

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 first detected in British Columbia in 2015 and is now established urban areas of southwest British Columbia including Vancouver, Fraser valley and Vancouver Island, and the Okanagan.

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 (see pages 2 and 3).

Egg: Spherical, white, or pale green, 1.6 x 1.3 mm; laid in clusters of 20 – 30 eggs on the underside of leaves (see page 4).

Immature (nymph): There are five immature stages. Nymphs range in size from 2.4 – 12 mm in length and do not have fully developed wings. First 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 the

abdomen and legs and white bands on the last two antennal segments (see page 4).

Hosts

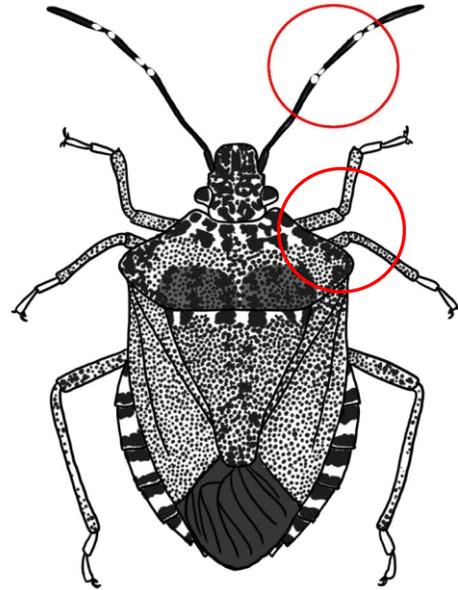
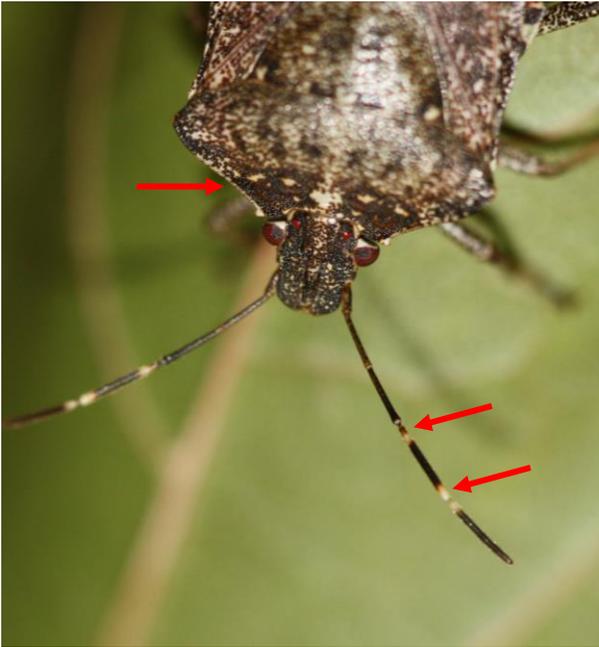
Brown marmorated stink bug attacks tree fruits, berries, grapes, vegetables, and ornamental plants. Hosts recorded to date in British Columbia include backyard Asian pears, apples and apricots, hazelnuts, wild chokecherries, maple, lilac, honey locust, tree of heaven, mountain ash, ash, shiny cotoneaster, catalpa, magnolia, snowberry, scarlet firethorn, rose, rose of Sharon, cedar, Virginia creeper, ginkgo, sumac, hops, runner bean, Oregon grape, privet, handkerchief tree, oak, ornamental prunus, clematis, sunflower, thimbleberry and elderberry.

Brown marmorated stink bug is an emerging pest in British Columbia and has not yet caused significant crop losses to date.

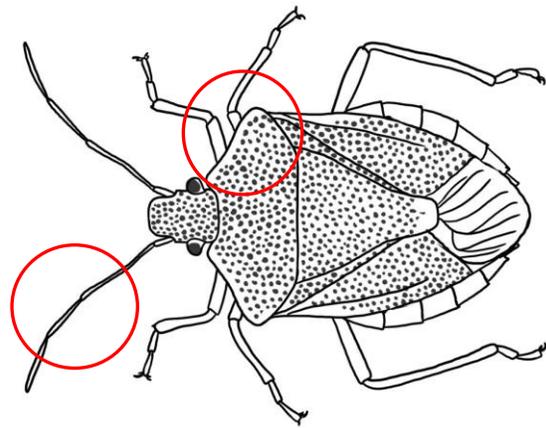
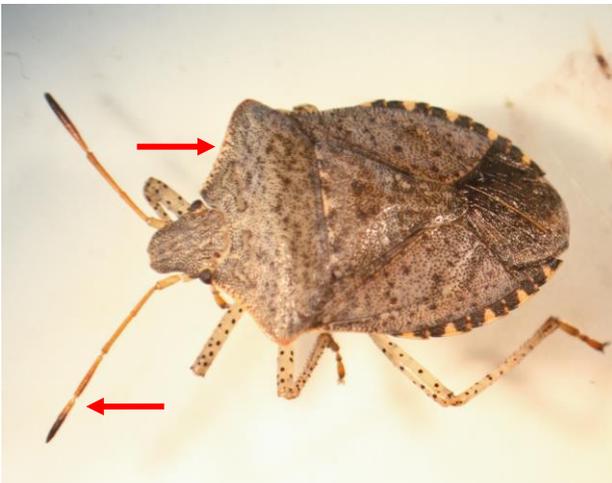


Adult brown marmorated stink bug. Note white bands on antennae.

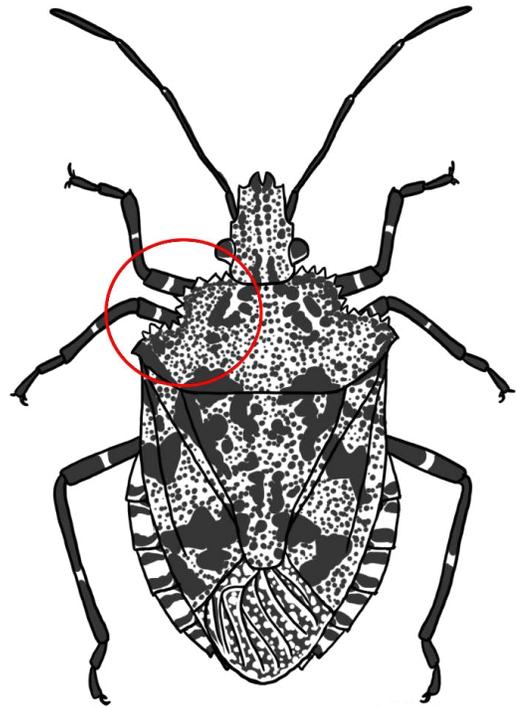
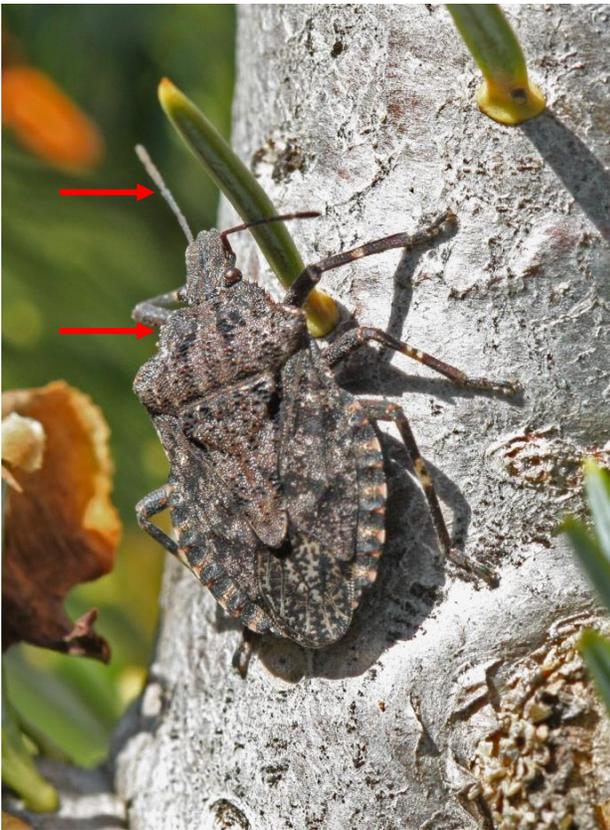
Distinguishing adult brown marmorated stink bugs from native stink bugs and western conifer seed bugs



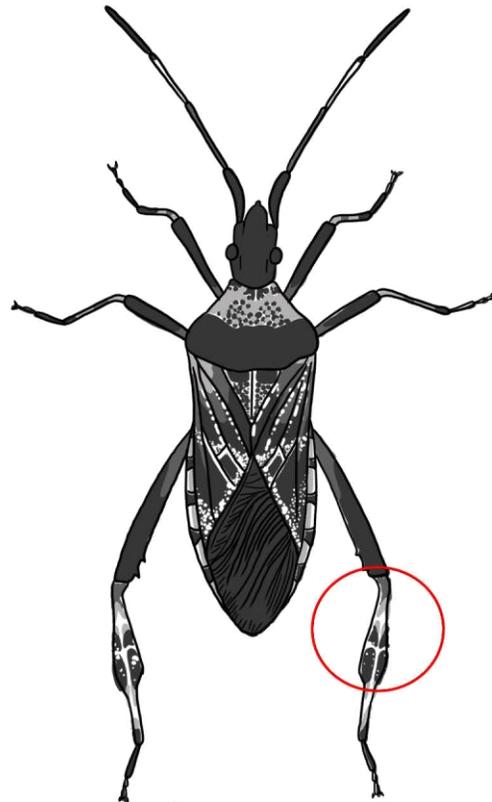
Brown marmorated stink bug has white bands on the antennae and smooth shoulders. *Illustration by Emma Walker.*



Common brown (Conspers) stink bug, *Euschistus conspersus* has smooth shoulders but no white bands on antennae. *Illustration by Emma Walker.*



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



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

Distribution

Asia, Europe, United States, Canada, South America.

Life Cycle

Adults overwinter inside buildings or other 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 – 7 days; nymphs mature in about 5 – 8 weeks depending on temperature. One to two generations per year are reported in the United States, one in British Columbia and more than two generations in some areas of 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, Europe and in British Columbia and Ontario in Canada. These wasps may help suppress the stink bug's populations, but their exact impact is not yet known. Predators of brown marmorated stink bugs include spiders, ladybugs, predatory thrips, lacewings, sand wasps (*Astata occidentalis*) and the red velvet mite, *Balaustium putmani*.

Chemical control: the few registered insecticides for brown marmorated stink bug control in Canada provide only suppression of the pest. Management strategies in the United States include attract and kill with aggregation pheromones, spraying borders only or alternate rows, use of insecticide treated nets and treated nets + pheromones at borders to intercept and kill adults.

Homeowners: 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. For more information see [Controlling Brown Marmorated Stink Bugs in Your Home \(gov.bc.ca\)](http://gov.bc.ca)



Top to bottom, Brown marmorated stink bug eggs, first instar nymphs with eggshells, late third - fifth instar nymphs, and samurai wasp. Photo credits, eggs and nymphs, BC Ministry of Agriculture and Food, samurai wasp, Warren Wong, AAFC, Agassiz Research and Development Centre.



Top: *Astata occidentalis* wasp with paralyzed BMSB nymph and red velvet mite feeding on BMSB eggs in the laboratory.
Bottom: BMSB external and internal damage to apple. Photo credits: *Astata* wasp, Laura Keery, BC Ministry of Agriculture and Food, red velvet mite, Warren Wong, AAFC, Agassiz Research and Development Centre, apple damage, Peter Shearer, Oregon State University.

Further Information:

- BC Ministry of Agriculture:
[Brown Marmorated Stink Bug \(BMSB\) Pest Alert - Province of British Columbia \(gov.bc.ca\)](https://www2.gov.bc.ca/gov/content/agriculture/pests/BMSB/PestAlert)
- Northeast IPM Center, Brown Marmorated Stink Bug Information:
[Stop Brown Marmorated Stink Bug - StopBMSB.org](http://www.stopbmsb.org)
- Ontario Ministry of Agriculture:
[Brown Marmorated Stink Bug \(BMSB\) \(gov.on.ca\)](https://www.gov.on.ca/agriculture/pests/BMSB)

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