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Titolo	The Molecular Biology of Photorhabdus Bacteria // edited by Richard H. French-Constant
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer , , 2017
ISBN	3-319-52715-0
Edizione	[1st ed. 2017.]
Descrizione fisica	1 online resource (X, 213 p.)
Collana	Current Topics in Microbiology and Immunology, , 2196-9965 ; ; 402
Disciplina	576.118
Soggetti	Pharmacology Bacteria Medical microbiology Agriculture Immunology Medical Microbiology
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references at the end of each chapters.
Nota di contenuto	Insecticidal Toxin complexes from Photorhabdus luminescens -- Identifying anti-host effectors in Photorhabdus -- Flagellar regulation and virulence in the entomopathogenic bacteria Xenorhabdus nematophila and Photorhabdus luminescens -- Natural products from Photorhabdus and other entomopathogenic bacteria -- The regulation of secondary metabolism in Photorhabdus -- Quorum sensing and LuxR solos in Photorhabdus -- Insect immunity to entomopathogenic nematodes and their mutualistic bacteria -- Photorhabdus asymbiotica as an insect and human pathogen -- A review of clinical cases of infection with Photorhabdus asymbiotica -- A Practical Guide to Recombineering in Photorhabdus and Xenorhabdus.
Sommario/riassunto	This book provides an essential update on the startling array of novel insecticidal toxins and drugs produced by the fascinating bacterium Photorhabdus. The respective chapters describe everything from the detailed molecular biology of the 'Toxin complexes' or Tc's to the complexity of insect immune response in relation to both the bacterium and its nematode vector. The volume covers both primary (toxin

production and regulation) and secondary (natural product synthesis and regulation) metabolism and emphasises the potential use of toxins and drugs in both agriculture and medicine. It also discusses in detail two totally novel quorum sensing mechanisms and the likely role of LuxR solos in sensing the presence of different bacterial hosts. Lastly, the book explores the unique case of *P. asymbiotica*, which seems to have evolved the ability to infect both insects and humans. This synthesis proves that *Photobacterium* truly does offer a 'gold mine' for the discovery of novel insecticidal proteins and novel natural products with potential uses in agriculture and medicine alike.
