

Contents

List of Contributors	vii	
Preface	ix	
1. Nature and Evolution of Early Replicons <i>Peter Schuster and Peter F. Stadler</i>	1	
2. Virus Origins: Conjoined RNS Genomes as Precursors to DNA Genomes <i>Hugh D. Robertson and Olivia D. Neel</i>	25	
3. Viroids in Plants: Shadows and Footprints of a Primitive RNA <i>J. S. Semancik and N. Duran-Vila</i>	37	
4. Mutation, Competition and Selection as Measured with Small RNA Molecules <i>Christof K. Biebricher</i>	65	
5. The Fidelity of Cellular and Viral Polymerases and its Manipulation for Hypermutation <i>Andreas Meyerhans and Jean-Pierre Vartanian</i>	87	
6. Drift and Conservatism in RNA Virus Evolution: Are They Adapting or Merely Changing? <i>Monica Sala and Simon Wain-Hobson</i>	115	
7. Viral Quasispecies and Fitness Variations <i>Esteban Domingo, Cristina Escarmís, Luis Menéndez-Arias and John J. Holland</i>	141	
8. The Retroid Agents: Disease, Function and Evolution <i>Marcella A. McClure</i>	163	
9. Dynamics of HIV Pathogenesis and Treatment <i>Dominik Wodarz and Martin A. Nowak</i>	197	
10. Interplay Between Experiment and Theory in Development of a Working Model for HIV-1 Population Dynamics <i>I. M. Rouzine and J. M. Coffin</i>	225	
11. Plant Virus Evolution: Past, Present and Future <i>A. J. Gibbs, P. L. Keese, M. J. Gibbs and F. García-Arenal</i>	263	
12. Genetics, Pathogenesis and Evolution of Picornaviruses <i>Matthias Gromeier, Eckard Wimmer and Alexander E. Gorbalenya</i>	287	
13. The Impact of Rapid Evolution of the Hepatitis Viruses <i>Juan I. Esteban, María Martell, William F. Carman and Jordi Gómez</i>	345	
14. Antigenic Variation in Influenza Viruses <i>Robert G. Webster</i>	377	
15. DNA Virus Contribution to Host Evolution <i>Luis P. Villarreal</i>	391	
16. Parvovirus Variation and Evolution <i>Colin R. Parrish and Uwe Truyen</i>	421	
17. The Molecular Evolutionary History of the Herpesviruses <i>Duncan J. McGeoch and Andrew J. Davison</i>	441	
18. African Swine Fever Virus: A Missing Link Between Poxviruses and Iridoviruses? <i>José Salas, María L. Salas and Eladio Viñuela</i>	467	
Index	481	