CONENOSE BUGS

Integrated Pest Management In and Around the Home

Conenose bugs (Figures 1 and 2) are members of the family Reduviidae, commonly called assassin bugs, because most members of this family are predators of other insects. Conenose bugs or kissing bugs (genus *Triatoma*) are an exception to the family rule and are bloodsucking parasites that feed on a wide variety of domestic and wild animals, plus humans. In California these bugs are most prevalent in the foothill areas surrounding the Central Valley and in the foothills and desert areas of Southern California.

The most important species in California is *T. protracta*, the western bloodsucking conenose, with *T. rubida* also present and important. Both species live in the nests of wood rats or pack rats (*Neotoma* species) and other wildlife, but they also fly into homes and may feed on people. Although the biting process is painless, people often experience an intense itch or tenderness at the bite site, which can become swollen and reddish to purple. Worse, in sensitive individuals bites from conenose bugs can produce allergic reactions that are potentially dangerous and life-threatening.

In Latin America, these insects are important because they transmit the protozoan *Trypanosoma cruzi*, which causes Chagas disease in humans. This debilitating and often lethal disease, for which treatment is difficult, is rare in the United States, despite the fact that a significant number of bugs carry *T. cruzi* in their gut. Researchers attribute the low incidence of Chagas disease in humans in the US to poor efficacy of disease transmission by the bugs, infrequent human contact, and inability of the bugs to permanently colonize homes. High rates of insect infection, however, would suggest the possibility that the disease might become a problem in the United States as the global climate changes. Chagas disease is already a serious problem among dogs in some areas of south Texas.

Another common assassin bug that is attracted to lights around homes, the western corsair *Rasahus thoracicus*, looks somewhat similar in shape to conenose bugs but has an orange and black body with an orange spot on each wing (Figure 3). The western corsair feeds primarily on other insects and doesn't seek warm-blooded animals or require a blood meal in order to reproduce. In contrast to kissing bugs, if you pick up a corsair, it can inflict a most painful bite.

IDENTIFICATION AND LIFE CYCLE

The adult western bloodsucking conenose is 1/2 to 3/4 inch long, black to dark brown, and has a lateral abdominal margin that is sometimes tan (Figure 1). The wings are held flat over the back at rest. The head has four-segmented antennae, conspicuous eyes, and a three-segmented straight beak that extends backward below the body. Nymphs are similar in appearance to adults except they are smaller and lack wings. Wing pads become apparent in the last instar. *T. rubida* is larger than *T. protracta*, measures 3/4 to 1 inch long, and is easily distinguished by the reddish or brownish-red lateral markings on the abdomen seen just outside the folded wings (Figure 2). Conenose bugs are easily distinguished from another bloodsucking true bug group, bed bugs (Figure 4, *Pest Notes: Bed Bugs* listed in References), by their larger size, darker color (bed bugs are brown to orange), presence of wings in the adult stage,

Figure 1. Adult western bloodsucking conenose bug, *Triatoma protracta*.

Figure 2. The conenose bug, *Triatoma rubida*. Note the orange border areas on the abdomen.

Figure 3. The western corsair, *Rasahus thoracicus*, can bite people, but, unlike conenose bugs, doesn't seek out warm-blooded hosts.

Figure 4. Bed bugs are smaller, rounder, are more reddish than conenose bugs and lack wings and black coloring.

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and a more oblong shape with pointy (conenose) head.

Conenose bugs have a yearly life cycle with eggs laid in summer and autumn. The eggs hatch in three to five weeks, giving rise to the first of five nymphal stages, each requiring a blood meal before molting to the next stage. Blood is taken rapidly with feeding lasting 10 to 30 minutes. Fully engorged bugs can take one to five times their weight in blood, and bugs will feed about every one to two weeks when hosts are available and temperatures are warm. Adults live into mid- to late autumn. Conenose bugs overwinter as developing nymphs and molt into adults in spring.

Adults can fly and are drawn to outside lights at night. Feeding occurs mainly at night, with the bugs hiding in cracks and other dark, tight places during the day. After feeding they generally tend to move away from the victim, though engorged bugs are sometimes found among bedding in the morning. Outside they can often be found in animal nests and nesting material, including bedding in doghouses and chicken coops.

DAMAGE

Conenose bug bites usually occur at night, and are grouped as several bites on the face, neck, arms, legs, and sometimes on the chest or other body parts. Bites are initially painless but might soon itch, swell, and cause a substantial welt that can last for several days. More severe reactions range from huge, painful welts to allergic reactions, including difficulty in breathing, low blood pressure, and rapid heart rates due to anaphylaxis. Bites from conenose bugs may be confused with spider or other arthropod bites. Conenose bug bites usually occur in the late spring to early summer and not at other times.

If you suspect that you or a family member might be allergic to conenose bug bites, see a physician or allergist for treatment options. Research shows that about 7% of people tested in areas where conenose bugs are common have the potential for developing serious immediate-sensitivity reactions, including anaphylactic shock, to the bite of this insect. If treated in time, anaphylactic shock can be reversed by the effects of epinephrine (adrenaline) injected into the body. Individuals who are aware that they are allergic to bites can obtain epinephrine in an auto-injector form (Epi-Pen) by prescription. Antihistamines may have value in easing itching and swelling reactions that are not life-threatening but should be used according to a physician's instructions.

Trypansoma cruzi, the Chagas disease-causing protozoan some conenose bugs carry, is transmitted via their feces. Unlike most fly- and tick-transmitted diseases, the bug bite itself doesn't transmit the organism or disease. Rather it is transmitted when conenose bug feces are scratched into a wound, ingested, or rubbed into moist tissues around the eyes, nose, and mouth. To prevent infection, wash the wound areas with soap and water; launder soiled clothing or bedding; and never scratch (especially to bleeding) the itchy wound, put fingers into your mouth or nose, or rub your eyes. Immediate or acute symptoms of this disease include swelling of the face, especially of one eye (Romaña's sign), high or moderate fever that develops about two weeks after the victim is bitten, swelling of other body areas, and disturbance of the heart rhythm. If the patient isn't treated in the early stages of the disease, prolonged chronic infection becomes established and may result in cardiac damage, other serious disorders, or death.

MANAGEMENT

Various measures can be taken to prevent problems with conenose bugs. These include removing likely harborages such as rodent nests (especially wood rat nests), sealing entry points, fixing structural problems in buildings that permit the bug's entry, and modifying lighting. Use weather stripping, caulk, or silicone seal to eliminate small cracks and crevices. Screen all windows and vent openings, making sure dog and cat entrances are insect-proof. Since white lights attract the insects at night, move inside lights away from doors and windows and, especially during late spring and summer, change outdoor and porch lights to yellow bulbs, reduce the wattage, or both. Remove rodent nests that are located within 300 feet of the house. Eliminate harborages including piles of lumber, firewood, and debris. Check beds at night, and shake out the bedding before getting into bed. Keep beds at least 1 foot from walls, don't allow bedding to touch the floor, and place double-sided sticky tape on the legs. In extreme cases, a tent of mosquito netting over the bed that is tucked in all around the mattress will provide maximum protection. If the above measures don't manage the problem, contact your local vector control agency or pest control company.

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