



Natural Enemies of Crop Pests in Hawai'i



Minute Pirate Bugs (predators)

What to look for

Minute pirate bugs (*Orius*) are found on a wide range of crops. As generalist predators in both the nymph and adult stages, they attack almost anything small enough for them to handle. When prey are not available, they feed on pollen and plant juices, so look for them in corn silks and where there are spring and summer-flowering shrubs and weeds.



Minute pirate bug nymph among spider mite eggs.

Appearance

Adults are small, 1/16–1/8 inch, and black, with white X-shaped patches on their wings. They are very mobile.

Orius Nymphs are yellow-orange or brown and teardrop-shaped.

Crops protected

greenhouse crops
sweet corn
beans
tomato
and many others

Pests attacked

insect eggs
small caterpillars
thrips
mites
aphids

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Corn earworm larvae, *Orius* prey



Minute Pirate Bugs

Minute pirate bug nymphs and adults can consume 30 or more spider mites per day. They are voracious predators on thrips. *Orius* have been observed feeding on leafhopper nymphs in corn. Reducing use of broad-spectrum insecticidal sprays helps to protect populations of these predators. Also, planting spring and summer-flowering plants will help them survive periods of scarce prey.

Orius species side view, showing mouthparts (rostrum). It uses the rostrum to pierce and suck the contents of prey

Predators

Predators are beneficial insects that attack, kill, or consume a wide variety of common pests. Males, females, immatures, and adults may all be predatory. Predators include lacewings, flies, spiders, beetles, true bugs, and predatory mites.



Photo Credits: Front Top Image - Hemiptera:Anthoconidae *Orius* species by Mark Wright, Minute pirate bug nymph among spider mite eggs from *Natural Enemies of Vegetable Insect Pests*, Corn earworm larvae by Gregbaker, *Orius* species side view by Mark Wright, Praying Mantis w/ prey by Tam Stuart, www.tnstuart@comcast.net.

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