

## Preface

The evolution of viruses has been a topic of intense investigation and theoretical development over the past several decades. Numerous workshops, review articles, and books have been devoted to the subject. Medical practitioners have recognized the importance of viral evolution when treating patients with viral diseases. Farmers have recognized the importance of understanding virus evolution in combating emerging viral diseases in their crop plants. As with any field where knowledge is rapidly expanding, many controversies have also arisen about the nature of virus evolution, how to describe virus populations, how to analyze sequence data and estimate phylogenies, etc. Differing points of view will also be found in the various chapters of this book, and I leave it to the readers to decide for themselves which side they find most helpful. In some cases it seems to me that all sides are correct. In other cases, future historians will decide.

This book focuses on the evolution of plant viruses, although some chapters also draw on the more extensive knowledge of animal viruses. It covers topics on evolutionary mechanisms, viral ecology and emergence, appropriate methods for analysis, and the role of evolution in taxonomy. It includes RNA viruses, DNA viruses, integrated viruses and viroids. I hope that this book will provide a much needed reference for all virologists, teachers, plant pathologists, and evolutionists, and that it will inspire young investigators to explore the topic of plant virus evolution in their research. In many cases plant viruses make excellent models for understanding basic principles of evolution, ecology, and animal/human viral evolution. Plant viruses provide experimental systems that cannot be established for animal viruses, such as the generation of unlimited numbers of genetically identical hosts and the inexpensive cultivation and infection of these hosts. Plant viruses were the first viruses discovered, and they have been studied for more than 100 years. With this book plant virology has finally come of age.

October 2007

Marilyn J. Roossinck

Plant Virus Evolution

Roossinck, M.J. (Ed.)

2008, X, 224 p. 29 illus., Hardcover

ISBN: 978-3-540-75762-7