

**MELANAPHIS SACCHARI (HOMOPTERA: APHIDIDAE),  
A SUGARCANE PEST NEW TO LOUISIANA**

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While inspecting sugarcane (interspecific hybrids of *Saccharum* spp.) varietal trials on the USDA-ARS Ardoyne Research Farm near Houma, LA on 9 September 1999, we noticed an infestation of an aphid unfamiliar in Louisiana sugarcane. Specimens were collected and sent to the USDA-ARS Systematic Entomology Laboratory, Beltsville, MD for identification. Gary L. Miller identified the specimens as the sugarcane aphid, *Melanaphis sacchari* (Zehntner). The collection of this species represents a new distribution record for the continental United States and holdings of the National Aphidoidea Collection, which until now included specimens from Florida and Hawaii.

The sugarcane aphid is a widely distributed insect being reported from 24 countries (Mead 1978). Pemberton (1948) reported the sugarcane aphid in Hawaii as early as 1896. The aphid was first reported in the continental United States during 1977 on sugarcane in Florida (Mead 1978). Hall and Bennett (1994) presented a general review of *M. sacchari* as a pest of Florida sugarcane. The aphid is known to attack grasses including species in the following genera: *Saccharum*, *Sorghum*, *Oryza*, *Echinochloa*, *Panicum*, and *Pennisetum* (Denmark 1988). Its status as an economic pest of sugarcane remains unclear. Yield reductions associated with sooty mold that accompanies severe infestations of the aphid in sugarcane and the possibility that the aphid might vector sugarcane mosaic virus and other diseases are of principal concerns with the invasion of the insect into Louisiana.

Following identification of the aphid, a survey of the Louisiana sugarcane producing area was initiated on 25 October 1999 to assess the geographical range of the infestation. Four sites in each of the parishes growing sugarcane were surveyed, except in St. Charles Parish where only two sites were chosen because it has comparatively less acres of sugarcane in cultivation. Similarly, Calcasieu and Cameron Parishes were combined into a single survey unit because they are contiguous to one another and both having only a few scattered acres of sugarcane in cultivation. Survey sites were cane fields chosen at random and were selected to be a minimum of 9 km distant from each other. The sample scheme was patterned after that of White et al. (1995) such that two sets of ten separate stools of cane in perpendicular directions were examined for the presence of sooty mold and colonizing aphids. Because sooty mold

can be associated with other sugarcane homopterans (principally the West Indian cane fly, *Saccharosydne saccharivora* Westwood), sooty mold alone could not be used as a means of verifying the occurrence of the aphid in our sample fields.

Sugarcane aphids were found in eight of the 21 parishes surveyed (38%) (Fig. 1). We did not find aphids at all four sample sites in any given parish. Generally, where sugarcane aphids were detected their infestation densities were low. Overall, the survey indicated the aphid has already spread throughout much of the sugarcane growing areas in Louisiana. The low population levels of the aphid observed at each site during our survey may have been related to the time of year our survey was conducted.

Large outbreaks of *M. sacchari* in Florida sugarcane occur most commonly during the summer. The aphid is subjected to biological control in sugarcane in Florida by pathogens (*Verticillium lecanii*), predators including *Diomus terminatus* Say (Coleoptera: Coccinellidae) and *Allograpta exotica* (Wiedemann) (Diptera: Syrphidae), and one parasitoid species (*Lysiphlebus testaceipes* (Cresson) (Hymenoptera: Braconidae) (Hall 1987). The following predators are also thought to attack the sugarcane aphid in Florida: *Chrysoperla externa* (Hagan) (Neuroptera: Chrysopidae), *Micromus subanticus* (Walker) (Neuroptera: Hemerobiidae), *Coleomegilla maculata fuscilabris* (Mulsant), *Cycloneda sanguinea* (L.), *Hippodamia convergens* Guerin, and *Ola v-nigrum* Mulsant (Coleoptera: Coccinellidae) (Hall 1988). Environmental factors may often be largely responsible for the initial decline in aphid levels following a summer outbreak (Hall 1987). Although an assessment of biological control of the aphid in Louisiana has not been conducted, we noted during our survey that the aphid was attacked by *D. terminatus* (specimens identified by M. Thomas, Florida Department of Agriculture & Consumer Services, Division of Plant Industry, Florida State Collection of Arthropods, Gainesville), by an unidentified syrphid fly larvae, and by at least one unidentified species of an internal parasitoid. No information is available on varietal resistance to the aphid.

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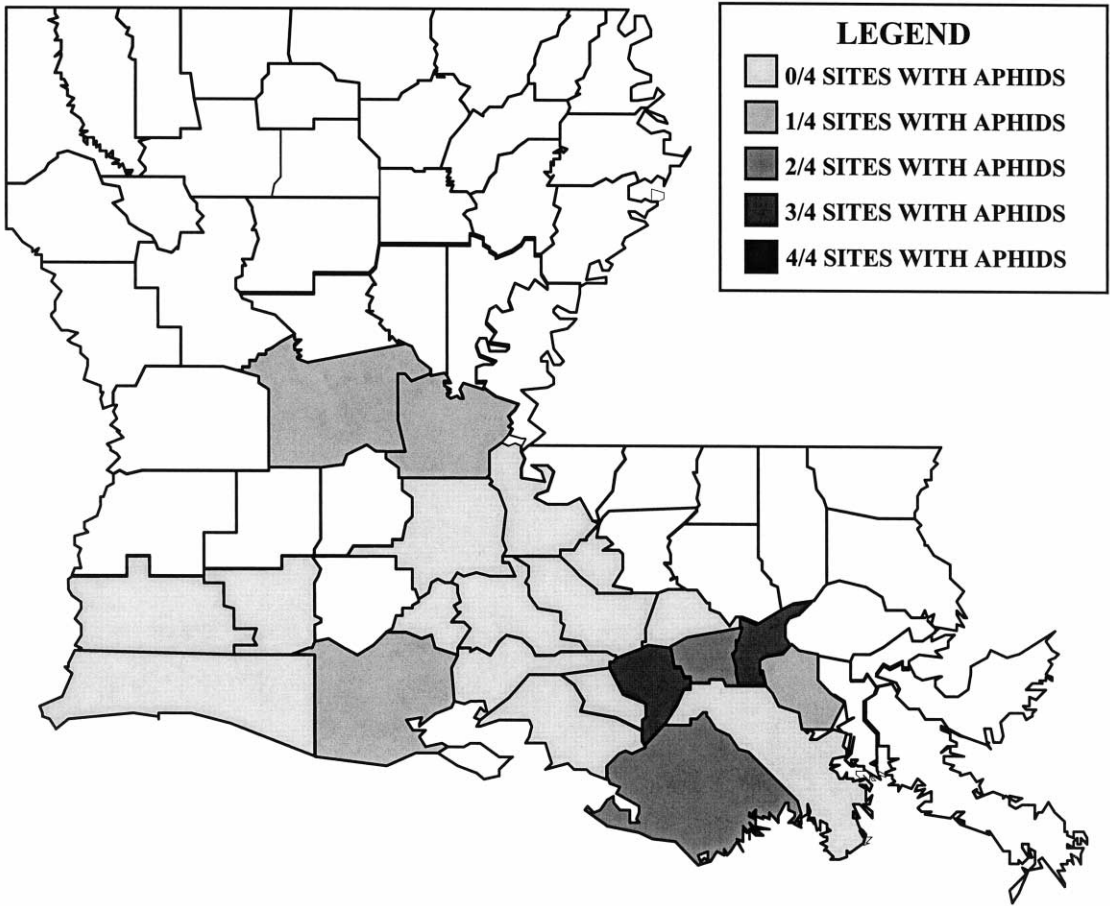


Fig. 1. The distribution of the sugarcane aphid throughout the Louisiana sugarcane growing area during the 1999 growing season. Groupings in legends are based on the total of fields sampled within a parish and those found to be infested by the sugarcane aphid.

Louisiana State University Arthropod Museum in Baton Rouge, LA and the USDA-ARS Systematic Entomology Laboratory, Beltsville, MD.

#### SUMMARY

The sugarcane aphid, *Melanaphis sacchari* (Zehntner) was found in Louisiana on 9 September 1999 and documented as a new record and potential pest for the state. The aphid was found in 8 of 21 sugarcane growing Parishes that were surveyed in Louisiana, indicating the pest is already widely distributed across Louisiana. The coccinellid *Diomus terminatus* Say was identified as one of several biological control organisms attacking the aphid in Louisiana.

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