

Colorado Insect of Interest

Wheel Bug

Scientific Name: *Arilus cristatus* (Linnaeus)

Order: Hemiptera (True Bugs, Aphids, Scale Insects, Hoppers, Cicadas, etc.)

Family: Reduviidae (Assassin Bugs)

Identification and Descriptive Features:

The wheel bug is the largest member of the assassin bug family (Reduviidae) found in Colorado with adults usually exceeding 1-inch in length (28-36 mm), females being a bit larger than males. The adults are generally gray and are marked with a very characteristic toothed crest on the back of the prothorax, somewhat resembling the teeth of a cogwheel. Nymphs are smaller, wingless, and have a red or orange abdomen. The mouthparts ("beak") are usually quite visible in side view.

Distribution in Colorado: Within Colorado, the wheel bug is largely restricted to the southeastern counties, including those within the Arkansas River Valley.

Life History and Habits: Like most assassin bugs, the wheel bug is a predator of other insects.

They are usually found on trees and shrubs but may occur on annual flowers (e.g., sunflowers). They patrol plants slowly or wait for prey to ambush. Prey insects are grabbed by the front legs of the wheel bug then subdued by inserting its mouthparts into the insect prey and injecting a paralyzing saliva. Wheel bugs are highly capable predators that can overcome a wide range of prey including various caterpillars, moths, wasps, bees, stink bugs and beetles. They may also be cannibalistic.

Winter is spent in the egg stage. Eggs are laid in masses, attached to small branches and twigs and eggs hatch the following spring, often in May. The newly emerged nymphs are wingless and have a reddish or orangish abdomen. Within about three months after eggs have hatched the immature stages (5 instars) will be completed and they will change to the ultimate adult form. After mating the females lay the masses of eggs that survive through the next winter. There is one generation produced per year with most adults found during late July through August.



Figure 1. Wheel bug, adult.



Figure 2. Egg masses of the wheel bug with a few nymphs that have recently hatched. Photograph courtesy of Jim Kalisch, University of Nebraska.



Figure 3. Nymph of a wheel bug feeding on a weevil. Photograph courtesy of Susan Ellis and BugWood Images.

Wheel bugs are non-aggressive insects. However, if held next to the skin they are capable of producing a very painful bite with pain that may persist for a few days.



Figure 4. Adult male (top) and female wheel bug. Photograph courtesy of Joseph Berger, BugWood Images.