

IDENTIFICATION OF A NUCLEOPOLYHEDROVIRUS IN WINTER MOTH POPULATIONS FROM MASSACHUSETTS

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ABSTRACT

The winter moth, *Operophtera brumata*, originally from Europe, has recently invaded eastern Massachusetts. This insect has caused widespread defoliation of many deciduous tree species and severely damaged a variety of crop plants in the infested area including apple, strawberry, and especially blueberry. Using PCR with primers designed to amplify a 484 bp region of the baculovirus polyhedrin gene, we were able to identify *O. brumata* nucleopolyhedrovirus (OpbuNPV) infected winter moth larvae collected from field sites in Massachusetts.

This represents the first report of OpbuNPV in winter moth populations in the U.S. An analysis of larvae from seven established winter moth populations in Massachusetts revealed the presence of the virus in two of these populations, with the prevalence of 40 percent in one population and 35 percent in the other. Subsequently, using this same approach, we were able to detect viral sequences in winter moth pupae that failed to emerge, suggesting that these insects died as a result of viral infection.