Zelus luridus – A Common Assassin Bug

Figure 1. *Zelus luridus*, adult.

Scientific Name: *Zelus luridus* Stal

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

Identification and Descriptive Features: Adults are elongate-bodied insects with a narrow head that supports it beak-like mouthparts. Average length of adult females is 16 mm, males are slightly smaller (14 mm), and coloration varies from yellow-green to yellow or reddish brown. Nymphs are more narrow-bodied, wingless and green.

The most commonly observed life stage of *Zelus luridus* is the egg mass, which is found on leaves. The eggs are laid on end in groups of a couple of dozen and glued together with a sticky, brownish material. Altogether, the egg mass has a somewhat conical form, with a flat top exposing the circular top of each egg.

Figure 2. *Zelus luridus*, egg mass. At least some of the eggs in thecenter of the egg mass have already hatched..

Distribution in Colorado: *Zelus luridus* is associated with deciduous trees and shrubs found in forested or residential areas. It is common along the Front Range of eastern Colorado and is also known from the Tri-viver County area of western Colorado.

Life History and Habits: *Zelus luridus* is a predator of other insects that occur on leaves of deciduous trees and shrubs. Often they wait in ambush resting on a leaf, but they may actively hunt. *Zelus luridus* can often be seen feeding on prey such as small flies, wasps or sawflies but will hunt more sedentary insects such as caterpillars.

Winter is spent as a late stage nymph, among fallen leaves or other protected sites. They resume activity in spring and adults begin to appear in late spring.

Figure 3. Late instar *Zelus luridus* nymph, feeding on elm sawfly..

After mating females lay a series of of egg masses, typically about ten, each containing up to 4 dozen eggs. Eggs are laid from late June through August, at intervals of about one week.

Upon egg hatch the nymphs often cluster around the egg mass for several days and may feed collectively on prey during the first week. They then scatter and spend the rest of their lives as solitary hunters going through five nymphal instars before reaching the adult stage. There is one generation produced per year.

Zelus luridus has forelegs modified to help grasp prey. However, they also use sticky substances to ensnare and hold insects. Newly hatched nymphs use the sticky coating of the egg mass to cover the forelegs. Older nymphs and adults have specialized "sundew setae" that produce the sticky fluid of the forelegs.

Related Species: Two other species of *Zelus* assassin bugs occur in Colorado, *Z. tetracanthus* Stal and *Z. renardii* Kolenti. The former is more common and the latter is restricted to the southern part of the state.

Note on First Aid for Assassin Bug Bites: Assassin bugs are not aggressive and do not seek out or attack humans but will bite if handled or accidentally pressed against the skin. Assassin bug bites can be quite painful immediately with some pain and swelling persisting for a day or two. In very rare cases medically important complications develop, from secondary infections of the bite or anaphylactic shock.

Figure 3. First instar *Zelus luridus* nymph. The prey (small fly) it had been feeding on remains stuck to the foreleg.

The following statement on first aid for assassin bug bites was borrowed from the Texas A&M blog *Bugs in the City* by Michael Merchant: "Persons who are bitten should wash and apply antiseptic to the site of the bite. Oral analgesics, such as aspirin or ibuprofen, may be useful to reduce the pain. Treatment by a physician is not usually needed, though Caladryl® or topical corticosteroids may help reduce swelling or itching at the site of the bite. As with any insect sting or bite, the victim should seek medical attention immediately if there is any sign of anaphylactic reaction, such as generalized swelling, itching, hives or difficulty breathing."

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