PREFACE

Viral ecology is a field of study which has grown and expanded greatly since the viruses as a group first received their name in 1898. The viruses are highly evolved biological entities with an organismal biology that is complex and interwoven with the biology of their hosting species.

The purpose of this book is to help define and explain the ecology of viruses, i.e., to examine what life might seem like from a "virocentric" point of view, as opposed to our normal "anthropocentric" perspective. As we begin our examination of the virocentric life, it is important to realize that in nature both the viruses of microorganisms and the viruses of macroorganisms exist in cycles with their respective hosts. Under normal conditions, the impact of viruses upon their natural host populations may be barely apparent due to factors such as evolutionary coadaptation between the virus and those natural hosts. However, when viruses find access to new types of hosts and alternate transmission cycles, or when they encounter a concentrated population of susceptible genetically similar hosts such as occurs in densely populated human communities, communities of cultivated plants or animals, or algal blooms, then the impact of the virus upon its host population can appear catastrophic. The key to understanding these types of cycles lies in understanding the viruses and how their ecology relates to the ecology of their hosts, their alternate hosts, and any vectors which they utilize, as well as their relationship to the availability of suitable vehicles that can transport the different viral groups.

Three of my fellow authors for this book, V. Gregory Chinchar, Claude M. Fauquet, and Robert A. Owens, have been part of this project since 1996 when we began planning the initial version of this book, titled Viral Ecology. We achieved publication of Viral Ecology in 2000. Most of the authors who have contributed their words and knowledge to this project subsequently joined us in 2008 and 2009 as we began preparing the first edition of Studies in Viral Ecology, which appeared in 2011. Together, as a group, we have welcomed additional authors who newly are joining us for this second edition of Studies in Viral Ecology. Our collective hope is that you will enjoy reading the information presented in this book as much as we have enjoyed presenting it to you.

The written word is a marvelous thing, able to convey understanding and enthusiasm across unimaginable distances and through time.

CHRISTON J. HURST
Cincinnati, Ohio