Research Project: **IPM TECHNOLOGIES FOR SUBTROPICAL INSECT PESTS**

**Location:** Subtropical Insects Research

**Title:** Hunting for insect pathogens: A genomics approach

**Author**

- Hunter, Wayne

**Submitted to:** Society for Invertebrate Pathology Annual Meeting

**Publication Type:** Abstract

**Publication Acceptance Date:** July 3, 2008

**Publication Date:** August 5, 2008

**Citation:** Hunter, W.B. 2008. Hunting for insect pathogens: A genomics approach [abstract]. The 41st Annual Meeting of the Society for Invertebrate Pathology, August 3-7, 2008, Coventry, United Kingdom, p. 41.

**Technical Abstract:** Emerging methods within the field of genomics have increased the number of insect pathogens being discovered and characterized each year. These pathogens provide a rich resource for biological control agents, gene expression systems, and other molecular tools. Using Metagenomics, and gene expression analyses we were able to identify pathogens based on the extraction and sequencing of their DNA or RNA. Several new viral pathogens from: the glassy-winged sharpshooter, Homalodisca vitripennis; the whitefly, Bemisia tabaci; the Asian citrus psyllid, Diaphorina citri; and fire ants, Solenopsis invicta were identified. Many of these emerging insect viruses are single-stranded RNA viruses within the insect Picorna-like viruses. Discovery of new viruses advances taxonomic classifications by providing genomic information sufficient enough to create new families, such as Dicistroviridae. Methods used in the discovery of insect viruses, include cell cultures, transmission electron microscopy, cDNA libraries and gene sequencing all of which are rapidly advancing the use and application of these valuable biological resources.

**Last Modified:** 03/14/2011