

## CONENOSE BUGS IN CALIFORNIA

### Information for Vector Control Agencies and Health Professionals

#### What is a conenose bug?

Conenose bugs are members of the assassin bug family. Most members of this family are predators of other insects. However, the conenose bugs in the genus *Triatoma* are blood-sucking parasites of humans and a wide variety of wild and domestic animals. Of the 15 species of *Triatoma* found in the United States, *Triatoma protracta* is the most widespread and medically important California species. Adults are  $\frac{1}{2}$  to  $\frac{3}{4}$  inch long, a uniform dark brown to black in color, with an elongated, cone-shaped head possessing a three-segmented beak folded beneath the head when not feeding. Wings are folded flat over the back when not in flight. Nymphs are similar in appearance to adults except that they do not have wings and are smaller.



Adult *T. protracta*

#### Where are conenose bugs found?

In California, conenose bugs are common in foothills surrounding the Central Valley and in foothills and desert areas of Southern California. They frequently live in or near the nests of wood rats (*Neotoma* spp.), their preferred hosts. Female conenose bugs lay eggs in wood rat nests so that the newly-hatched nymphs can readily feed on the wood rats. The nymphs proceed through five stages of development within the nest, with the last nymphal stage molting to an adult the following spring. Each nymphal stage requires a blood meal to complete development. The *Triatoma* life cycle from egg to adult is completed in one year. Adult conenose bug dispersal flights typically occur during late spring and early summer evenings. During these flights, conenose bugs may be attracted to and collect around lights and gain entrance into homes where they may feed on humans or pets.

#### What is the medical importance of conenose bugs?

As blood-sucking insects, conenose bugs pose a public health risk through their incidental feeding on humans. Conenose bugs feed at night usually within the house while the person is asleep. The bite is generally painless due to the conenose's anesthetic saliva but may result in a localized reaction. However, people may not be aware that they have been bitten. The most common reaction to a conenose bite is redness of the skin and the development of intensely itching welts. Bite reactions usually dissipate in 24-48 hours, but may persist for a week or more.

Occasionally, a person sensitized by previous bites may suffer a severe reaction to the injected saliva called an anaphylactic reaction. Symptoms may include weakness, sweating, shortness of breath, nausea, abdominal cramping, and vascular collapse. Anaphylactic reactions require immediate medical treatment and hypersensitive individuals may be advised by a physician to keep a kit containing epinephrine and antihistamines in their bedroom.

Some species of conenose bugs can carry and transmit Chagas' disease, caused by a protozoan, *Trypanosoma cruzi*. Symptoms of Chagas' disease include swelling of the face and eyelids, high fever, nervous system disorders, and potential destruction of cardiac and skeletal muscles. Chagas' disease can be fatal. The most well-known vector is the species of conenose bug *Triatoma infestans* commonly found in Latin America in rustic dwellings. Primarily, transmission occurs when *T. infestans* takes a blood meal and then defecates *T. cruzi*-infected feces near the bite wound. When the feces are inadvertently scratched into the bite or transferred to mucous membranes, infection occurs. Though *T. cruzi* protozoa have been found naturally infecting other conenose bug species and vertebrate hosts in North America, North American conenose bugs defecate away from the host and rarely colonize human dwellings. For these reasons the risk of becoming infected with Chagas' disease via a conenose bite in the US is very low.

**What can be done to prevent conenose bug bites?**

Conenose bug management relies on removing likely bug and rodent nesting sites around residences and sealing points of entry into homes. Rodent nesting locations around homes can be reduced by removing piles of lumber, firewood, and debris. Management of vegetation in close proximity to structures should be maintained to discourage rodent attraction. Structural gaps or damaged vents that permit rodent entry to attics, living areas, or crawl spaces should be fixed through screening or by other means. Chimney caps and all outdoor vents should be appropriately screened. Screens on windows, sliding glass doors, and exterior doorways should fit tightly and be in good repair to prevent insects from entering. Pet doors should be tight-fitting or otherwise insect proofed. Use weather stripping, silicone sealants, or caulk to repair cracks or seal openings around doors or windows where insects may enter. Chicken coops and other animal enclosures should be periodically inspected for the presence of conenose bugs.

Because conenose bugs are attracted to lights at night, minimize outdoor lighting and draw curtains in lighted rooms during spring and summer months when adult conenose dispersal flights typically occur. Inspect bedroom spaces and bedding for the presence of conenose bugs. Bed frames and bedding should not contact walls, furniture, or other objects which may provide crawling, host seeking conenose bugs access to the bed. A bed net, tucked in, is the best exclusionary item to use for those sensitized to conenose bites and at risk for anaphylactic shock.

Where homes are infested with conenose bugs, look for wood rat nests or ground squirrel burrows around the property. Inspect attics and under the house to make sure wood rats or other rodents have not gained entry and are nesting in these spaces. After removing the rodents, remove the nests or destroy the burrows and any conenose bugs that may be found. Read and follow all product label directions when applying pesticides. If problems persist despite following the above conenose management measures, contact a professional pest control operator. If hiring a pest control operator,

property owners should contact a pest control professional licensed by the California Department of Consumer Affairs Structural Pest Control Board.

### **Where can I find additional information and references on conenose bugs?**

U.S. Centers for Disease Control and Prevention webpage at:

[http://www.cdc.gov/parasites/chagas/gen\\_info/vectors/t\\_protracta.html](http://www.cdc.gov/parasites/chagas/gen_info/vectors/t_protracta.html) and  
[http://www.cdc.gov/parasites/chagas/gen\\_info/vectors/](http://www.cdc.gov/parasites/chagas/gen_info/vectors/)

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<http://ag.arizona.edu/pubs/insects/az1109.pdf>

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