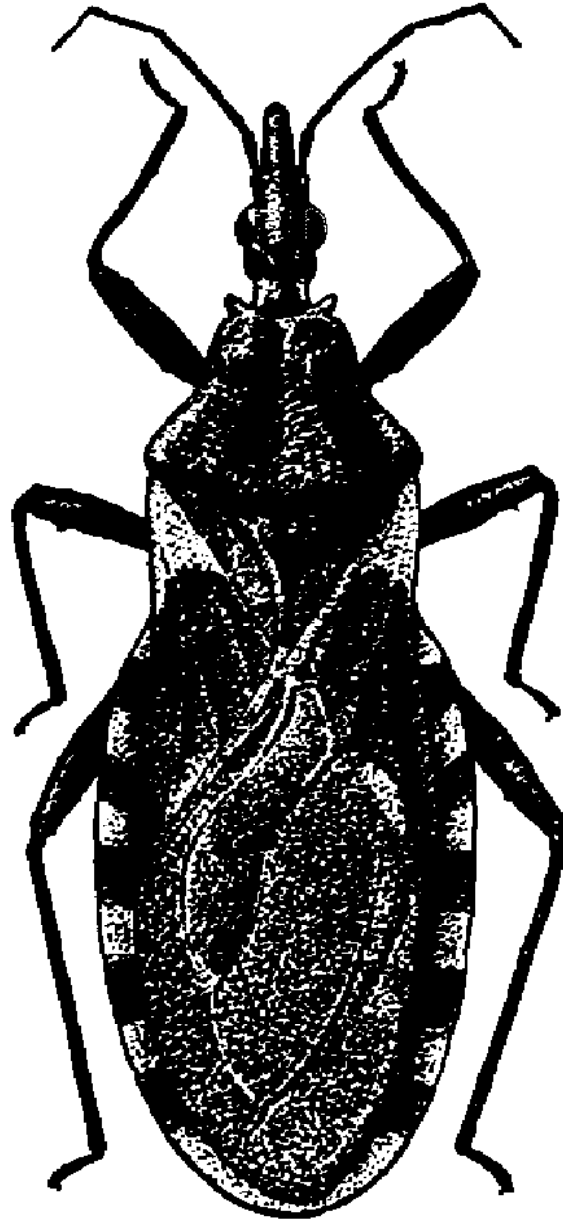


CHAPTER 17

THE BEST CONTROL FOR KISSING/CONENOSE BUGS



Triatoma sanguisuga

The diseases caused by blood-feeding insects including the kissing bug constitute the single greatest threat to human and animal health on this earth.

CONENOSE OR TRIATOMINE OR KISSING BUGS

a/k/a Assassin Bugs, Mexican Bed Bugs, Walopai (Hualapi) Tigers

Triatoma Spp.

ORDER - Hemiptera

FAMILY - Reduviidae

GENERAL DESCRIPTION

The term, bug, is usually used incorrectly to describe an insect. Used technically, however, it correctly refers to the thousands of species of the order Hemiptera, or the true bugs. Most species of true bugs feed on plants; many feed on animals, other insects in particular; some are aquatic. Feeding is accomplished when the bugs pierce tissues with slender threadlike stylets located in a "beak" on the front of the insect's head) and suck up liquids. Bedbugs are indeed true bugs that suck blood, but a larger family of predatory bugs, the Reduviids (about 6,500 species with 27 subfamilies) also suck blood from mammals, birds, and some reptiles, as well as from many species of insects. The blood-sucking conenose bugs are attracted to warmth and CO₂ exhalations and have piercing-sucking mouthparts - that these nocturnal ectoparasites use to feed on the blood of sleeping people or animals at night. Use the heating pad, Alka Seltzer, duct tape trap mentioned in the Bed Bug Chapter 18.

This Reduviidae family contains some species that bite humans and even transmit diseases in tropical America. They are known by many other names: conenose bugs, masked hunters, black corsairs and kissing bugs. One species feeds on bed bugs. The insect-eating species of the family are very important predators of plant pests but normally only enter structures accidentally; many are attracted by lights; if they are handled they inflict painful bites.

From the west coast to Mexico to Argentina, a very serious eventually deadly disease called Chagas disease, is transmitted by the stealthy (and painless) nocturnal bites of several species of Reduviids. Actually, it is not the bite of the kissing bug that is transmitting the Chagas disease, but a protozoan parasite called *Trypanosoma cruzi* that is in the blood it defecates that is deposited near the wounds while feeding, that invade the body when the victim scratches or rubs the wound. They are called kissing bugs because their bites are usually around the mouth of the victim. Between 16 - 18 million people in Central and South America are infected each year with Chagas disease and 21,000 will die. Drugs are ineffective so pest elimination is the goal. Relatives of these bugs that live in the United States have a very painful bite; they are often knocked off before they can feed and defecate. These bugs do, however, take blood from wood rats or pack rats, especially in the western United States. While they do not usually bite humans (unless population density forces them to feed on humans), they should be eliminated from schools, homes, cabins and other structures; this may require the exclusion of the wood rats and other rodents. In Mexico, they have been used as an aphrodisiac.

Habitat Alteration - (Often associated with pack rats.)

- Routinely vacuum all indoor cracks, crevices and thatch and caulk or cover with plaster.
- Screen all windows, doors and vents as conenoses are attracted to lights at night. (So make light traps.)
- Never leave bird seed or stored products that are attractive to rodents in intermittently occupied structures, unless they are kept in sealed, rodent-proof containers.
- Close entrance holes and caulk potential openings in structures.
- Remove (pack) rat nests and detritus within 100 yards or more and then dust with food-grade DE.
- Thoroughly and routinely vacuum the entire area and clean with Safe Solutions Enzyme Cleaners.
- Place duct tape sticky side up around all beds and the corners of the rooms; you can hold it in place with masking tape on the edges or make Vaseline® barriers.
- Wear dust masks when performing any procedures involving dust from fecal droppings, guano, etc.
- Try lightly dusting ongoing infestations with talcum powder or baking soda, or Neasorb®, medicated body powder or as a last resort food-grade DE. Steam clean all surfaces and cracks with a steam cleaner.
- Alter or eliminate any rodent harborage outside near the structure.
- Use light bulbs that do not attract insects in outside light fixtures, or relocate them or make light traps.
- Eliminate breeding areas. Stack all lumber, flower pots, firewood, etc. 6" off the ground.
- Routinely clean with borax or with steam, or Safe Solutions Enzyme Cleaner with Peppermint and sodium borate. Spray with Not Nice to Bugs® and/or lightly dust with food-grade DE as needed.
- Install free-range Guinea fowl outside.

Intelligent Pest Management® Control

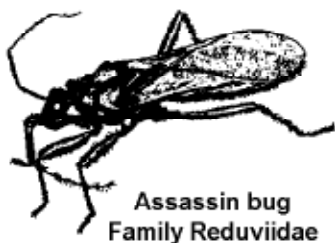
- Inspect all bedding, cracks in floors and walls and under beds and furniture.
- Vacuum thoroughly. Routinely clean thoroughly with Safe Solutions, Inc. enzyme cleaners with or without peppermint. Install light traps inside and outside if possible. See Chapter 11.
- If necessary, apply a light application of a non-volatile desiccating dust, e.g., with talcum powder, Comet® and/or boric acid or food-grade diatomaceous earth (DE) in nest areas to kill bugs that may hatch out later or you may simply vacuum and then caulk and seal off these areas.

BITING BUGS

A number of the true bugs in the family Reduviidae can and do inflict painful bites. Most are insect predators, but conenose bugs in the genus *Triatoma* and a few related genera make up the subfamily Triatominae are pests, they are a blood sucking species that feed solely on a wide variety of vertebrate blood, e.g., domestic and wild animals and people. **They feed every 3 - 4 nights.** Their common name describes their elongated cone-shaped heads. They all have a 3-jointed break or proboscis with a membranous connection that makes the beak flexible during feeding. We will briefly describe a few members of this group.

The **blood-sucking conenose**, *Triatoma sanguisuga* (LeConte) is the most common species. The bloodsucking conenose is usually brown or black in color and strikingly marked with red or orange.

The **western bloodsucking conenose**, *Triatoma protracta* (Uhler) is an occasional pest in West Coast homes and other buildings; however, it is more common outside in pack rat nests in rural areas and is seldom found in downtown areas. They are attracted to lights at night. They are poor fliers but can glide down hill. They occasionally invade new homes in the foothills and can then be found feeding on people, causing them severe local skin reactions as well as possible allergy problems.



These assassin bugs which belong to the true bug family Reduviidae, and are sometimes referred to as kissing bugs. There are several other common conenose species in the U. S., e.g., *T. infestans* (Klug), *T. gerstaeckeri* (Stal) and *T. lecticularia*, (Stal). Conenose bugs carry the flagellate protozoan, *Trypanosoma cruzi*, the causal agent of Chagas' disease; more than 16 million people in Mexico, Central and South America have Chagas' disease! American sleeping sickness or trypanosomiasis is also called Chagas' disease after the Brazilian scientist, Carlos Chagas, who discovered and described this disease in 1909. The protozoan pathogen *T. cruzi* is maintained in wild populations

of various mammals, including marsupials, bats, rodents, rabbits, carnivores and primates. Probably the most important reservoir in the U.S.A. is the opossum, but in Texas, armadillos are more frequent carriers. Many parts of the United States are home to both conenoses and the pathogen *T. cruzi*, but, luckily, the disease is rarely encountered in the United States (the few reported cases have only been in Texas and California). Allergic reactions to the bite of conenose bugs can vary from local mild itching to anaphylactic reactions such as shock, hives, fainting, vomiting generalized itching, swelling of the eyes, angioneurotic, tongue and laryngeal edema with difficulty in swallowing, speaking and breathing. Hypersensitive persons should always carry an arthropod anaphylaxis kit in infested areas.

Description, Development and Habits of the Western Bloodsucking Conenose - This conenose is between 1/2" and 3/4" long and uniformly dark brown to black. It occasionally has a narrow tan edge along its lateral abdominal margin. The egg incubation period is about 10 days at 93° F. This nymph passes through five instars. Adults live as long as 3 years and are the life stage usually found in buildings. The western bloodsucking conenose normally lives in nests of wood rats, pack rats or other rodents and normally feeds on rodent blood. Conenose bugs may be attracted to outdoor lights on warm nights, facilitating their entry into your uncaulked buildings or around unscreened pools. They occasionally attack at night while a person sleeps; rarely is the bug discovered while it is feeding for 20 - 30 minutes. Several punctures are made about 1/4" apart along a straight line at the feeding site. Local reactions such as reddening, swelling, or itching follow. This injury may become painful for several days to a week or more. In buildings, this insect hides in cracks and other concealed areas during the day - **so routinely vacuum and/or steam clean and caulk thoroughly.** Conenose bugs enter the house down chimneys or through floor cracks, broken window screens or other openings. Within buildings they

seek dark areas. They hide in cracks or crevices around doors and window screens, behind the face plates of light switches and in furniture, closets and other dimly lit locations. If conenoses have been feeding on a sleeping person, they may hide in the folds of blankets or under the mattress during the day. **Vacuum or sweep up with broom and destroy. Do not handle or touch.** Install free-range Guinea hens outside.

Maintain tight screens and weather stripping. Use yellow bug lights outside. Caulk cracks in walls, foundation, and around windows and doors. Remove and treat any rodent nests where they are suspected of living. Clean with Safe Solutions Enzyme Cleaner with Peppermint and/or lightly dust the area with talcum powder, baking soda, medicated powder or with food-grade diatomaceous earth (DE) or silica aerogels.

IPM Management Guidelines for Conenose Bugs - First vacuum up all visible insects and all visible cracks and crevices. Then caulk. Screen all windows and doors and vents. Then be sure your exterior sanitation will eliminate all rodents and other wild animals and their nests. Clean up all debris in the yard, especially near foundations, in attics, basements and crawl spaces. Exclude these true bugs from your buildings with secure screens on all doors and windows and by caulking all visible cracks and other openings inside and outside. To keep from attracting these insects at night, do not use outdoor lights around pools or doorways or switch to yellow bulb and/or sodium vapor lamps. Examine your pets carefully before letting them in from the outside (especially at night) because they may carry these pests into your building. If any conenoses are found to be infesting a building, follow the control guidelines described for bed bugs. Check bedding before going to sleep at night, make a tent of mosquito netting over the bed if the entire bedroom can't be made bug-free. Look for conenose bugs on floors using only a flashlight. Install duct tape sticky-side up around the bed and sleep next to a flashlight and jar of soapy water or alcohol or diluted enzyme cleaner handy to drop bugs into. You can also spray them with Not Nice to Bugs™ or diluted enzyme cleaner. Install light traps.

The western conenose species often moves very slowly and may be reluctant to fly. You often awake as a bug is crawling on you; if so, throw back the covers quickly and turn on the flashlight, find the bug and flick it into a jar filled with detergent water or diluted Safe Solutions Enzyme Cleaner with Peppermint. You should kill the bug this way rather than crushing it with your fingers to avoid pathogens. Later, wash the container in which it was killed.

When conenose bugs invade a building and threaten injury to people, steam clean the building or thoroughly clean with diluted Safe Solutions Enzyme Cleaner with Peppermint; it may be necessary to eliminate them (as a last resort) with an insecticide correctly. Use a pyrethrin aerosol. Be sure to follow the label carefully as you treat all rooms where these bugs may be hiding. Wear a respirator. Ventilate thoroughly before re-entry. A safer alternative would be to fog or power wash with diluted Safe Solutions, Inc. enzyme cleaners and food-grade DE and/or borax. But first use Not Nice to Bugs™, mosquito netting, Noxema, caulk and/or seal off all possible entry points around windows, doors, air conditioners, vents, electrical and plumbing lines. Repair all screens. Seal all interior cracks and crevices and install mosquito netting and wrap bed legs with double stick tape inside. Routinely mow grass and remove all debris, rodent populations, bird nests and other wildlife harborages at least 100' from the home. Use only yellow "bug" lights or sodium vapor lighting outside and routinely clean/spray with diluted Safe Solutions, Inc. enzyme cleaners or peppermint soap inside and outside. Try applying double-sided tape or duct tape (sticky-side up), glue boards, a Vaseline barrier or try sprinkling lightly with Safe Solutions, Inc. food grade diatomaceous earth, talcum powder, baking soda or medicated body powders and/or mopping with 1 cup borax and/or disodium octoborate tetrahydrate (DOT) per gallon of water.

You can make a bait using ammonia, ink and guar gum. This smelly mix closely resembles the bug dung that young kissing bugs require. Add a little (5%) boric acid or food-grade DE or aspartame to your faux feces that once ingested will kill the little kissing bugs.

You may wish to read Typical First Strikes for Bed Bugs and Spiders to see various methods of avoiding contact with pests as you sleep!

“This is one kiss that will not be missed.”

