

Contents

<i>Preface</i>	page xi
<i>Contributors</i>	xv

PART I Theoretical Considerations on the Evolution of Bacterial Pathogens

1 Genomes in Motion: Gene Transfer as a Catalyst for Genome Change	3
<i>Jeffrey G. Lawrence and Heather Hendrickson</i>	
2 Bacterial Recombination in vivo	23
<i>Xavier Didelot and Daniel Falush</i>	

PART II Mobile Genetic Elements in Bacterial Evolution

3 Phage-bacterium Co-evolution and Its Implication for Bacterial Pathogenesis	49
<i>Harald Brüssow</i>	
4 The Role of Bacteriophages in the Generation and Spread of Bacterial Pathogens	79
<i>Roger W. Hendrix and Sherwood R. Casjens</i>	
5 Genomic Islands in the Bacterial Chromosome – Paradigms of Evolution in Quantum Leaps	113
<i>Tobias Ölschläger and Jörg Hacker</i>	

PART III Paradigms of Bacterial Evolution

6 Genomic Islands in Plant-pathogenic Bacteria	137
<i>Dawn L. Arnold and Robert W. Jackson</i>	

7 Prophage Contribution to <i>Salmonella</i> Virulence and Diversity	159
<i>Sébastien Lemire, Nara Figueroa-Bossi, and Lionello Bossi</i>	
8 Pathogenic <i>Yersinia</i>: Stepwise Gain of Virulence due to Sequential Acquisition of Mobile Genetic Elements	193
<i>Elisabeth Carniel</i>	
9 Genomic or Pathogenicity Islands in <i>Streptococcus pneumoniae</i>	217
<i>Barbara Alhiger, Christel Blomberg, Jessica Dagerhamn, Staffan Normark, and Birgitta Henriques-Normark</i>	
10 The Mobile Genetic Elements of <i>Staphylococcus aureus</i>	237
<i>Richard P. Novick</i>	
11 Influence of Human Lifestyle on Dissemination of Transferable Elements	273
<i>Wolfgang Witte</i>	
PART IV Interkingdom Transfer and Endosymbiosis	
12 Eukaryotic Gene Transfer: Adaptation and Replacements	293
<i>Jan O. Andersson</i>	
13 Lessons in Evolution from Genome Reduction in Endosymbionts	317
<i>Andrés Moya and Amparo Latorre</i>	
Index	335