



HOME & GARDEN

Bat Bugs and Bed Bugs

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Quick Facts...

The human bed bug (*Cimex lectularius*) and its relatives (Family: Cimicidae) form a small group of bloodsucking insects.

It has never been demonstrated that bat bugs and bed bugs transmit any human diseases.

Bat and bed bugs have a short broad head, broadly attached to the prothorax, and an oval body.

Because of the different habits of the various bed bugs, proper identification determines where to direct controls to be most effective.

Masked hunters commonly enter homes, garages or outbuildings to prey on other insects.

The human bed bug (*Cimex lectularius*) and its relatives (Family: Cimicidae) form a small group of bloodsucking insects. Although the bed bug is the best known species of this group, most problems occur with the closely related bat bugs (*Cimex pilosellus*). Swallow bugs (*Oeciacus vicarius*) can be serious problems where swallow nests are attached to dwellings. Poultry bugs (*Haematosiphon inodorus*), associated with poultry houses, also are occasionally encountered.

The bite of these bugs often is painless, but a toxic saliva injected during feeding will later cause severe itching and an inflamed welt. However, individuals may vary widely in sensitivity to these bites. Often, a series of two to three welts are produced in close proximity following feeding by bed bugs. Swallow bugs have been shown to transmit equine encephalitis (Ft. Morgan strain) to birds.

Appearance and Habits

Bat and bed bugs have a short, broad head, broadly attached to the prothorax, and an oval body. The body as a whole is broad and flat, enabling the bugs to crawl into narrow crevices. The adults are about 1/4 to 3/8 inch long, brown and wingless. After taking a blood meal, they bloat and may change enough in size, shape and color to make them look like an entirely different insect. The immature stages (nymphs) resemble the adults in shape, but are yellow-white.

The adult female deposits eggs in cracks, crevices, behind woodwork and similar locations. Eggs hatch in six to 17 days and the newly hatched nymphs feed as soon as food is available. Environmental factors and food availability cause variation in developmental rates. Complete development of bed and bat bugs averages one and a half months. Adults can live for a year or more. In the warmth of a home, bed bugs can continue to breed throughout the season. Bat bugs often cease most development during the winter months when their animal hosts are absent or dormant.

Populations of bat bugs found in homes primarily develop on bats, birds or small mammals that have nested in or near the building. Typically, bat bug infestations originate from animal populations established in attics. Bat bugs can also develop on bats using bat houses that are attached to human dwellings. When the animal hosts leave or die, the bat bugs invade living areas through cracks and crevices. Bed bugs that can develop solely on human hosts are primarily moved from one location to the next via infested furniture and bedding. Bed bugs and bat bugs also may come from other infested homes by way of water pipes, gutters, through windows, along walls, etc. Migrations may occur if a house is vacated and their food supply is cut off.

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Figure 1: Bed bug.



Figure 2: Bed bugs of varying age and size.



Figure 3: Bat bug.

A closely related species, most commonly found in higher elevations of the state, is the swallow bug. Swallow bugs develop on nesting swallows, normally cliff swallows. However, barn swallows also can support these insects. Problems with human bites occur when birds nest on the sides of buildings.

Swallow bugs breed freely all summer in swallow nests. In early autumn, when bird migration occurs, the swallow bugs scatter in search of new hosts and invade human dwellings. They also increase their activity in spring, coinciding with the return of the swallow hosts. During the long period when swallows are not present, they can survive without food by remaining semidormant.

Control

It is important to be able to identify the species of bed bug (Figure 7). Because of their different habits, proper identification determines where to direct controls to be most effective.

Where **bat bugs** are a problem, treat the original site of infestation, typically roosting areas in attics. An aerosol release (“bomb”) can assist in this. Currently products for such use contain natural pyrethrins or derivative products such as tetramethrin or tralomethrin. “Pest-strips” containing dichlorvos can also be used in these sites, although they should not be placed in living areas. Insecticidal controls should also include residual sprays directed at cracks and crevices, areas around light fixtures and any other places that bat bugs can use to migrate from the attic.

Remove and exclude bats and other hosts from the home to more permanently remove sources of bat bugs. Coordinate this first step with insecticides treatments, because an increased movement of bat bugs into the living area may occur after removal of the animals.

For **bed bug** and follow-up **bat bug** control, begin with a thorough examination of hiding places. Check any place that offers darkness and protection, such as areas behind baseboards, under loose rugs or wallpaper, in mattresses, etc. Also, examine folds in chairs, beds and couches, and areas behind loose wall paper. Look for dark spots of fecal matter or blood and the cast skins, in addition to the insects themselves. Glue traps, used to capture cockroaches or rodents, also are excellent means of detecting bat bugs and bed bugs. Place these next to baseboards and other places frequented by these insects.

Direct sprays of insecticides to areas where insects hide during the day. Currently the most commonly available insecticides used for household insects are certain pyrethroids including bifenthrin, tralomethrin and tetramethrin which are sold under a variety of trade names. Elimination of bed bugs requires meticulous treatment of all cracks and crevices of the infested room and its furnishings.

Do not spray linens and mattresses. Treat them only with products that are labeled for this use. Future problems also can be reduced by routinely laundering bedding, vacuuming, and sealing cracks in floors and walls.

Attention to swallow nests is essential to control problems with **swallow bugs**. However, federal and state laws protect swallows and their nests. These laws specifically prohibit disturbance of active nests. Nests can be removed before the birds resume nesting in late spring. New nesting can be deterred by installing screening, barrier wires or other bird exclusion devices.

Nest areas on a home also can be treated with insecticide, after the nests are removed. However, some insecticides (e.g., diazinon, chlorpyrifos) are highly toxic to birds. Do not apply them to areas that are currently visited by swallows.

The Masked Hunter

Another biting bug found around homes in Colorado is the masked hunter (*Reduvius personatus*). Masked hunters commonly enter homes, garages or outbuildings to prey on other insects. Bed bugs and bat bugs are reportedly favored prey for the masked hunter, but it will feed on many insects.



Figure 4: Masked hunter adult.



Figure 5: Masked hunter nymph.



Figure 6: Leaffooted bug.

The insect gets its name because of an unusual habit of the immature stage (nymphs). They cover themselves with dust and other debris and look like “walking dust balls.” Adults are dark brown or black, winged, and may fly.

The masked hunter can inflict a painful bite similar to a bee sting. Bites are uncommon but can occur when the insects are handled unsuspectingly, or sometimes when adults fly and land on a human. However, the masked hunter is not known to transmit human diseases, as do the related kissing bugs.

Other insects that can be confused with the masked hunter are kissing bugs and leaffooted bugs. Kissing bugs (*Triatoma* species) are rarely found in Colorado and are restricted to the extreme southwestern counties. There are no records of diseases being transmitted by these insects in Colorado, Wyoming or Montana. Leaffooted bugs, also known as conifer seed bugs (*Leptoglossus* species), commonly invade homes for winter shelter and often are misidentified as kissing bugs. They are harmless seed-feeding insects.

Masked hunters rarely occur in sufficient numbers to warrant control. Reduce populations by cleaning out normally undisturbed corners of garages, closets and other areas where they develop. Control of insects on which they prey also will reduce their numbers. Because the insect is fairly mobile and may occur in several locations, insecticides are not likely to provide much control. This insect also commonly occurs outdoors and sometimes is attracted to lights.

**KEY TO BED BUGS AND THEIR RELATIVES (FAMILY CIMICIDAE)
FOUND IN THE ROCKY MOUNTAIN REGION**

Wings reduced;
body broadly oval,
flattened



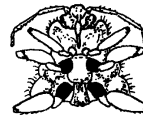
**BED BUGS:
FAMILY CIMICIDAE**

middle and hind coxae (shaded),
nearly touching; beak
reaching second coxa

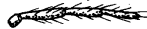


**POULTRY BUG
*Haematosiphon inodorus***

middle and hind coxae (shaded),
widely separated; beak
not reaching 2nd coxa



third and fourth antennal
segments equal in length;
body hairs long



**SWALLOW BUG
*Oeciacus vicarius***

fourth antennal segment
shorter than third



fringe hairs on pronotum
shorter than width of eye



wing pads narrow
at inner margin



**BED BUG
*Cimex lectularius***

fringe hairs on pronotum
longer than or equal
to width of eye



wing pads broad
at inner margin



**BAT BUG
*Cimex pilosellus***

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Figure 7: Key to bed bugs and their relatives found the in Rocky Mountain Region.