

The Influence of Cooperative Bacteria on Animal Host Biology

AMCM

Ninety percent of the cells in the human body are bacteria, and humans may be host to many thousands of different species of bacteria. These striking statistics are part of a new paradigm in microbiology in which bacteria are no longer viewed as disease-causing killers but more as lifelong partners that are often essential for the survival of their host. This book brings together a group of diverse scientists – evolutionary biologists, immunologists, molecular biologists, microbiologists, pathologists, and mathematicians – to discuss the evolution and mechanisms of bacteria–host interactions at all levels of complexity, ranging from associations of one bacterium with its host to the many hundreds of bacteria normally associated with mammals. Chapters deal with the evolution of bacteria–host interactions over the last 60 years (since the introduction of antibiotics) to a period of 3.8 billion years (since the evolution of single-celled life) and discuss bacterial interactions with multicellular life forms such as coral reefs, insects, mice, and men. This book should be of interest to the widest range of biological scientists.

Margaret J. McFall-Ngai is Professor of Medical Microbiology and Immunology at the University of Wisconsin School of Medicine.

Brian Henderson is Professor of Cell Biology and head of the Cellular Microbiology Research Group in the Division of Microbial Diseases, Eastman Dental Institute, University College London. He is the co-editor of *Molecular Chaperones and Cell Signalling* (2005), *Bacterial Evasion of Host Immune Responses* (2003), and co-author of *Bacterial Disease Mechanisms* (2002).

Edward G. Ruby is Professor of Medical Microbiology and Immunology at the University of Wisconsin School of Medicine.

Advances in Molecular and Cellular Microbiology is a series edited by researchers active in these exciting and rapidly expanding fields. Each volume focuses on a particular aspect of cellular or molecular microbiology and provides an overview of the area, as well as examines current research. This series will enable graduate students and researchers to keep up with the rapidly diversifying literature in current microbiological research.

Cover photo: Gypsy moth larvae. Courtesy of Kenneth F. Raffa, University of Wisconsin.

CAMBRIDGE
UNIVERSITY PRESS

www.cambridge.org

ISBN 0-521-83465-1



9 780521 834650 >