

- **Natural History**

Bed bugs are members of the insect family known as *Cimicidae* and are parasites of humans, domestic animals, as well as bats, birds, and other mammals. Their only food is the blood of warm-blooded animals. They have a worldwide distribution and an ancient association with humans.

Bed bugs are wingless, oval in shape, very flat in cross section, and may be light brown (before feeding) to reddish-brown or mahogany in color (after feeding). An adult is approximately 3/16" long with nymphal stages being smaller. They possess a beak-like mouthpart (proboscis) which is well adapted to piercing and sucking. The proboscis or beak is held tucked in a groove under the head and thorax when not in use.

Bed bugs feed primarily at night and hide in dark places during the daytime. When they bite they inject a salivary secretion which helps keep the blood flowing. It is this secretion which causes skin irritation, itching, welts, and occasionally blistering. It usually takes about 5 minutes for the bed bug to become fully fed.

The adult female, after mating, will lay 2 to 3 eggs each day with a total of up to 200 eggs. The eggs, cream colored and about 1 mm in size, are cemented to surfaces in hiding places. Temperature greatly influences hatching of eggs and nymphal development. At room temperature, eggs usually hatch in 6 to 17 days, but may take much longer at cooler temperatures. There are 5 nymphal stages each

requiring an individual blood meal. Nymphal development takes 6 to 8 weeks and adults live 6 to 12 months, occasionally longer. Adults and nymphs can survive extended periods without a blood meal. Adults can go up to a year without food and can survive over winter in an unheated building.

Bed bugs possess limited mobility and do not generally disperse beyond adjoining rooms. Their dispersal to other locations is accomplished through relocation of infested furniture or other possessions. A sample of places they can be found within an infested home include: under the seams or tufts on mattresses, in box springs, in cracks and crevices in walls, floors, bed frames, upholstery of chairs and sofas, behind loose wallpaper or wall pictures, behind electrical switch plates, in the folds of drapery, or in the motor areas of refrigerators. Indications of their presence include a sickly sweet odor and fecal (black) or bloody spots left on bedding.

- **Health Importance**

There is no evidence that bed bugs can transmit disease, but they can cause nervous and digestive disorders in some people. Bites are painless, but some individuals exhibit extreme sensitivity with intense itching while others experience little or no reaction.

Other species which may be encountered and confused with the common bed bug (Bed Bug, *Cimex lectularius* Linnaeus) are listed below. These species are also

blood-feeding parasites and while their preferred hosts are other than human they will bite humans if the opportunity occurs.

Bat Bug	<i>Cimex pilosellus</i> Barber
European Bat Bug	<i>Cimex pipistrelli</i> Jenyns
Swallow Bug	<i>Oeciacus vicarius</i> Horvath
European Swallow Bug	<i>Oeciacus hirundinus</i>
Lamarck	

- **Prevention and Control**

Necessary sanitation includes regular and thorough vacuuming of the premises, frequent laundering of all bedding, and careful inspection of any second hand furniture (especially beds & bedding). Repair/caulk all cracks and crevices to eliminate hiding places. Eliminate bats or birds and their nests, if present, in chimneys, attics, etc. Repair any openings to exclude bats and birds from the building.

Insecticidal sprays and/or dusts are used for control. Only pesticides labeled for use on or near beds should be applied and re-entry times stated on the product labels observed.

Applications should be made to cracks, crevices, and other places where bed bugs hide. Mattress seams and tufts, cracks along baseboards and moldings, loose carpet edges, loose wallpaper, electrical boxes, wall cavities and hollows in bed frames or other furniture

should not be overlooked. It is essential for control that treatments are extremely thorough and no hiding places are left untreated. It is recommended that a professional pest control operator be employed to perform control measures as they are trained in selection of appropriate pesticides, are familiar with bed bug biology, and can locate hiding places.

- **Acknowledgements**

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Russell, Richard C., 1997. Bedbugs Fact Sheet, Department of Medical Entomology, University of Sydney and Westmead Hospital, Australia (Photograph, cover)

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Bed Bugs and Related Species



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