X) Figure from "Gianandrea Salerno, Francesca Frati, Eric Conti, Ezio Peri, Stefano Colazza and Antonino Cusumano (2019). Mating Status of an Herbivorous Stink Bug Female Affects the Emission of Oviposition-Induced Plant Volatiles Exploited by an Egg Parasitoid. *Front. Physiol.* 10:398. doi: 10.3389/fphys.2019.00398"

This Brief explains and discusses honey and its production from a chemical perspective. It outlines why honey is a special and unique food, being produced by bees from the nectar of plants or from secretions of living parts of plants. Although glucose and fructose are the main constituents of honey, its overall composition is far from being simple or uniform: other substances such as organic acids, enzymes, or minerals are found in varying amounts. In this Brief, the author addresses the factors that influence the composition of the honey as well as the consequences that the composition has on properties such as color, crystallization, density, viscosity, or the refractive index. This Brief also



chemical senses in mediating intraspecific communication. Providing an up-to-date outline of the most recent advances in the field, it presents data from laboratory and wild species, ranging from invertebrates to vertebrates, from insects to humans. The book examines the structure, anatomy, electrophysiology, and molecular biology of pheromones. It discusses how chemical signals work on different mammalian and non-mammalian species and includes chapters on insects, *Drosophila*, honey bees, amphibians, mice, tigers, and cattle. It also explores the controversial topic of human pheromones. An essential reference for students and researchers in the field of pheromones, this is also an ideal resource for those working on behavioral phenotyping of animal models and persons interested in the biology/ecology of wild and domestic species.

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