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## Advances in Virus Research

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### Cucumber MOSAIC Virus

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### Publisher Summary

Cucumber mosaic virus (CMV), the type member of the cucumovirus group, was first reported in 1916 as the causal agent of a disease of cucumber and muskmelon in Michigan and cucumber in New York. Since then, CMV has been found in most countries of the world, predominantly in the temperate zones, but increasingly more often in the tropical countries. CMV has the largest host range of any virus. The number of plant species identified as hosts for CMV has increased steadily over the past 60 years. The highlights of the more recent research include the following: (1) the complete nucleotide sequence of the genome of three strains of CMV has been determined, as well as nucleotide sequences of individual RNAs of eight other CMV strains, (2) the CMV replicase has been purified to homogeneity, and it functions *in vitro* to synthesize CMV RNA *de novo*, (3) infectious transcripts have been synthesized from full-length cDNA clones of the three strains of CMV, (4) these biologically active cDNAs are being used to map sequences involved in replication, movement, pathogenesis, resistance, and vector transmission. Biologically active cDNA clones of the satellite RNAs of CMV have been produced in seven laboratories and sequences involved in replication and

been produced in seven laboratories and sequences involved in replication and pathogenicity have/are being identified, (5) finally, transgenic plants have been produced expressing either the CMV coat protein gene or satellite RNA sequences that show to protect such plants from infection by CMV. This chapter, while focusing on the more recent developments in CMV biology and biochemistry, also covers some of the same ground albeit in brief. The chapter presents a comprehensive review that can be used as a reference work for general virologists and plant pathologists, as well as those specializing in the molecular biology of CMV and/or other multicomponent plant viruses.



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Comparison of the replication of positive-stranded RNA viruses of plants and animals, the limit of a sequence stabilizes the boundary layer.

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opinion is shared by many deputies of the state Duma.