The Samurai Wasp Brings New Hope in the Fight Against Brown Marmorated Stink Bug in Utah

Brown marmorated stink bug (BMSB; *Halyomorpha halys* Stål) is an invasive insect that first invaded Utah in 2012. It has since caused urban nuisance problems for northern Utah residents and poses a serious threat to various commercial fruit and vegetable crops. In June 2019, the samurai wasp (*Trissolcus japonicus* (Ashmead)) was discovered in Salt Lake City. This exotic parasitoid wasp is the most promising agent for biological control of BMSB and is uniquely evolved to lay its eggs inside of BMSB eggs. Help us protect parasitized egg masses in the wild by becoming familiar with the photos below.

Normal BMSB Development

VS.

Parasitized BMSB Eggs

Fig. 1

A healthy developing BMSB egg mass (Fig. 1) is usually a light green color. Egg masses are typically found on the underside of host plant leaves. Developing BMSB eggs are vulnerable to attack by female samurai wasps (Fig. 2), which will lay their eggs inside BMSB eggs.

Fig. 2

Fig. 3

After 5-7 days, first instar nymphs will hatch from healthy eggs (Fig. 3). BMSB eggs will display a black triangle on the top of each egg cap. Egg masses that have been parasitized by the samurai wasp will be dark gray or black in color with no sign of the black triangle on the egg caps (Fig. 4).

Fig. 4

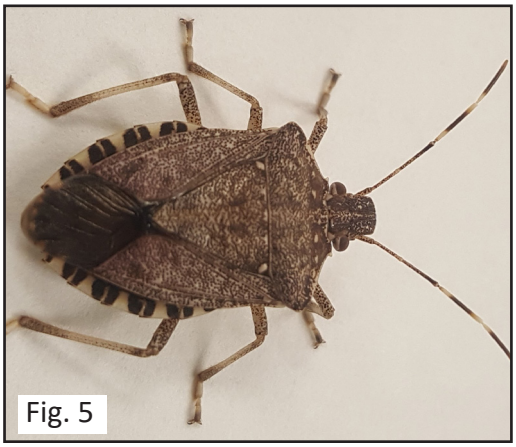
Fig. 5

Healthy BMSB nymphs develop into mature adult stink bugs (Fig. 5). Parasitized eggs will give rise to fully developed adult samurai wasps (Fig. 6), which are small (<1/10 inch long) and black in color. They are difficult to detect in the field and pose no threat to humans (i.e., will not sting).

Fig. 6

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