

Brown Marmorated Stink Bug

Brown marmorated stink bug (*Halyomorpha halys*), a native pest of Asia, was first identified in North America in Pennsylvania in 2001. It has since spread throughout most of the United States. It is a very serious pest that feeds on more than 100 different plant species. In 2010, an estimated loss of \$37 million due to brown marmorated stink bug feeding was reported by the apple industry in the Mid-Atlantic States.

The stink bug is an excellent hitchhiker and can be moved in shipping containers, wood, wood packing material, cargo and vehicles. It is also a nuisance to homeowners as the adults aggregate on and in buildings while seeking warm overwintering sites.

Brown marmorated stink bug was detected in British Columbia in 2015 and is present in Rosedale, Chilliwack, Kitsilano, Penticton and Kelowna. Growers and homeowners are asked to send pictures or samples of suspect brown marmorated stink bug to the B.C. Ministry of Agriculture offices or contacts below:

- In the Southern Interior
Susanna Acheampong
Tel: (250) 861-7681; Toll free: 1-888 -332-3352
Email: Susanna.Acheampong@gov.bc.ca
- In the Lower Mainland
Tracy Hueppelsheuser
Tel: (604) 556-3031, Toll free: 1- 888 -221-7141
Email: Tracy.Hueppelsheuser@gov.bc.ca

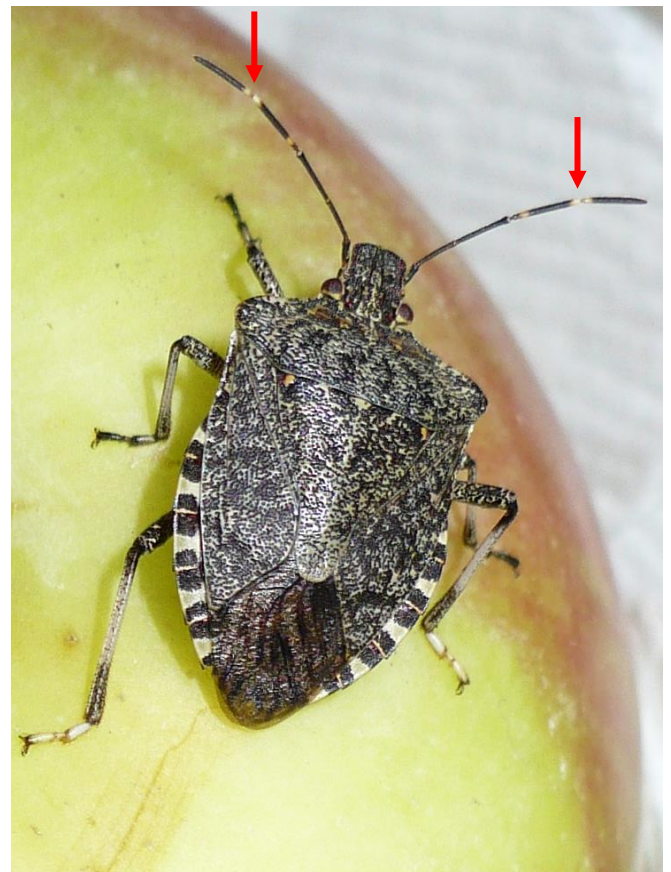
Identification

Adult: Shield-shaped, 13 – 17 mm long, brown marbled appearance, alternating brown and white markings on the outer edge of the abdomen; can be distinguished from other stink bugs by the presence of distinctive white bands on the last two antennal segments (see adult picture on right).

Adults may be confused with other native brown stink bugs and western conifer seed bugs.

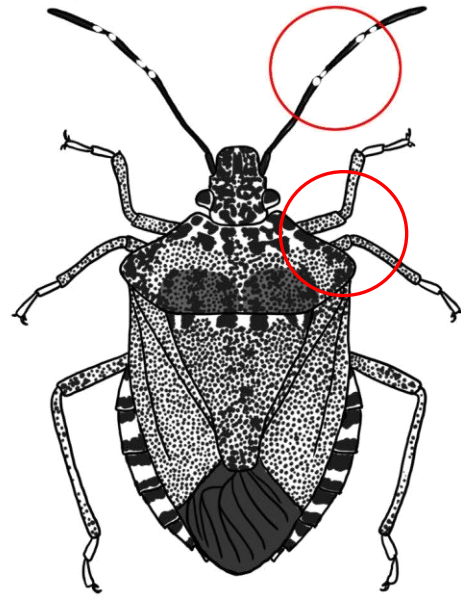
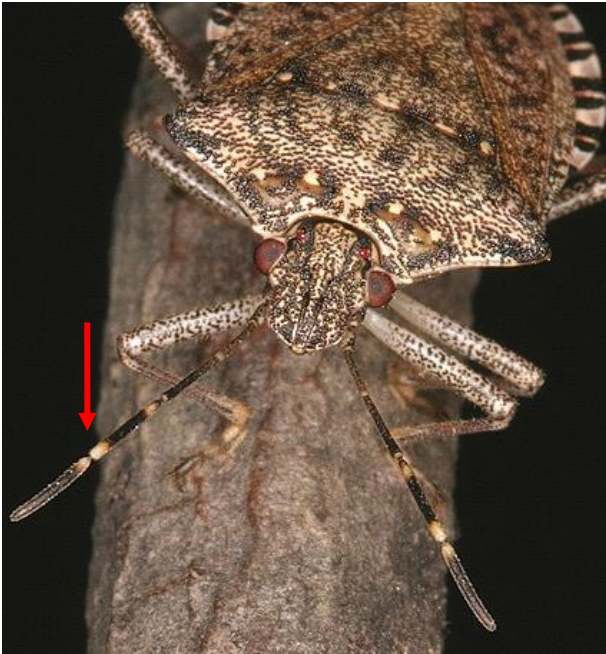
Egg: Spherical, white or pale green, 1.6 x 1.3 mm; laid in clusters of 20 – 30 eggs on the underside of leaves.

Immature (nymph): There are 5 immature stages. Nymphs range in size from 2.4 – 12 mm in length and do not have fully developed wings. 1st instar nymphs are bright orange to red in colour; 2nd instar nymphs are black, tick-like; later instars are pear-shaped, brown with white markings on abdomen and legs and white bands on last two antennal segments.

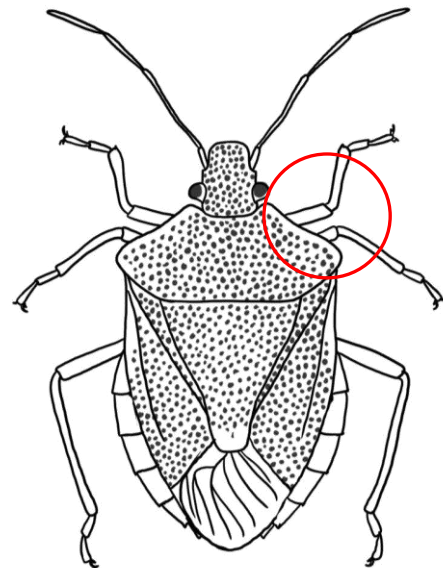


Adult brown marmorated stink bug. Note white bands on antennae

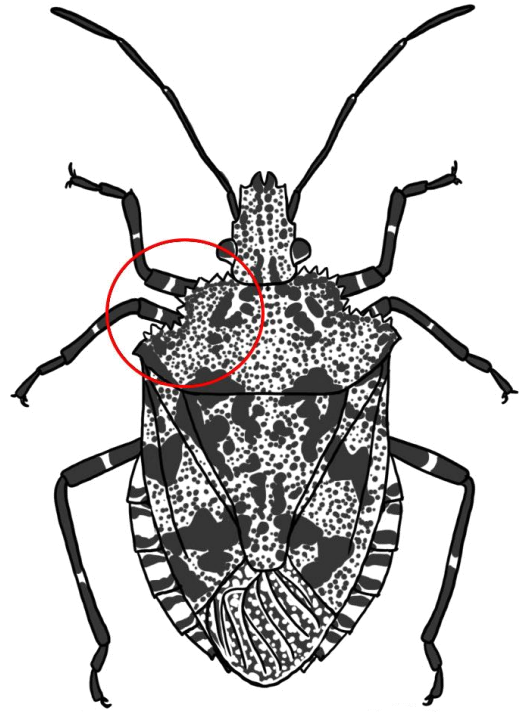
Distinguishing adult brown marmorated stink bugs from native stink bugs and western conifer seed bugs



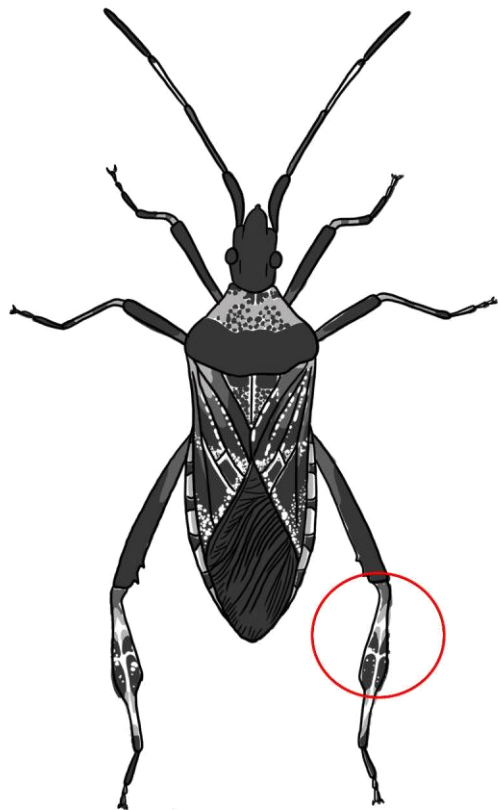
Brown marmorated stink bug has white bands on the antennae and smooth shoulders. *Credits: Adult brown marmorated stink bug photo, Penn State Entomology Department; Illustration, Emma Walker.*



Common brown stink bug has smooth shoulders and no white bands on antennae. *Illustration, Emma Walker.*



Rough stink bug has rough skin and spines on the shoulders. *Illustration, Emma Walker.*



Western conifer seed bug has an elongated body, no white bands on antennae, and leaf-like expansions on back legs. *Illustration, Emma Walker.*

Distribution

Asia: Japan, Korea, Taiwan and China

Europe: Switzerland, Liechtenstein, Germany, Italy, France, Greece, Hungary, Romania, Russia, Abkhazia and Georgia.

United States: Eastern and mid-western states, California, Oregon and Washington.

Canada: Ontario, Quebec, and British Columbia

Hosts

Brown marmorated stink bug attacks tree fruits, berries, grapes, vegetables and ornamental plants. Ornamental hosts include tree of heaven, chokecherry, catalpa, boxelder, white ash, maple, English holly, and buckthorn. In British Columbia, they have been found on Asian pears, vegetables and wild chokecherries.

Life Cycle

Adults overwinter inside buildings or in protected areas and emerge in early spring. Each female can lay up to 400 eggs throughout the summer on host plants, resulting in overlapping nymphal stages. Eggs hatch in 4–5 days; nymphs mature in about 5 weeks depending on temperature. One to two generations per year are reported in the United States and up to 6 generations in Asia.

Damage

Both adults and nymphs feed by inserting their mouthparts into the flesh of fruit or vegetables. Feeding punctures result in small dead areas on fruit, vegetables and leaves. Brown marmorated stink bugs can be a contamination issue for grapes because the presence of a few adults at crush can taint wine.

Management

Biological control: small Samurai wasps, *Trissolcus japonicus* that attack the eggs of brown

marmorated stink bugs in Asia have been found in the United States in Maryland, Virginia, Washington, New York and Oregon. Researchers in British Columbia are looking for the wasp. Other predators such as spiders, ladybugs and lacewings will feed on brown marmorated stink bug eggs.



A female Samurai wasp emerging from brown marmorated stink bug egg. Photo credit: USDA-Aphis quarantine facility, Corvallis, Oregon.

Chemical control: the few registered insecticides for brown marmorated stink bug control in Canada provide only suppression of the pest. For information on registered products in Canada, see <http://www.omafra.gov.on.ca/english/crops/insects/bmsb-registrations.htm>.

Homeowners: please send pictures or samples of suspect finds to the contacts above. Low numbers of brown marmorated stink bugs can be removed by hand, sweeping or a shop vacuum. Prevent entry into the home by sealing off any access points. The use of insecticides for controlling brown marmorated stink bugs in the home is not recommended.



Left, Brown marmorated stink bug eggs; Middle, first instar nymphs with egg shells; Right, fifth instar nymph.



Brown marmorated stink bug external and internal damage to apple; damage to Asian pear. Photo Credit: apple damage Peter Shearer, Oregon State University.



Brown marmorated stink bug damage to peppers, tomatoes and corn. Photo credit: Galen Dively, University of Maryland



Phidippus johnsoni (red-backed jumping spider) female feeding on a brown marmorated stink bug.

Susanna Acheampong PhD
Ministry of Agriculture
1690 Powick Road
Kelowna, BC V1X 7G5
Phone: 250 861-7681
Email: Susanna.Acheampong@gov.bc.ca

March 2017

For Further Information:

- Northeast IPM Center, Brown Marmorated Stink Bug Information: <http://www.stopbmsb.org/>
- Ontario Ministry of Agriculture: <http://www.omafra.gov.on.ca/english/crops/insects/bmsb-resources.html>