



## SPINED STILT BUG

Scientific name: *Jalysus whickhami* Van Duzee  
 Order: Hemiptera (true bugs)  
 Family: Berytidae (stilt bugs)

### SUMMARY

Spined stilt bugs are an occasional pest of greenhouse tomatoes that can cause flower and fruit abortion and unsightly feeding damage in mature fruits.

### DISTRIBUTION

Spined stilt bugs are found throughout North America from Quebec and British Columbia south through Hidalgo, Mexico, and have been recorded in every continental U.S. state except Alaska, New Hampshire, and Vermont (though are likely found in the latter two given their presence in surrounding states and provinces).

### DESCRIPTION

Brown, medium-sized (0.25–0.33 in, 7–9 mm) insects with thin bodies and long legs and antennae. They can be distinguished from similar looking groups by the antennae, which have four segments, the last of which is enlarged (Figure 1).



Figure 1. *Jalysus whickhami*. Photo © John Rosenfeld, used with permission.

### LIFE HISTORY, BEHAVIOR, AND DAMAGE

Spined stilt bugs feed on a number of different plants, most of which can be characterized as “glandular-hairy” and have extensive trichomes on the stems and leaves. Nymphs feed mainly on the flowers and fruit, while adults feed on these as well as stems (Figure 2). Wheeler and Henry (1981) provided an extensive list of known hosts, which includes economically important crops such as tomato, tobacco, soybean, alfalfa, and cotton.

Spined stilt bugs are occasional pests of tomatoes, especially in greenhouses. Outbreaks have been reported from Pennsylvania, Maryland, Indiana, Kentucky, Michigan, and Nebraska and the USDA adopted the common name “tomato stilt bug” in the Insect Pest Survey (published from 1921 to 1942). Stilt bug nymphs and adults feed on the stems, flowers, and fruit of tomatoes. When feeding occurs on stems, the stems die beyond the feeding sites. This causes flowers to blacken and die, which prevents fruit set. Direct feeding on the flowers causes them to die as well. Stilt bug feeding on unripened fruits causes the tomatoes to become malformed or develop white blotches beneath the skin, making them unmarketable as fresh fruit and possibly downgraded when sold for canning.

Spined stilt bugs are also facultative predators, that is, they can survive solely by feeding on plants but live longer and produce more eggs when they can also feed on other insects. They feed primarily on slow-moving or sedentary insects, including



Figure 2.  
 Adult feeding on an  
 unopened flower.

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aphids, caterpillars and other immature insects, insect eggs, and dead insects trapped in plant trichomes. Spined stilt bugs are beneficial when found in tobacco crops as they feed on tobacco budworm (*Heliothis virescens*) and tobacco hornworm (*Manduca sexta*) eggs and larvae and have been reared and released in field tobacco for this purpose. Unfortunately, they also feed on other beneficial insects, including parasitoid wasps, so their use as a beneficial insect may be limited.

## CONTROL

Because they are biocontrol agents in tobacco and only occasional pests in tomatoes, control of spined stilt bug has not been extensively studied and no studies have been done in tomatoes specifically. However, the results from two studies that examined pesticide toxicity to berytids – one that studied spined stilt bug in tobacco and a second that studied different stilt bug, *Lagenaria siceraria*, which attacks bottle gourds in India – can be extrapolated to spined stilt bug control in tomatoes. Both studies were conducted in the 1980's and are rather dated as new chemicals have since been introduced. However, in the absence of more recent research, the following chemicals were found to be effective in those older studies. The systemic carbamates aldicarb (sold as Temic) and carbofuran (sold as Furadan and Curater) were the only pesticides tested that killed spined stilt bugs in tobacco (fenamiphos was also effective, but is a restricted use chemical that can only be applied by a registered pest control operator) and *L. siceraria* was successfully controlled with the carbamate bendiocarb (sold as Ficam and Turam) and foliar applications of malathion.

## SELECT REFERENCES.

Henry, T. J. 2000. Stilt bugs (Berytidae). In: Schaefer, C.W., and A. R. Panizzi (eds.) *Heteroptera of Economic Importance*, CRC Press LLC, Boca Raton, Florida, USA. 735 pp.

Jackson, D. M., and J. J. Lam, Jr. 1989. *Jalysus wickhami* (Hemiptera: Berytidae): Toxicity of pesticides applied to the soil or in the transplant water of flue-cured tobacco. *Journal of Economic Entomology*, 82(3): 913–918.

Wheeler, A. G., and T. J. Henry. 1981. *Jalysus spinosus* and *J. wickhami*: Taxonomic clarification, review of host plants and distribution, and keys to adults and 5th instars. *Annals of the Entomological Society of America*, 74: 606–615.

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