

VALLIES

M 4315

41st Annual Meeting of the

Society for
Invertebrate
Pathology

August 3 - 7
2008



9th International Conference
on *Bacillus thuringiensis*

University of Warwick, UK

Contributed paper. Thursday, 18:00. 233

**Positive-strand RNA viral infections of the red imported fire ant,
*Solenopsis invicta***

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An expression library was created and 2,304 clones sequenced from a monogyne colony of *Solenopsis invicta*. The primary intention of the project was to utilize homologous gene identification to facilitate discovery of viruses infecting this ant pest that could potentially be used in pest management. Two viruses were ultimately discovered by the method, *Solenopsis invicta* viruses 1 and 2 (SINV-1 and -2). SINV-1 and -2 are positive strand RNA viruses. The SINV-1 genome is monopartite and dicistronic. SINV-2 is monopartite and polycistronic (4 open reading frames). Both viruses possessed consensus sequences characteristic of the helicase, cysteine protease, and RNA-dependent RNA polymerase sequence motifs of positive-strand RNA viruses. Characterization of each viral genome and the potential for use as control agents are discussed.