

Bagrada Bug

Bagrada hilaris (Burmeister 1835)



Family: Pentatomidae
(Stink bugs)

Order: Hemiptera
(true bugs)

Common names: bagrada bug, painted bug, painted stink bug, African stink bug

Bagrada Bug

Female



Male



Photo by G. Arakelian

Bagrada Bugs are Prolific

Photo by Gevork Arakelian

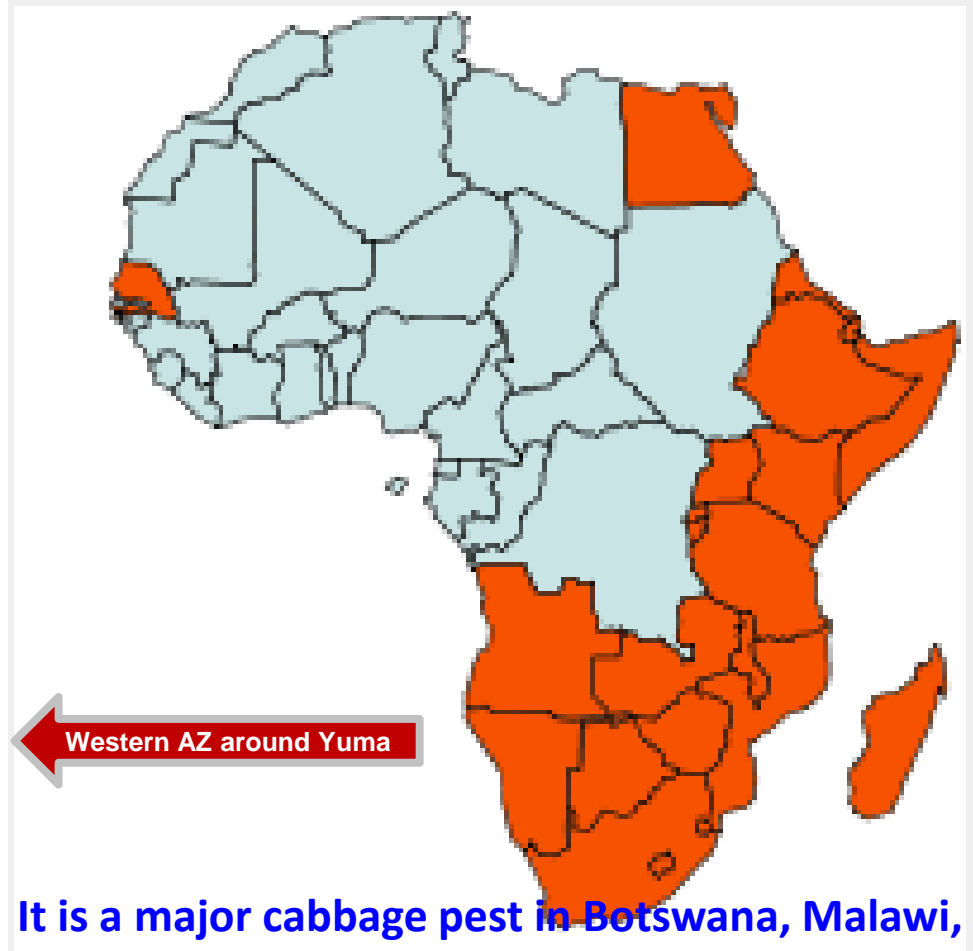


Photo by Ron Hemberger

Bagrada Bug Distribution and Spread



Distribution in Africa



Bagrada bugs in San Pedro, California



Relative Size of the Bagrada Bug



Size comparison of Bagrada bugs and Convergent Lady Beetles
 $\frac{1}{4}$ " or 6-8 mm

Photo courtesy of: *What's That Bug?*

The Bagrađa bug spreads



Bagrada Bug Spreading in CA





Photo by Ettore Balocchi

Bagra Bug Host Range

Crops: Brassicaceae: arugula, broccoli, Brussels sprouts, cabbage, Chinese cabbage, cauliflower, collard greens, cress, horseradish, kale, mustard, radish, rapeseed (canola), rutabaga, turnips, wasabi, & watercress.

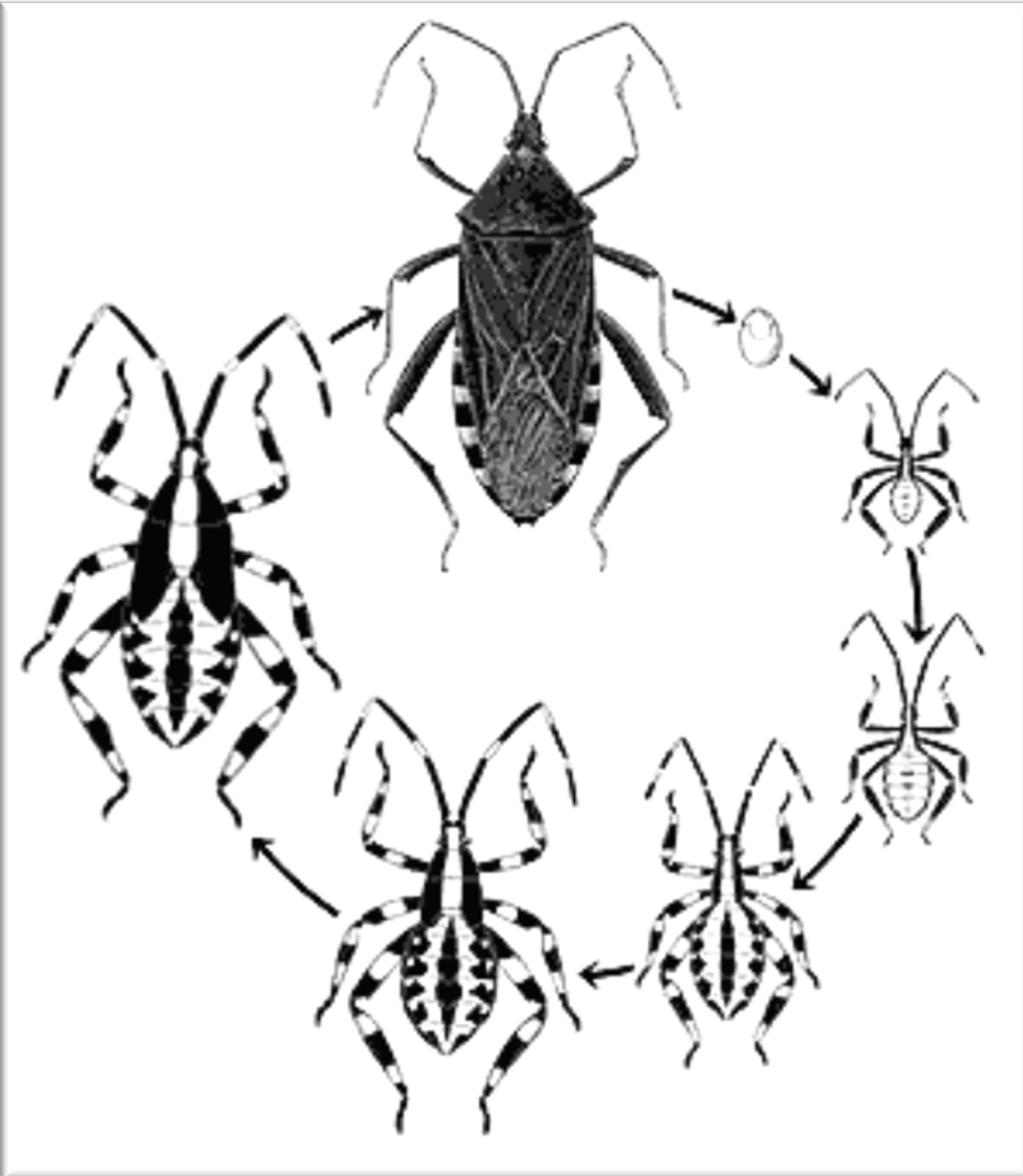
Ornamentals include candytuft, *Lunaria* (honesty) purple rock cress, stock, sweet alyssum, & the weeds London rocket, & shepherd's purse.

Other hosts are sorghum, Sudangrass, corn, cucurbits, potato, cotton, okra, pearl millet, sugar cane, wheat, and some legumes and those yet to be observed in the western hemisphere

Hemiptera Life Cycle

Incomplete Metamorphosis

1. Eggs
2. 6 -8 nymphal stages: moulting each time, and are wingless
3. Adult stage: winged & sexually mature



Life stages of the Bagrada Bug

Adults are 5-7 mm (¼ inch) in length



Photos courtesy of F. Haas, icipe

Photo courtesy of Elliotte Rusty Harold

Look alike: The Harlequin Bug

Murgantia histrionica (Hahn 1834)



The Harlequin bug spread from Mexico into the southern US around the time of the Civil War. It also feeds on members of the Brassicaceae family.

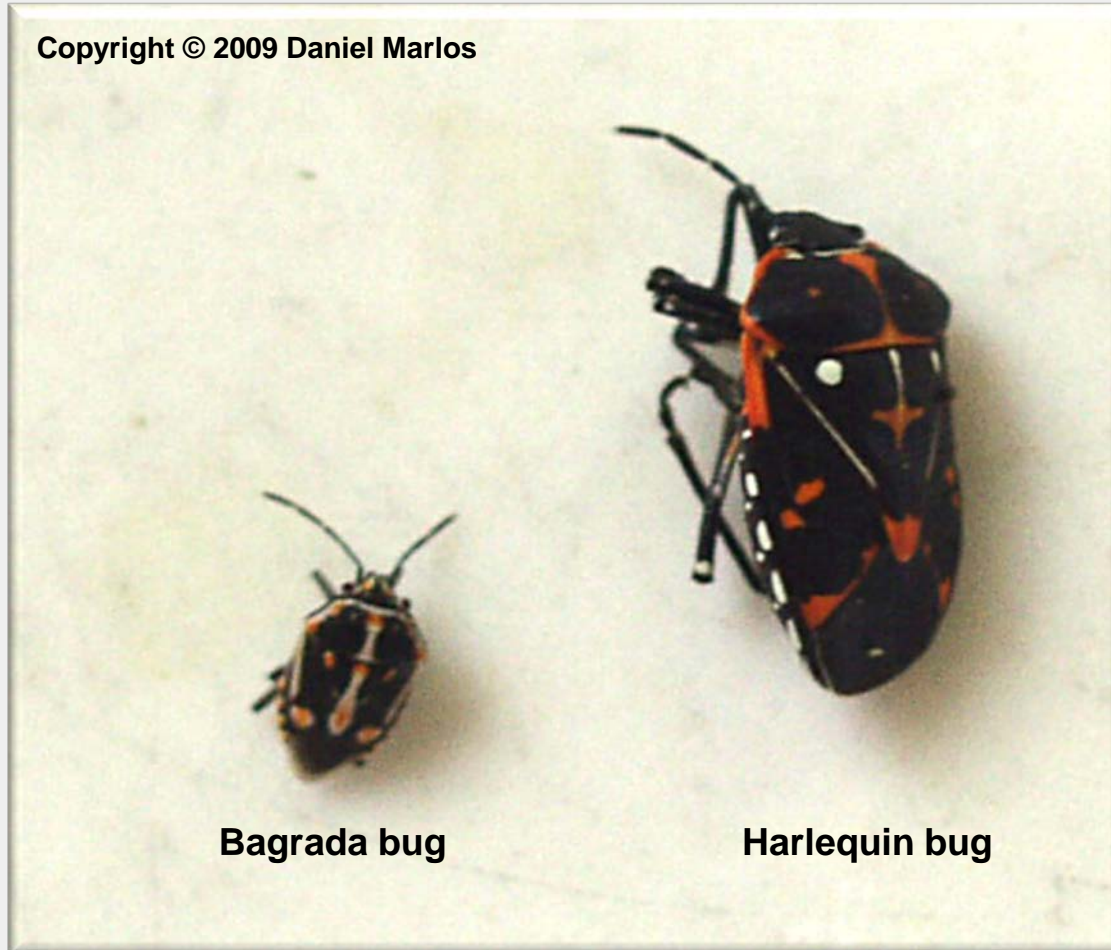
The Harlequin Bug



The harlequin cabbage bug ,also known as calico bug, fire bug or harlequin bug, is a black stinkbug of the family Pentatomidae, brilliantly marked with red, orange and yellow. It is destructive to cabbage and related plants in tropical America as well as throughout most of North America, especially the warmer parts of the United States. In addition to cabbage it can be a major pest to crops such as broccoli, radishes and the ornamental flower cleome. Nymphs are active during the summer and in the South the bug can achieve three generations a year. In the North there is only one generation annually and the insects overwinter as adults.

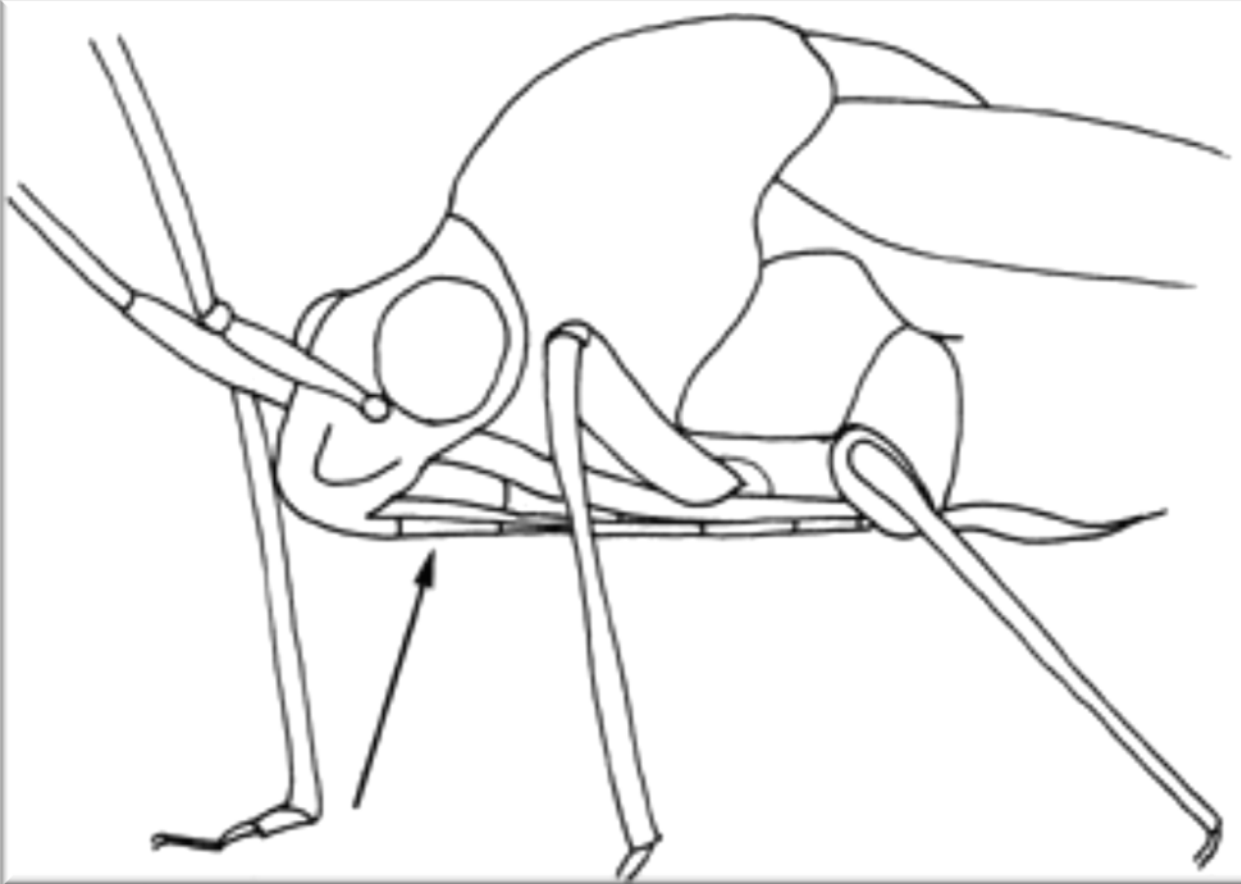
© Smithsonian Institution, National Museum of Natural History, Department of Entomology

Bagrada vs. Harlequin bug



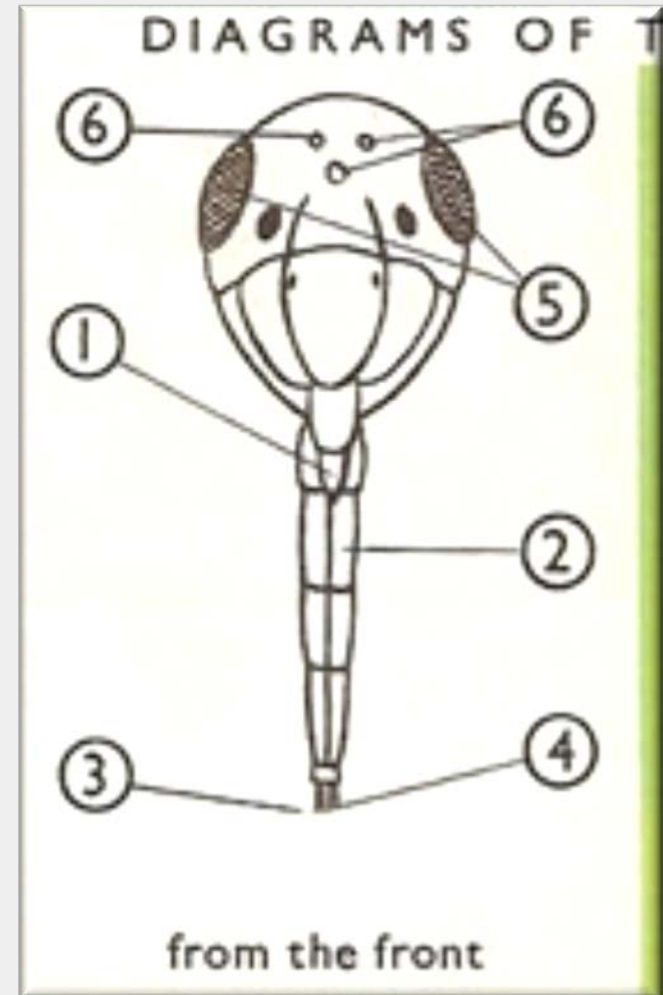
Found in the neighborhood of Mount Washington near downtown Los Angeles, Los Angeles County, California, USA, July 26, 2009

The Mouthparts of the Bagrada Bug



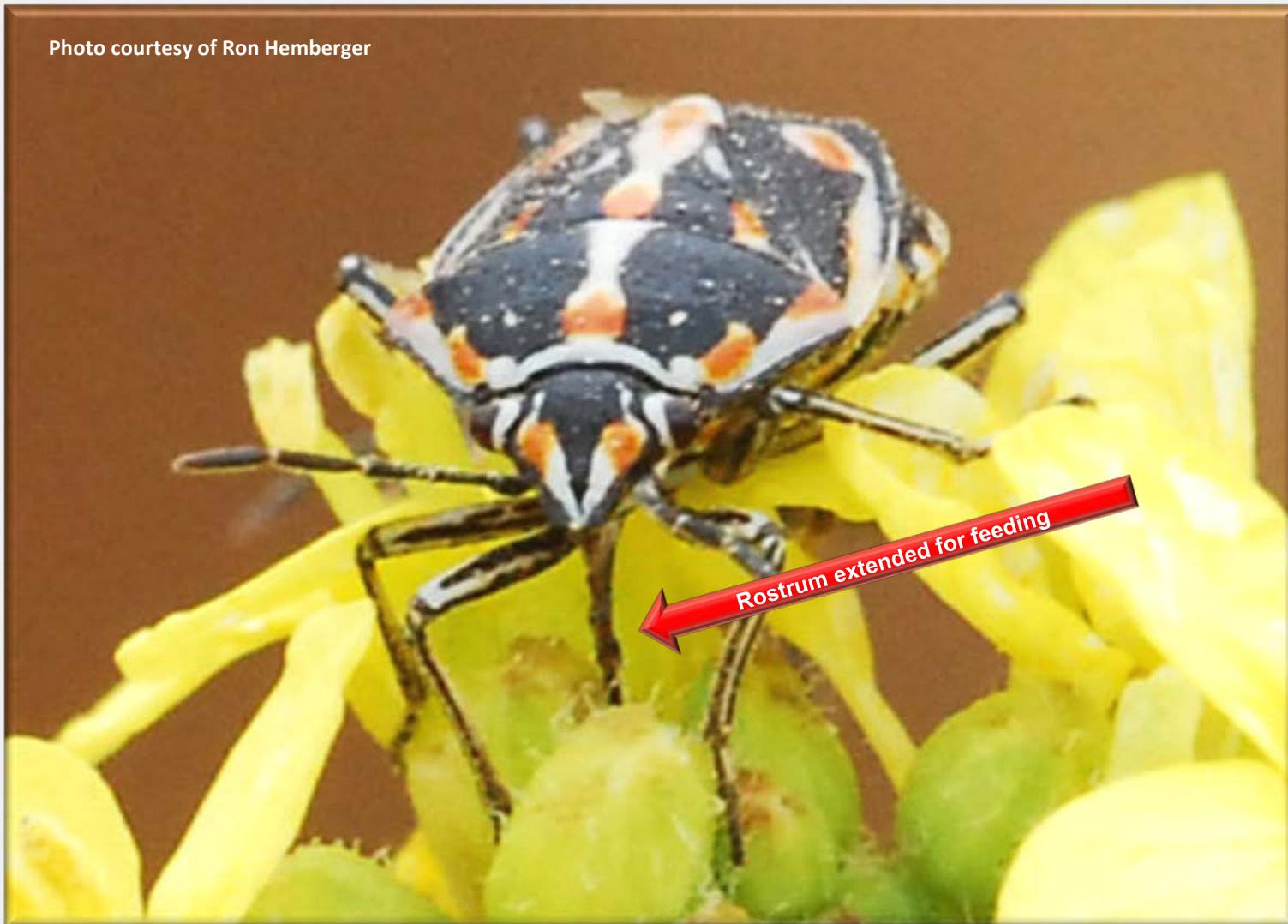
Mouthparts of Hemiptera - rostrum marked with arrow

The proboscis, sheathed within a modified labium to form a "beak" or "rostrum" which is capable of piercing tissues (usually plant tissues) and sucking out the liquids — typically sap.



Bagrada Bug Feeding

Photo courtesy of Ron Hemberger



The rostrum is described as “needle-like” in its ability to pierce plant tissue

Bagrada Bug Crop Damage

Feeding on a fig



Photo by Judi V. Cugat

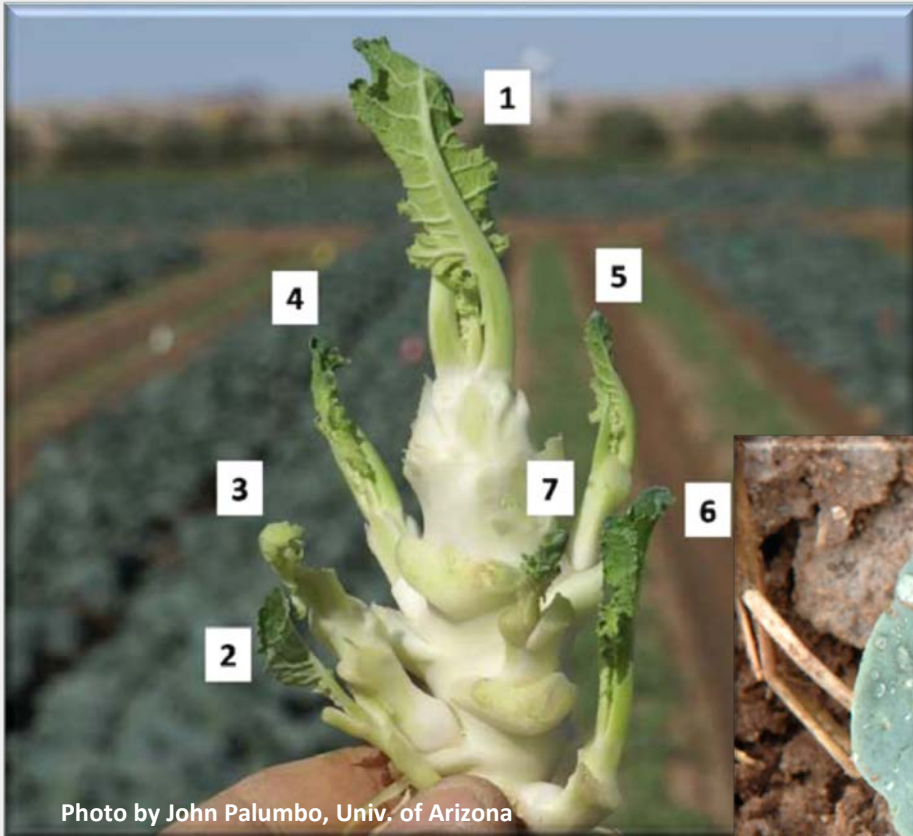


Photo by John Palumbo, Univ. of Arizona

Bagrada Bug damage to broccoli



Photo by Joselito Villero

Damage to cauliflower seedling

Bagrada Bug Crop Damage



Bagrada bugs on peppers (Photo by Brendan Kreute, PCA in Ventura Co)

Wild Mustards

Photo courtesy of Steven R. Kutcher



Bagrada bugs aggregate and feed on black mustard



Multiple life stages of Bagrada bug aggregate on many plants, including non-hosts, in the fall when pest populations are high and food is scarce.

Biocontrol of Bagrada Bug



Bagrada bug killed by *Beauveria bassiana*
Surendra Dara, UCCE



Bagrada bug killed by *Paecilomyces fumosoroseus*
Surendra Dara, UCCE

Bagrada bug adults infected and killed by commercially available formulations of three insect pathogenic fungi. Fungal spores penetrate the insect, spread through the body, kill the insect, and emerge from the cadaver producing more spores.

Cultural Practices

Bagrada eggs laid in soil are more difficult to control. Covering well irrigated bare soil with a thin sheet of clear plastic for several weeks during warm weather will control hatching nymphs and may also control eggs if the soil temperature is high enough.



Pesticide Control of *Bagrada* bugs

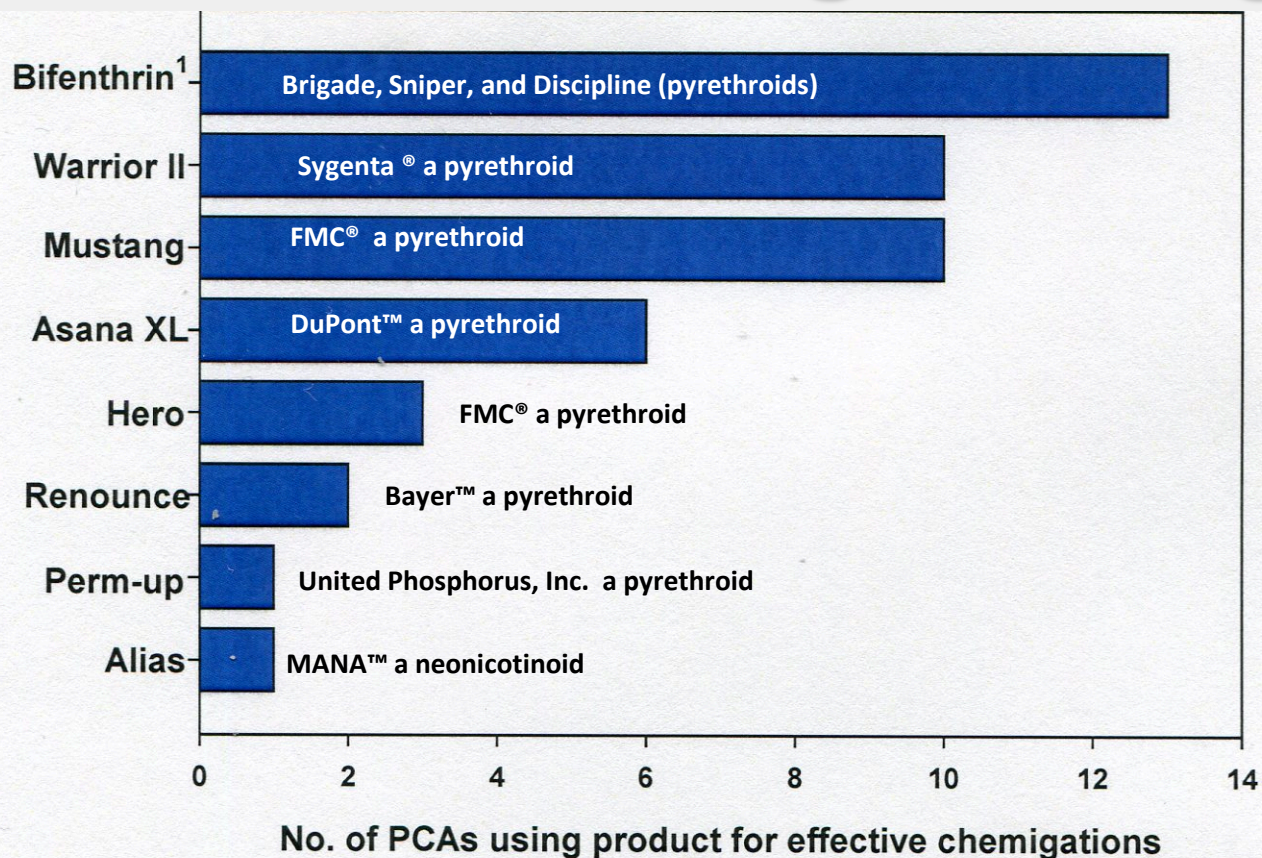


Figure 3. Insecticides reported as effective against *Bagrada* bug adult infestations when applied as chemigations on cole crops in Yuma and Imperial Valley in 2010.

¹ several formulations including Brigade (7), Sniper (5) and Discipline (1).