

Brown Marmorated Stink Bug

Halyomorpha halys

The Brown Marmorated Stink Bug (BMSB) is the kiwifruit industry's second-most 'unwanted' biosecurity threat after fruit flies; and the risk of it entering New Zealand is now considered extreme.

BMSB can hitchhike on inanimate objects such as cars and shipping containers from Asia, USA and Europe. If it were to enter NZ it would have no problem establishing due to NZ's highly suitable climate and abundance of host material. Its entry and establishment would result in significant production impacts to many horticultural industries. Kiwifruit is a host species and BMSB feeding results in fruit drop and post-harvest rot. Anecdotal reports suggest fruit loss could be up to 30% on some kiwifruit orchards.

Identification

The BMSB has a shield-shaped body that is mottled brown with white banding on the antennae and alternating light/dark bands on the outer edge of the abdomen. Its body is 14 - 17mm long and emits a pungent odor when disturbed. BMSB are larger than other shield bugs found in NZ (Attachment 1).



Figure 1. Adult BMSB with ruler to indicate large size(top), nymph and egg mass (bottom).

The white or pale green cylindrical shaped eggs are laid on the undersides of leaves in clusters of about 25. The eggs are only 1mm in diameter but become apparent when nymphs emerge as they stay with the egg mass for several days. Nymphs are brightly coloured with black and white banding on legs, dark reddish eyes and yellow-reddish underbelly with black stripes (Figure 1&4).

Signs and Symptoms

BMSB feed on a wide range of plants with seeds or fruit including ornamental plants and vegetables. They pierce the outer surface of the fruit and suck out juices while injecting saliva, this causes dimpling on the fruit's surface and rotting and corking of the flesh (Figure 2). Adults are mobile and readily move from plants with early ripening fruit to ones with later ripening fruit. They seek shelter in houses/protected areas in autumn/winter. Egg masses and nymphs may be seen on the undersides of leaves.



Figure 2. BMSB feeding damage on an apple

Distribution and Climate Range

BMSB is now present across three major continents (Figure 3). It is native to Asia and found in China, Japan and Korea. In 1996 it invaded USA where it rapidly spread and is now present in over 43 states. In 2007 it was detected in Switzerland and has now spread to nine countries in Europe and is increasing in numbers and spreading to rural areas including Italian kiwifruit orchards. South-eastern and south-western Australia and much of New Zealand have been identified as having a highly suitable climate for BMSB.

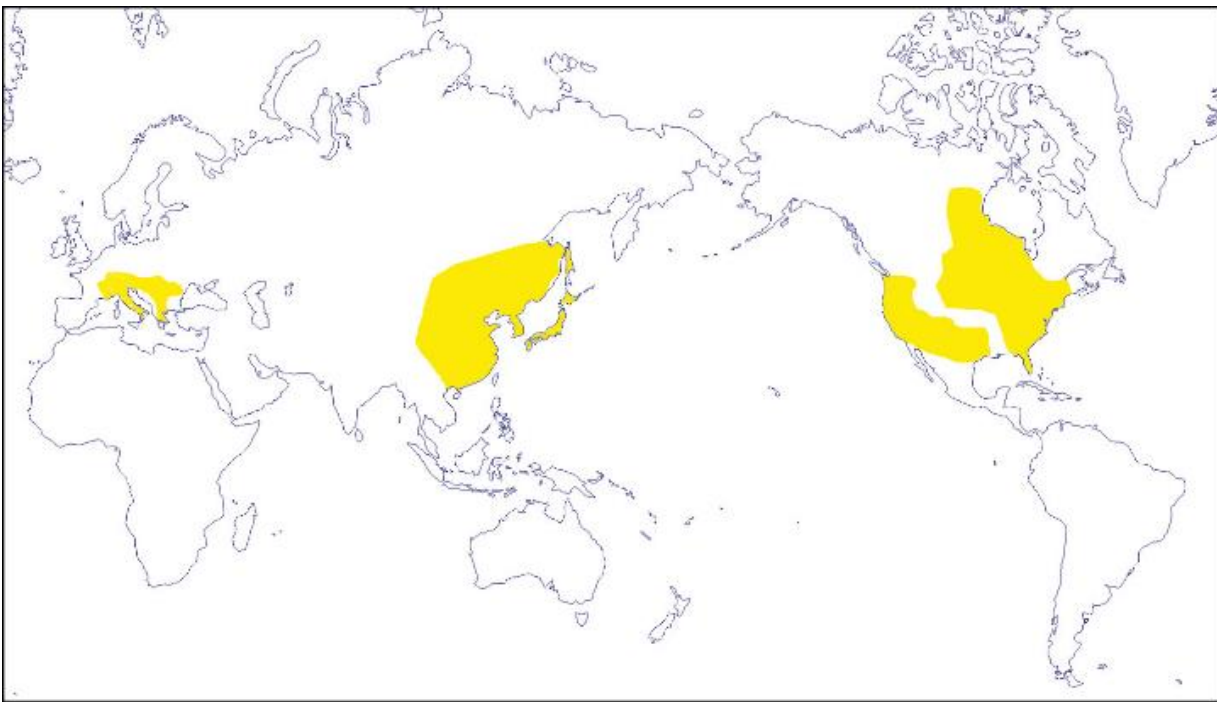


Figure 3. BMSB distribution shown in yellow

Control

Eradication of BMSB is extremely difficult and early detection is crucial for success. While traps are available for monitoring, these are not suitable for use in a surveillance network for early detection, like we have for fruit fly. Therefore, public reporting of suspect finds is critical. KVH has produced fridge magnets for all growers and your friends, please ensure your community is aware of this threat and contact us if you would like more magnets or other material.

Offshore growers manage BMSB by using a range of pesticide or essential oil applications, physical barriers such as netting, traps (light & pheromone) and use of biological control agents. New Zealand is already undertaking pre-emptive risk assessment work to obtain pre-approval for the release of a biological control should we be faced with a breeding population in the future.

More details on management practices are available at STOP BMSB, a large program of 50 researchers in the USA (www.stopbmsb.org/)



Figure 4. Nymphal stages of BMSB (2nd to 5th instar, adult male and adult female. Photo W. Hershberger

What should you do if you think you have seen this pest?

Phone: MPI - 0800 80 99 66 or KVH - 0800 665 825

Kiwifruit Vine Health Incorporated (KVH) makes no warranty or representation as to the accuracy or completeness of the information, photographs or other published material in this publication. KVH shall not be liable to any person for loss, injury or damages arising from a person's reliance on the published material. Published material authored by a person other than KVH reflects the view of the author and not necessarily the view of KVH. The published material may be subject to copyright and shall not be reproduced in any manner without first obtaining the permission of KVH.

www.kvh.org.nz



Brown shield bug (*Dictyotus caenosus*).
Approx 10mm long
Present in New Zealand



Pittosporum shield bug (*Monteithiella humeralis*). Approx 9.6mm long
Present in New Zealand



Brown soldier bug (*Cermatulus nasalis*).
Approx 15mm long
Present in New Zealand



Brown form of Green Vegetable bug (*Nezara viridula*). Approx 17mm long
Present in New Zealand



Brown marmorated stink bug (*Halyomorpha halys*). Approx 17mm long
NOT Present in New Zealand

HOW CAN I IDENTIFY BMSB?

There are currently other species of stink bugs found in New Zealand that could be confused with the Brown Marmorated Stink Bug (BMSB).



Key distinguishing features of the adult BMSB are:

- » its size (14–17mm);
- » white banding on the antennae;
- » alternate black and white markings on the abdomen.



If you are unsure, catch it, call us.
0800 80 99 66