

Regional Pest Alert



Brown Marmorated Stink Bug

The brown marmorated stink bug (BMSB), *Halyomorpha halys* (Stål) (Hemiptera: Pentatomidae), is an exotic insect new to North America. Large numbers of adult BMSB were first identified in fall 2001 in Allentown, PA; however, undetermined sightings likely date as far back as 1996. This Asian native, sometimes called the yellow-brown or East Asian stink bug, has since been found in several Pennsylvania counties, in New Jersey on plant material and in blacklight traps, and in western Maryland on buildings in 2003. In 2004, BMSB also was detected in West Virginia. The list of positive states will continue to expand as awareness increases.

Origin of BMSB

BMSB is a known pest of fruit trees and legumes in its native China, South Korea, Japan, and Taiwan. The adults might have entered the United States as stowaways in packing crates from Asia. The first Western Hemisphere identification was made in October 2001; however, there are reports that indicate it was present in the same area as early as 1996.

Host Range

BMSB is polyphagous, with a long list of host plants including many fruit and shade trees and other woody ornamentals as well as legumes and various vegetables. In Asia, it has been reported as a significant pest of fruit trees and soybean, *Glycine max*.

Adult brown marmorated stink bug on fruit



Asian hosts include *Pyrus* spp. (pear), *Prunus* spp. (cherry, peach, and apricot), *Malus* spp. (apple), *Morus* spp. (mulberry), *Ficus* spp. (fig), *Diospyros* spp. (persimmon) as well as *Arctium* spp. (burdock). The expanding host list in the United States includes *Pyrus se-*

rotina (Asian pear), *Prunus persica* (peach), *Paulownia tomentosa* (empress tree), and *Buddleia* spp. (butterfly bush, where leaf feeding was observed). Other U.S. plants on which BMSB feeding is known include *Catalpa* spp., *Rosa rugosa*, *Phaseolus* spp. (bean), *Abelia* spp., *Lonicera* spp. (honeysuckle), *Acer platanoides* (Norway maple), *Vitis* spp. (grape), and *Rubus* spp., (raspberry).



Brown marmorated stink bug nymph

Potential Impact and Spread

Adult BMSB can fly and thereby expand their range; but, as with many other pests, dissemination also could be accomplished by hitchhiking on vehicles and through commerce. Human activity will undoubtedly speed the spread of this pest. Because of its wide host range and the damage resulting from its feeding, BMSB has the potential to have a very tangible impact on agricultural crops, particularly those that are not normally treated for insect pests during the growing season. Currently, it is believed that BMSB is increasing its local population levels and will likely extend its range to other northeastern states in the near future. Surveys are ongoing in several states to detect and monitor this pest and its potential impact on agriculture. However, because this stink bug initially feeds on common landscape ornamentals, homeowners are likely to be the first to spot new infestations.

Northeastern
IPM
Center



Life History and Identification

BMSB overwinters as adults in houses and other protected places. Adults emerge from their overwintering sites in April. This typically shaped stink bug ranges in length from 14 to 17 mm and is dark mottled brown. The last two antennal segments have alternating broad light and dark bands. The exposed abdominal edges also have alternating dark and light banding. From June to August, females lay clusters of 20–30 light green, barrel-shaped eggs on the undersides of leaves. Newly hatched nymphs are yellowish mottled with black and red. Older nymphs are darker with banded legs and antenna, like the adults. Adult BMSB are most similar in appearance to *Brochymena*, a very common group of native grey-brown stink bugs. However, *Brochymena* spp. lack the alternating light and dark antennal markings. *Brochymena* spp. also have distinct teeth on the lateral edges of the pronotum, whereas the lateral pronotal edges of BMSB are smooth.

Damage

BMSB feeding can cause small necrotic areas on leaves and fruit. Fruit damage may include water-soaked lesions and/or cat-facing damage, ranging from mild to severe. In addition to plant damage, BMSB can become a major nuisance to people as adult bugs congregate in overwintering sites, invading houses and other buildings, in a manner similar to boxelder bugs, Asian ladybird beetles,

and cluster flies. When disturbed, the bugs produce a characteristic odor that adds to their nuisance potential.

If you suspect you have encountered BMSB, contact your State Department of Agriculture, University Diagnostic Laboratory, or Co-operative Extension Service. Specimens should be collected and positively identified before any action is taken.



Brown marmorated stink bug nymph feeding on Asian pear



(above) Newly hatched brown marmorated stink bug nymphs on egg mass



(left) Adult brown marmorated stink bug

For more information and images of BMSB, visit <http://northeastipm.org/bmsb>.

This publication was produced and distributed in cooperation with USDA–CSREES Integrated Pest Management Centers, Maryland Department of Agriculture, USDA–APHIS, and the Land-Grant University System. For more information regarding the development of this document, contact Carol A. Holko at holkoca@mda.state.md.us or by phone at 410-841.5920.

Reviewers

Stanton Gill, University of Maryland Cooperative Extension
Gary Bernon, USDA–APHIS
Richard Hoebeke, Cornell University
George Hamilton, Rutgers University Cooperative Extension
Anne Nielsen, Rutgers University
Peter Shearer, Rutgers University Cooperative Extension
Gaye Williams, Maryland Department of Agriculture
Karen M. Bernhard, Lehigh County, Pennsylvania, Cooperative Extension
Grzegorz Krawczyk, Pennsylvania State University

Northeast 1862 Land-Grant Universities

University of Connecticut University of Delaware University of Maine University of Maryland University of Massachusetts University of New Hampshire Rutgers University Cornell University Pennsylvania State University University of Rhode Island University of Vermont West Virginia University

Photographs courtesy of G. Bernon, K. Bernhard, G. Hamilton, and D. Matadha.

Editor: Julie L. Todd, Technically Correct Scientific Communications, State College, PA.

Graphic designer: Gretchen Wieshuber, Studio 2D, Champaign, IL.

Northeastern
IPM
Center

