

Scholthof, K.-B. G., Shaw, J.G., Zaitlin, M. (ed.): **Tobacco Mosaic Virus. One Hundred Years of Contributions to Virology.** - APS Press, The American Phytopathological Society, St. Paul 1999. 256 pp. USD 49.00. ISBN 0-89054-236-8.

The virology as a science was founded one hundred years ago with the appearance of a paper by Martinus Beijerinck, describing some experiments with diseased tobacco plants. The virus that was the subject of Beijerinck's report was tobacco mosaic virus (TMV) and, over the following decades, an astonishing number of "firsts" in fundamental research in virology were to be achieved in investigations with this virus. The editors selected many of the classic papers of the past century dealing with TMV that are reproduced in this anthology. Accompanying the papers are commentaries written, in some cases, by persons who conducted the experiments described in the papers and, in others, by individuals who are familiar with the published works and their significance. This collection appreciates the importance of TMV in the establishment of the virus concept and in the development of related fields of study such as biochemistry, biophysics, molecular biology, structural biology, genetics and plant pathology (cross protection, local lesion forming, chemical nature of particles,

electron microscopy, location of RNA, reconstitution particles from its inactive protein and RNA components, infectivity of TMV-RNA, infection of tobacco mesophyll protoplasts by TMV, cotranslational disassembly of TMV *in vitro*, nucleotide sequence of TMV-RNA, disease development in transgenic plants that express the TMV coat protein gene or nonstructural gene sequence, and so on). After that the virus continues to be a model for studies of intra- and intercellular trafficking, pathogenesis, disease resistance, gene delivery and genetic modification and other areas of fundamental plant science. Intention of the editors was not to provide an up-to-the-minute review of the status of virology or TMV studies but rather to celebrate the original contributions themselves and their impact on various branches of science at the time they were reported. This also reveals the extent to which the classic experiments with TMV led to our current understanding of viruses of all types and host specificities.

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