

Bagrada Bug, *Bagrada hiliaris*, also known as the painted bug, first appeared in California in the summer of 2008 in Los Angeles County, then made its way to Orange and Ventura counties. After good rains in late winter and early spring, the Bagrada Bug infested wild mustard weeds along agricultural corridors and jumped south to Imperial County in the fall of 2009. Many farmers were taken by surprise and serious damage was seen to cole crops, such as broccoli, cabbage, cauliflower and others, especially those organically grown.

The California Department of Food and Agriculture (CDFA) is working with the United States Department of Agriculture, Agricultural Research Service (USDA -ARS) to establish highly specific biocontrol agents that attack Bagrada Bugs. Until recently, nothing like this had been found in California. Parasitoids that attack Bagrada Bug eggs have been imported into a USDA approved quarantine and are undergoing testing for safety to the environment. Surprisingly, during recent California field surveys for native natural enemies, a previously unreported parasitoid was discovered attacking Bagrada Bug eggs.

This natural enemy, *Gryon aetherium*, is the same species under study in USDA quarantine laboratory conditions. *Gryon aetherium* has now been found in three counties in northern California and also in Mexico, showing that it has managed to enter North America on its own, somehow hitchhiking into the US just like Bagrada Bug. (Charles H. Pickett, Editor, 2020, Biological Control Program 2019 Annual Summary, California Department of Food and Agriculture, Plant Health and Pest Prevention Services, Sacramento, California. 86 pp. and Figure 1 & Figure 2)



Figure 1

Dr. Charlie H. Pickett, Senior Environmental Scientist who works in Insect Biological Control for CDFA visited Imperial County in late October, 2021. Dr. Pickett is working on a survey to gather data on local cole crops to look for the presence of all stages of Bagrada Bug in our county. He needs information for distribution of the Bagrada Bug in the whole state of California in order to prepare an application for a permit to release this newly arrived parasitoid throughout California. This will allow for the mass rearing and release of *G. aetherium* into all areas around the state impacted by Bagrada Bug. Survey efforts also continue in areas of California where *G. aetherium* has not yet been found, including Imperial County. Further discoveries of this parasitoid will help justify obtaining the release permit. The Imperial County Agricultural Commissioner's Office will be assisting Dr. Pickett with field and Pest Control Adviser information, and will get him in contact with our local Imperial Valley Conservation Research Center, the UC Cooperative Extension, and the University of Arizona.

Biological control, a component of Integrated Pest Management, directly benefits the agricultural industry as well as the general public and consumers, because it implements a pest control approach with minimum disruption of the environment, reducing the use of synthetic pesticides, improving worker safety, and serving as an environmentally friendly alternative for the control of noxious pests.



Figure 2



Office of the
Agricultural Commissioner
Sealer of Weights and Measures