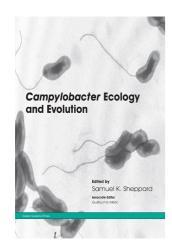
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Campylobacter Ecology and Evolution

Edited by: Samuel K. Sheppard

Associate Editor: Guillaume Méric

Medical Microbiology and Infectious Diseases, Swansea University, Swansea. UK

xvi + 360 (plus colour plates) pp, Hardback: April 2014, ISBN 978-1-908230-36-2 £159, \$319

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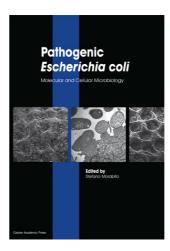
In this book, internationally recognised experts critically review and provide novel insights into important aspects *Campylobacter* research. The book is divided into four sections: Mechanisms of evolution; Adaptations to host colonisation; Molecular epidemiology; and Ecology in poultry. The topics covered range from the mechanisms of evolution through the processes of host colonisation and within host adaptation, and epidemiology to considerations of their broader biochemical and ecological properties. An important resource summarising our current knowledge of *Campylobacter* ecology and evolution, this book is essential reading for all researchers working with *Campylobacter* and related organisms.

Contents

• Chapter 1: A Candidate Hopeful Monster in the Genus Campylobacter. • Chapter 2: Learning About Recombination in Campylobacter Chapter 3: Within-host Evolution of Campylobacter jejuni. • Chapter 4: Concerted Evolution in Campylobacter jejuni and Campylobacter coli • Chapter 5: Genome and Transcriptome Evolution in the Genus Campylobacter • Chapter 6: Repetitive DNA: A Major Source of Genetic Diversity in Campylobacter Populations? • Chapter 7: Campylobacter Strategies for Colonizing the Host Gastrointestinal Tract • Chapter 8: The Intricate Relationship Between Campylobacter and Mucus • Chapter 9: Campylobacter Association with the Human Host • Chapter 10: Siderophore-mediated Iron Acquisition for Campylobacter Infection • Chapter 11: Genetic Mechanisms Involved in Campylobacter jejuni Survival Under Oxidative Stress Conditions • Chapter 12: Oxidative Stress Survival During Campylobacter Transmission and Infection • Chapter 13: The Role of the Flagellum in Campylobacter jejuni Colonization and Disease • Chapter 14: Does Biofilm Formation Aid Colonisation and Infection in Campylobacter? • Chapter 15: Alternative Infection Models for Campylobacter jejuni • Chapter 16: Exploring the Population Dynamics of Multiple Campylobacter Strains in Poultry • Chapter 17: Evolution of Campylobacter Species in New Zealand • Chapter 18: How Molecular Typing has Changed our Understanding on Sources and Transmission Routes of Campylobacteriosis in Finland • Chapter 19: Extensive Spatial and Temporal Clustering of Campylobacter Infections Evident in High-Resolution Genotypes • Chapter 20: Ecology and Host Associations of Campylobacter in Wild Birds • Chapter 21: Epidemiology and Control of Campylobacter in Modern Broiler Production • Chapter 22: Conditional Commensalism of Campylobacter in Chickens • Chapter 23: The Chicken Reservoir and Specific Alleles at Conserved Contingency Loci Can Promote Host Colonization and Disease by Campylobacter jejuni • Chapter 24: The Long Road Ahead: Unravelling the Immune Response to

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Campylobacter in the Chicken



Pathogenic Escherichia coli

Molecular and Cellular Microbiology

Edited by: Stefano Morabito EU Reference Laboratory for E. coli,

Veterinary Public Health and Food Safety Department, Istituto Superiore di Sanità, Rome, Italy

c. 340pp pp,

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This book reviews the most important recent findings of the studies on pathogenic *E. coli* providing a timely overview of the field. Topics covered include: epidemiology of the disease in humans and animals and the biological mechanisms that shaped the pathogenic types of *E. coli*; shiga toxins; subtilase cytotoxin; cell cycle modulating toxins; the heat stable and heat labile enterotoxins; haemolysins; structural, molecular and functional characteristics of A/E lesions; colonization factor antigens of ETEC; enteroaggregative adhesion; host cell invasion; and the development of vaccinal strategies to confront the burden of disease. Chapters are written from a molecular and cellular biology standpoint but also include discussions of the findings with a wider perspective including considerations on public health and the impact on animal productions. Essential reading for everyone working on these and related pathogens.

Contents

Chapter 1: Diarrheagenic Escherichia coli Infections in Humans •
 Chapter 2: Pathogenic Escherichia coli in Domestic Mammals and Birds
 Chapter 3: Genomic Plasticity and the Emergence of New Pathogenic E. coli • Chapter 4: Shiga Toxin-encoding Phages: Multifunctional
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 Subtilase Cytotoxin: Structure, Function and Role in Disease • Chapter
 Cell Cycle Modulating Toxins Produced by Escherichia coli • Chapter
 The Heat Stable and Heat Labile Enterotoxins Produced by ETEC
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