

# Brown Marmorated Stink Bug - A Non-native Insect in New Jersey

Fact Sheet FS002



## Cooperative Extension

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The Brown Marmorated Stink Bug, *Halyomorpha halys* (Stål), is an exotic insect belonging to the order Hemiptera or true bugs. *Halyomorpha halys*, sometimes also called the yellow-brown stink bug or East Asian stink bug, is native to Asia and is considered an important agricultural pest in Japan where it attacks soybeans and various tree crops.

It was first collected in the United States just across the Delaware River in Allentown, PA, during the fall of 1996. In 1999 the brown marmorated stink bug was recovered from a black light trap run by the Rutgers Cooperative Extension (RCE) Vegetable IPM program in Milford, NJ. Since 2000, populations of the Brown Marmorated Stink Bug have been confirmed in multiple Mid-Atlantic States and in Oregon and California. In 2002, BMSB became established in the northern and central parts of New Jersey. It spread into southern NJ in 2005 and is now found throughout most the state.

## Description

The eggs are elliptical (1.6 x 1.3 mm) and light green in color. They are deposited in a cluster of 20 to 30 eggs on the underside of leaves.

Immatures go through five nymphal stages (instars) and range in size from 2.4 mm in the first instar to 12 mm in length during the final instar. Immatures are characterized by dark red eyes and an abdomen that is yellowish-red in the first instar. In later instars, the abdomen gradually turns to off-white with reddish spots.

Adults are approximately 17 mm long, generally brown in color with characteristic white (or off-white) antennal segments and darker bands on the membranous, overlapping part, at

the rear of the wings. They also have patches of coppery or bluish metallic-colored punctures on the head and pronotum. Scent glands are located on the dorsal surface of the abdomen and the underside of the thorax. These glands are responsible for producing the pungent odor that characterizes "stink bugs."

## Damage

The brown marmorated stink bug is a sucking insect that uses its proboscis to pierce the host plant to feed. Feeding results, in part, in the formation of small, necrotic areas just under the skin and sometimes on the outer surface of fruits and leaves of its hosts. It can cause characteristic cat-facing injury in fruits such as apples and peaches. In its native range, *H. halys* feeds on a variety of fruits and other host plants including apples, cherry, citrus, figs, mulberry, peach, pear, persimmon, and soybeans. In Pennsylvania and New Jersey, *H. halys* has been observed feeding on many ornamental plants, fruit trees, legumes, and vegetables. We believe it will become an agricultural pest in certain areas.

Adults exhibit behavior similar to Asian ladybird beetles and boxelder bugs and can congregate on houses in late fall and eventually move indoors. On warm days during the fall and winter, adults become active indoors and sightings are likely. Once inside buildings they can become a nuisance and emit an offensive odor if disturbed or crushed. During the winter months, the adults do not reproduce and feeding, if any, is minimal. BMSB is a plant feeder and will not bite humans or pets. Exclusion methods, such as caulking windows and doors, etc., in areas where the insect congregates on the outside of the house or structure, should help prevent them from entering.

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Window air conditioners should also be removed mid-September, as this is a common source of entry. To remove individuals using non-chemical methods, we suggest vacuuming and disposing of the insects. Chemical control using pyrethroid or neo-nicotinoid insecticides as a perimeter spray on the exterior of the house may reduce numbers if applied when the insects first start to appear. The active ingredients b-cyfluthrin, bifenthrin, cyfluthrin, deltamethrin and  $\lambda$ -cyhalothrin have shown significant mortality against adult *H. halys* in laboratory studies at Rutgers University. Formulated products containing these active ingredients may be effective and are approved for such use. We do not suggest recommend using insecticides inside the home.

## Incidence Reports

Rutgers Cooperative Extension and the New Jersey Department of Agriculture are concerned with the further distribution of this insect within the state and would appreciate your help in determining its spread. If, during mid- September and October, you observe large numbers of brown stink bugs congregating on the side of your house or other structures or inside your home please call your local county Cooperative Extension office to report the infestation.

If possible, collect a couple of specimens in a small crush-proof container filled with alcohol. Take them to your local county Cooperative Extension office for identification or send to the Rutgers Department of Entomology at Rutgers University. Submission information for insect identification by the laboratory can be located at <http://www.njaes.rutgers.edu/stinkbug>. Either action will help us follow the spread of this new exotic insect.

## Literature Cited

- Forest Health Fact Sheet - Brown Marmorated Stink Bug, [www.dcnr.state.pa.us/forestry/leaflets/stinkbug.htm](http://www.dcnr.state.pa.us/forestry/leaflets/stinkbug.htm)
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- NPAG Draft Report October 26, 2001. NPAG Data: *Halyomorpha halys* Brown Marmorated Stinkbug.
- Penn State Entomology Bug Alert, Yellow-Brown Stink Bug, NP-15.

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