
Contents

Preface	v
Contributors	ix
1 Exploring the Archaeal Virosphere by Metagenomics..... <i>Tifan Zhou, Yongjie Wang, David Prangishvili, and Mart Krupovic</i>	1
2 From Whole Genome Shotgun Sequencing to Viral Community Profiling: The ViromeScan Tool	23
<i>Simone Rampelli, Silvia Turroni, and Marco Candela</i>	
3 Freshwater Viral Metagenome Analyses Targeting dsDNA Viruses	29
<i>Kira Moon and Jang-Cheon Cho</i>	
4 Discovery and Identification of Viruses Infecting Oomycetes..... <i>Anna Poimala and Eeva Vainio</i>	45
5 Metagenomic Analyses of Viruses in the Orchid Mycorrhizal Interaction Using Improved Assemble Tools	67
<i>Kota Kambara, Hanako Shimura, Kaien Fujino, and Chikara Masuta</i>	
6 Determination of the Mycovirome of a Necrotrophic Fungus	83
<i>Ana Ruiz-Padilla, Julio L. Rodríguez-Romero, Davide Pacifico, Marco Chiapello, and María A. Ayllón</i>	
7 From Metagenomics to Ecogenomics: NGS-Based Approaches for Discovery of New Circular DNA Single-Stranded Viral Species	103
<i>Enrique A. Guevara-Rivera, Edgar A. Rodríguez-Negrete, Rosa Lozano-Durán, Eduardo R. Bejarano, Alan M. Torres-Calderón, Ángela P. Arce-Leal, Norma E. Leyva-López, and Jesús Méndez-Lozano</i>	
8 SARS-CoV-2 Detection and Genome Sequencing in Urban Wastewaters	119
<i>Enric Cuevas-Ferrando, Gloria Sánchez, and Alba Pérez-Cataluña</i>	
9 Enrichment, Sequencing, and Identification of DNA Bacteriophages from Fecal Samples..... <i>Quentin Lamy-Besnier and Julian R. Garneau</i>	133
10 Exploration and Retrieval of Virus-Related Molecular Data Using ExTaxsI: The Monkeypox Use Case..... <i>Alberto Brusati, Giulia Agostinetto, Antonia Bruno, Maurizio Casiraghi, Dario Pescini, Anna Sandionigi, and Bachir Balech</i>	145
11 Optimized Recovery of Viral DNA and RNA from Blood Plasma for Viral Metagenomics..... <i>María Cebriá-Mendoza, Wladimiro Díaz, Rafael Sanjuán, and José M. Cuevas</i>	155
12 Targeted Whole Genome Sequencing of the Capripoxvirus Genome from Clinical Tissue Samples and Lyophilized Vaccine Batches	165
<i>Elisabeth Mathijs and Frank Vandenbussche</i>	

13	Viromes of Plants Determined by High-Throughput Sequencing of Virus-Derived siRNAs	179
	<i>Nikoletta Jaksa-Czotter, Zsuzsanna Nagyné Galbács, Almash Jahan, Emese Demián, and Éva Várallyay</i>	
14	Validation of High-Throughput Sequencing (HTS) for Routine Detection of Citrus Viruses and Viroids	199
	<i>Rachelle Bester and Hans J. Maree</i>	
15	Identification of DNA Viruses in Ancient DNA from Herbarium Samples	221
	<i>Gianluca Grasso, Silvia Rotunno, Régis Debruyne, Lucie Bittner, Laura Miozzi, Roland Marmeisse, and Valeria Bianciotto</i>	
16	The Oxford Nanopore MinION as a Versatile Technology for the Diagnosis and Characterization of Emerging Plant Viruses	235
	<i>Giulia Tarquini, Simone Maestri, Paolo Ermacora, and Marta Martini</i>	
17	Detection of Plant Viruses Using Nanopore Sequencing Based Metagenomic Approach	251
	<i>Anja Pecman, Nataša Mehle, and Denis Kutnjak</i>	
18	Application of Nanopore-Based Sequencing to Identify Virus Infections in Woody Plants	267
	<i>Serafina Serena Amoia, Michela Chiumenti, and Angelantonio Minafra</i>	
19	Distribution of Small RNAs Along Transposable Elements in <i>Vitis vinifera</i> During Somatic Embryogenesis	279
	<i>Silvia Rotunno, Paola Leonetti, Gyorgy Szittyá, and Vitantonio Pantaleo</i>	
	<i>Index</i>	287