

Leafhopper-infecting Rhabdovirus: New Taastrup-like virus



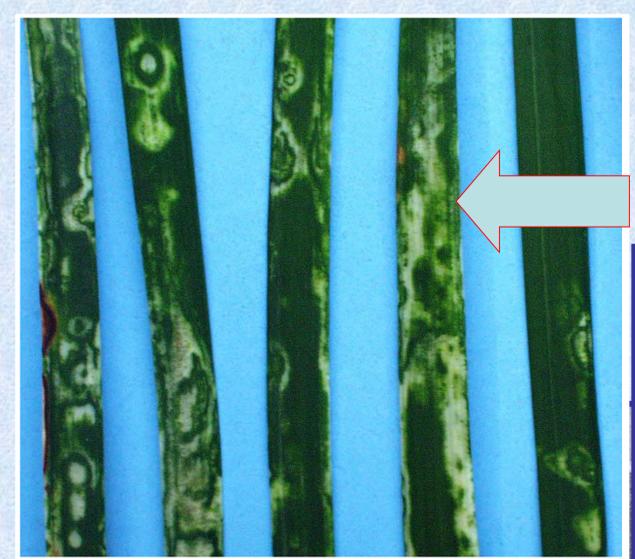
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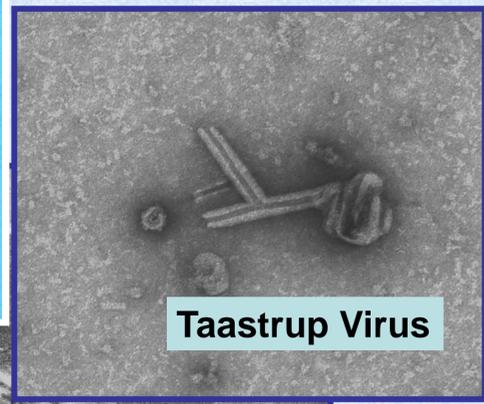
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New Taastrup-like Virus: Leafhopper Infecting Rhabdovirus. A new viral pathogen of leafhoppers was discovered. The unclassified virus, is a negative sense, single-stranded RNA virus, which appears to be a new member of the order *Mononegavirales*, in the family *Rhabdoviridae*, and thus far is only the second report of a Taastrup virus member identified world-wide. The recently described Taastrup Virus, is also an unclassified member in the *Rhabdoviridae*. The virus was isolated from an ornamental plant, and when applied to leafhopper cell cultures caused rapid and severe cell death. Current efforts are attempting to propagate and sequence the virus to solidify its taxonomic classification.

Due to the severe lethal nature of this virus to leafhoppers, efforts are underway to propagate, and screen the virus as a biological control agent for use against leafhoppers. Genomic sequencing continues to expand virus taxonomy, as well as advancing the discovery of new potential biological control agents for use in the management of these severe agricultural crop pests, like the Glassy-winged Sharpshooter, and other Leafhopper pests.



Lirope plant co-infected with a Tospovirus and the Taastrup Virus. Ring spot symptoms attributed to Tospovirus infection.

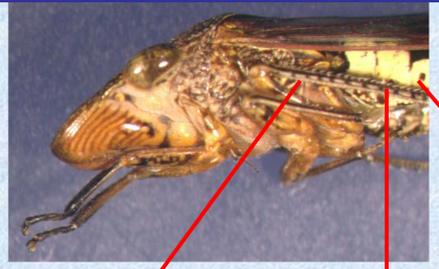


Taastrup Virus

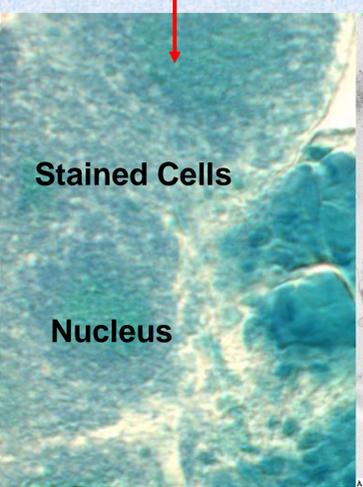


Non infected Lirope Plants

Glassy-winged Sharpshooter, *Homalodisca vitripennis*

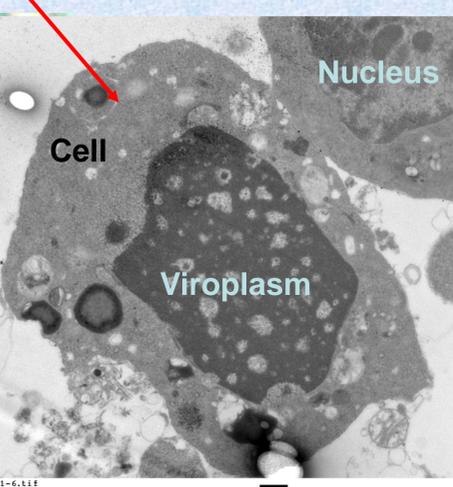


Stained Cells



Stained Cells

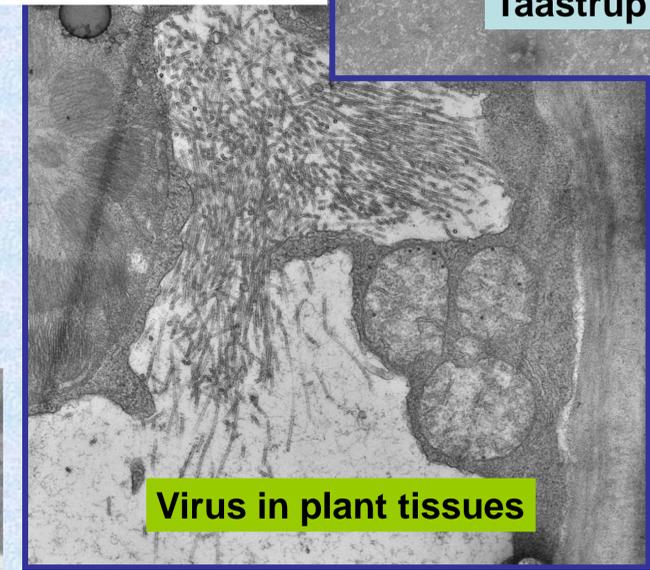
Nucleus



Cell

Viroplasm

Nucleus



Virus in plant tissues

A new viral pathogen of leafhoppers was discovered, which is a negative sense, ssRNA virus, which is a new member in the Order *Mononegavirales*, Family *Rhabdoviridae*. Discoveries of leafhopper viruses provide new tools to examine leafhopper biology and management strategies to reduce these pests of Pierce's Disease.

Lundsgaard, T. 1997. Filovirus-like particles detected in the leafhopper *Psammotettix alienus*. *Virus Research* 48: 35-40.

Bock J, Lundsgaard T, Pedersen P, Christensen LS. 2004. Identification and partial characterization of Taastrup virus: a Newly identified member species of the Mononegavirales. *Virology* 319:49-59.

Hunter WB, Katsar CS, Chaparro JX. 2006. Nucleotide sequence of 3' -end of *Homalodisca coagulata Virus-1*. A new leafhopper-infecting virus from the glassy-winged sharpshooter. *J. Insect Science* 6.28. Online: insectscience.org/6.28/.

Acknowledgment: Diann Achor, for electron microscopy work, Univ. of Florida, IFAS, Lake Alfred, FL.