

Bigeyed Bug, *Geocoris* Species

Geocoris are predatory insects. Nymphs are predominately silver-gray with black markings and have a wide head and prominent bulging, widely-spaced eyes. They are fast moving and can be seen feeding on thrips, moth eggs, and small caterpillars.



Jack Kelly Clark, University of California

Tarnished Plant Bug, *Lygus lineolaris*

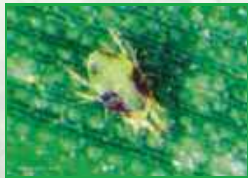
Nymphs are about 1-5 mm long, are wingless and yellow-green, darkening and developing wing pads as they mature. The third through fifth instars have black dorsal spots and are fast moving.



Scott Bauer, USDA-ARS

Twospotted Spider Mite, *Tetranychus urticae*

Larvae have six legs; nymphs and adults have eight. Adults are about 0.3-0.4 mm long. Color is greenish-yellow to dull orange with a large dark spot on each side of the body. They are especially common during periods of hot, dry weather and are usually first seen along field edges. Initial damage appears as stippling on the underside of leaves. Extreme webbing and defoliation can occur if populations are large.



Marlin E. Rice, Iowa State University



Whitney Cranshaw, Colorado State University



ipmPIPE

PEST INFORMATION PLATFORM
FOR EXTENSION & EDUCATION

IDENTIFICATION OF
soybean
aphid
AND
look-alike
species



Ho Jung Yoo, Purdue University

Authors: Ames Herbert (Virginia Tech), Sean Malone (Virginia Tech), Eileen Cullen (University of Wisconsin), and Susan Ratcliffe (University of Illinois).

Graphic Designer: Scott D. Martin (University of Illinois)

This guide was produced and distributed in cooperation with USDA Cooperative State Research, Education, and Extension Service (CSREES), Risk Management Agency, Animal and Plant Health Inspection Service, Agricultural Research Service, Regional IPM Centers, National Plant Diagnostic Network, the Land-Grant University System, SDC329: Biology, impact, and management of soybean insect pests in soybean production systems. (S-1010)

Identification of Soybean Aphid & Look-alike Species

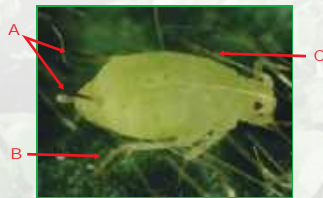
The soybean aphid, *Aphis glycines* Matsumura, is a small, pear-shaped bright green to yellow aphid with dark tips on the cornicles (two tube-like structures or “tailpipes” on the tip of the abdomen); the cauda



Martin Spellman

or tail end of the abdomen is pale and narrow with four or five pairs of setae, or hair-like structures. This aphid can be found on growing points and young leaves of early vegetative soybean plants. As soybean plants mature from late vegetative through reproductive stages, aphids are found on all plant parts. Although most common on undersides of leaves, they also occur on stems, petioles and upper leaf surfaces. Soybean aphid damages plants by sucking phloem (plant sap) resulting in plant stunting, reduced pod set, and smaller seed size. If populations are large, feeding may cause shiny, sticky leaves coated with aphid exudate (“honey dew”) and black “sooty” mold fungal growth on soybean leaves.

Refer to the picture for distinctive features of a soybean aphid. (A) black tipped cornicles, (B) six legs, and (C) six segmented antennae. Make certain that your pest identification is correct before making any insecticide application.



Robert Venette, USDA Forest Service

This image shows several forms of soybean aphid - the normal green form (A), a darker form (B), shed exoskeletons (C), and “mummies” of parasitized aphids (D) (aphids can be parasitized by small wasps that develop inside the aphid body and exit leaving a hollow outer shell called a mummy).



Martin Spellman

Similar-looking Species

Several other aphid species feed on soybean, but they are migratory and rarely colonize soybean. One that is commonly encountered on soybean and can be confused with the soybean aphid is the cotton aphid, *Aphis gossypii* (Fig. 1A). The cotton aphid, also called the melon aphid, has a broader cauda compared with the soybean aphid (Fig. 1B), has two pairs of strongly curved setae (soybean aphid has 4-5) and five segmented antennae. Cotton aphids are usually yellow or yellow-green when on cotton and soybean, but they can be light green mottled with dark green, and even dark green, especially when on melons. Cornicles are all pale (cotton) or all dark (melons).

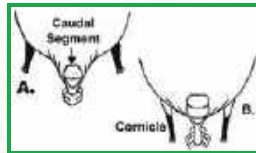


Fig. 1 - Caudal segment and cornicles of the cotton aphid (A), and soybean aphid (B).

Drawing by Angelika P. Schmid-Riley, courtesy of the University of Georgia, College of Agricultural & Environmental Sciences.

There are several other soft-bodied insects that can occur on soybean that may resemble the soybean aphid. CAUTION should be taken not to misidentify these, as false positives may result in costly unnecessary insecticide applications.

Thrips Species

Thrips are rarely a significant pest of soybean but often occur at the same time in the field with the soybean aphid. Adult and larval thrips have slender, cigar-shaped bodies. Both stages are active crawlers. Adults (A) have feathery wings, can be yellow, dark colored or strongly banded. Larvae (B) are wingless and usually pale to yellowish in color. Their feeding causes a faint striping and silvery appearance to soybean leaves.



Don Steinkraus, University of Arkansas



Michele Roy
Quebec Ministry of Agriculture

Orius Species

Orius are predatory insects. Nymphs (immatures) are shiny yellow to amber colored with a pear-shaped body with red eyes and no wings, and are active crawlers often seen feeding on aphids.



John Obermeyer, Purdue University



Jonathan Lundgren, USDA-ARS

Whitefly Species

Various whitefly species are known to feed on soybean but have never been known to cause economic damage. Whiteflies are most commonly seen on velvetleaf or button weed, and soybean fields with heavy weed populations may have higher whitefly numbers. First instars (crawlers) (A) are legged and oval shaped, about 0.3 by 0.15 mm. The second, third and fourth instars are also oval, do not have legs, and are slightly larger than the first instar. The late fourth instar (pupa) (B) is about 0.7 by 0.4 mm and appears waxy and is tightly attached to the leaf with marginal filaments (tiny hair-like structures around the entire outer edge). Coloration may vary.



Marlin E. Rice, Iowa State University



Jim Kalisch, University of Nebraska

Mealybug

Mealybugs are closely related and look similar to whiteflies. They are oval shaped and are covered with waxy, white, mealy secretions. Like whiteflies, they also have an active crawler stage and an inactive stage. Although not common, they can occur on soybean leaves and stems, but are not known to cause significant damage.



Lyle Buss, University of Florida

Potato Leafhopper, *Empoasca fabae*

Nymphs are 2-3 mm long, wedge-shaped, pale in color, and wingless. Older nymphs are bright green, with prominent eyes and have wing pads. Unlike aphids, nymphs move sideways rapidly when disturbed.



Marlin E. Rice, Iowa State University