A NEW DENSOVIRUS ISOLATED FROM THE MOSQUITO TOXORHYNCHITES SPLENDENS (WIEDEMANN) (DIPTERA: CULICIDAE)

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Abstract. A new densovirus was isolated and characterized in laboratory strains of Toxorhynchites splendens. The virus was detected by polymerase chain reaction (PCR) from mosquitoes reared in our laboratory. PCR fragments from each mosquito were compared by single strand conformation polymorphism (SSCP) assay and found to be indistinguishable. Thus, it is likely the densoviruses from these mosquitoes contain homologous nucleotide sequences. The PCR fragment corresponding to a 451 bp densovirus structural gene segment from each of 5 mosquitoes had 100% identical nucleotide sequences. Phylogenetic analysis of the structural gene sequence suggests the newly isolated densovirus is more closely related to Aedes aegypti densovirus (AaeDNV) than to Aedes albopictus densovirus (AalDNV). Analysis of offspring and predated larvae suggests that vertical and horizontal transmission are responsible for chronic infections in this laboratory strain of Toxorhynchites splendens. The virion DNA is 4.2 kb in size, is closely related to, but distinct from, known densoviruses in the genera Brevidensovirus and Contravirus. The virus is tentatively named Toxorhynchites splendens densovirus (TsDNV).

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