

Conenose Bugs (“Kissing Bugs”) and Insects of Similar Appearance in Colorado

Fact Sheet 5.624

Insect Series | Home & Garden

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Conenose bugs (*Triatoma* species) are insects that feed on the blood of various wild animals, particularly rodents. Mammals are their most common hosts but they will occasionally feed on birds and reptiles. Other names for these insects are “kissing bugs” or “bloodsucking conenose bugs”. All of the conenose bugs are a type of assassin bug, placed in the subfamily Triatominae, and most of the species are in the genus *Triatoma*. Therefore, these bugs are sometimes referred to as “triatomines”.



Figure 1. Adult of the western conenose, *Triatoma protracta*, the only “kissing bug” that is known to occur in Colorado.

The only species of triatomine known to occur in Colorado is the western conenose, *Triatoma protracta*.

In sites where conenose bugs occur in close proximity to homes, humans may be bitten. Conenose bugs feed at night, producing a bite that is painless

(a “kiss”). There may be no noticeable effect of bite, although an allergic reaction (itching, swelling, etc.) to the saliva of the bug may occur in some people that are bitten more than once.

The greatest concern about these insects is that they can transmit a pathogen (*Trypanosoma cruzi*) that produces Chagas Disease. A good source of information on Chagas Disease is the Centers for Disease Control (CDC) at:

<https://www.cdc.gov/parasites/chagas/>

Conenose Bugs (“Kissing Bugs”) in Colorado

As a group, conenose bugs are most common in the tropical areas of the Americas. They do occur in some parts of the United States, predominantly in the southern states. The most widespread species is eastern blood-sucking conenose (*Triatoma sanguisuga*), which occurs throughout most of the southeastern United States, extending northward to Maryland and most of the midwestern states.

Only one species of “kissing bug” is occurs in Colorado. The western



Quick Facts

- Only one species of “kissing bug” has ever been found in Colorado, *Triatoma protracta* (western conenose).
- Western conenose is rare and restricted to rural areas, usually near nests of packrats (woodrats).
- There are several insects that are commonly mistaken for “kissing bugs” that do occur in and around homes statewide, including western conifer-seed bug and masked hunter.

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Figure 2. Specimens of the western conenose bug *Triatoma protracta* housed at the C. P. Gillette Museum of Arthropod Diversity, Colorado State University. Some of these are from western Colorado. Females are larger than males. This is the only “kissing bug” that occurs in Colorado.

conenose (*Triatoma protracta*) is a native species that occurs in low populations in rural areas, almost entirely in western Colorado. Museum records of this species at Colorado State University C. P. Gillette Museum of Arthropod Diversity include one record from Mesa Verde (Montezuma County), one from San Miguel County, one from Garfield County (dating to 1945) and additional records from Mesa County. It is also known from around Dinosaur National Monument (Moffat County). There is an historical record of it apparently from a mining camp in Gilpin County and in a rural site in El Paso County. Assuming these records are accurate, western conenose may exist in some rural areas east of the Continental Divide.

The western conenose bug is not a species found in urban sites. It resides in natural undisturbed areas in close association with certain wild animal hosts, particularly nests of woodrats (*Neotoma* spp.). If these insects are found in homes, the home is likely in very close proximity with nesting woodrats.

Conenose bugs have been known to feed on domestic dogs and dogs are susceptible to Chagas disease. To date (February 2020) there have been no recorded infections of Chagas disease from Colorado.

Interest and concern about conenose bugs in Colorado spiked in 2019 following a national press release which reported the organism that can produce Chagas disease (*Trypanosoma cruzi*) was detected in Colorado. News coverage of this finding often were written in ways that made this report suggest that the Chagas disease organism is new to Colorado. Many of the reports also incorrectly cited a different species of “kissing bug” as being present in Colorado (*Triatoma sanguisuga*) and seemed to suggest that it had extended its range into the state.

Rather, the detection of *Trypanosoma cruzi* in Colorado is due to the fact that only recently has a dedicated effort been made to detect this parasite among Colorado populations of western conenose. Due to its habits, western conenose is considered to be poorly capable of transmitting *T. cruzi* to humans compared to other species of conenose bugs present elsewhere. This is because the organism is not transmitted when the insect bites but instead occurs in the feces. If these then get scratched into wounds or rubbed into the mucus membranes of the eye then Chagas disease infection of a human can occur. Since the western conenose typically defecates off the host, this limits the chances of infection,

which become higher with species that have different habits, such as the eastern blood-sucking conenose.

No human cases of Chagas disease have been ever reported for Colorado that originated within the state. However, *T. cruzi* has been detected within western conenose bugs collected in western Colorado. Currently, the Colorado Department of Public Health and Environment is tracking the situation regarding distribution of “kissing bugs” and Chagas disease within the state and has developed a website on this subject at

<https://www.colorado.gov/pacific/cdphe/chagas>.

In situations where a western conenose bugs/“kissing bugs” are found at a Colorado location, this agency can be consulted to help assess potential health risks.

Colorado Insects of Similar Appearance to Conenose/“Kissing” Bugs

There are several kinds of other true bugs that commonly occur in Colorado that are often mistaken for “kissing bugs”. Most of these are related insects in the same insect family as are the “kissing bugs” – the assassin bugs (Hemiptera: Reduviidae).

There are at least 23 species of assassin bugs that occur in Colorado. All others, except the western conenose, develop as predators of other insects and do not feed on blood of mammals. Many are important as natural enemies of insect pests in crops and forests. One of these, known as the [masked hunter](#), can be found in Colorado homes, feeding on insects that occur indoors. These kinds of assassin bugs do not feed on humans, although they will bite if handled and produce an immediately painful bite if they do.

Although their feeding habits are different, “kissing bugs”, including the species found in western Colorado, often have a shape and general appearance that is similar to many other assassin bugs. All assassin bugs have an elongated head – the “conenose”. All have “piercing-sucking” mouthparts, used to feed on fluids (e.g., blood of insects) that appear as a “beak” from the front of the head. The elongated head and “beak” is also present among some plant feeding bugs, notably those in the leafhopper bug family (Hemiptera: Coreidae).

Four insects present commonly in Colorado are most easily and often mistaken for “kissing bugs”. Three of these are other kinds of assassin bugs; the other is a kind of seed feeding bug commonly found in homes that has a pointed head and somewhat similar body form to a kissing bug, the [western conifer-seed bug](#).



Figure 3. Masked hunter. Adults of this insect are often found indoors during summer, where they feed on insects present in buildings. In Colorado, the masked hunter is the insect that most closely resembles the “kissing bug.”

Masked hunter (*Reduvius personatus*).

This is a kind of assassin bug and quite closely resembles the western conenose. **Masked hunter** is the only assassin bug commonly found indoors, where it feeds on the various insects that live in homes or incidentally wander indoors. It also occurs outdoors. The masked hunter is found statewide. The common name of this insect refers to the immature form. It is wingless and generally gray in color. It also has a body that is somewhat sticky, and various debris (lint, sawdust, etc.) that it wanders through covers and masks its body. These can be found most times of the year. The adult of the masked hunter, the only stage that resembles the western conenose, is rarely found except during midsummer.

The masked hunter – and all assassin bugs that feed on insects – can bite if handled. The bite of these assassin bugs can produce immediate pain, unlike the painless bites of the night-feeding “kissing bugs” that feed on vertebrates. However, the masked hunter does not transmit any pathogens when it bites and the pain will soon subside. (Note: It is a useful precaution to disinfect the area following a bite by any insect, spider or tick to prevent the wound from becoming infected by bacteria.)

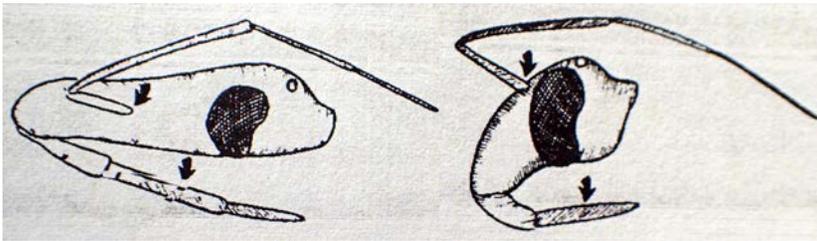


Figure 4. Head area of a western conenose (left) and masked hunter (right). Both species can be distinguished by the size and shape of the “beak” that contains their mouthparts and where the antennae are located on the “beak”.

Bee assassin (*Apiomerus* species).

The bee assassins are large assassin bugs that normally will be found on flowers of all manner of outdoor plants. They do not occur indoors. Bee assassins are ambush hunters that prey on flower visitors, including bees. Three species of bee assassins occur in the state and they are most commonly found in rangeland areas, versus urban sites. They are never found within homes.



Figure 5. A bee assassin, waiting for prey at a flower.

***Zelus luridus*.**

The most common assassin bug found in yards and gardens in many areas of Colorado is *Zelus luridus* (no common name). This insect is usually pale green and is mostly found on trees or shrubs, where it hunts all manner of insects that may feed on or visit the plant. It does not occur in homes. Its slender body and color easily distinguish this insect from a “kissing bug”. Like all the assassin bugs that feed on insects, if handled they may bite – and it hurts



Figure 6. *Zelus luridus*, a common species of assassin bug that feeds on insects in many yards and gardens.

Western conifer-seed bug (*Leptoglossus occidentalis*).

The western conifer-seed bug is a type of leaf-footed bug (Hemiptera: Coreidae) and both adults and immature stages mostly feed on seeds of conifers (e.g., pines) and other trees and shrubs. No noticeable plant damage is produced by these insects, except for a modest reduction in seed production.

Western conifer-seed bugs commonly attract attention because they often enter buildings in autumn seeking shelter through the cold months. It is one of the most common of the insect “nuisance invaders” that wander into Colorado buildings during autumn, rivaling the notorious boxelder bug in this regard. The western conifer-seed bug is usually found indoors from September through November, but may survive indoors into the winter



Figure 7. Western conifer-seed bug is a common nuisance invader of homes in Colorado in autumn. A harmless insect, it is frequently mistaken for a “kissing bug”.

Their large size, rather bizarre appearance, and ability to produce an odor that some find unpleasant make this insect an unwelcome, although harmless, “nuisance invader” of homes. Western conifer-seed bugs cannot bite humans.

There are a few other kinds of leaffooted bugs that occur on plants outdoors, and these may have a superficial resemblance to assassin bugs. Closely related to the western conifer-seed bug is the western leaffooted bug (*Leptoglossus clypealis*), which develops on seeds of various rangeland plants, such as yucca. Perhaps best known is the [squash bug](#) (*Anasa tristis*), a common pest on squash family plants. Prickly pear cacti host the opuntia bug (*Chelinidea vittiger*). These are not insects that normally would ever be found within a home in Colorado.

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