

MAINTENANCE GUIDEBOOK VII TERMITE, INSECT, AND RODENT CONTROL

CHAPTER TEN - BEDBUGS

SECTION A CHARACTERISTICS AND RECOGNITION

1. GENERAL

At least 74 kinds of bedbugs across the world are noted as blood-sucking parasites on human beings. Although human beings rarely feel their approximately fifteen-minute-long bite, some people show sensitive reactions to them. After the use of DDT, the extent of bedbug infestation declined. Lately, however, there has been some resurgence of bedbug problems.

2. BEDBUGS

Bedbugs (*Cimex lectularius*) are wingless, dark, reddish-brown, oval, and flat insects (Fig. 10-1). The head bears a pair of four-segmented antennae and has piercing and sucking mouth parts that fold into a groove between the first pair of legs. Its body becomes greatly enlarged during blood meals and deep red in color. Adults are about 1/4-inch long and, when host blood is available and temperature, humidity, and harborage are favorable, they mature about four weeks after

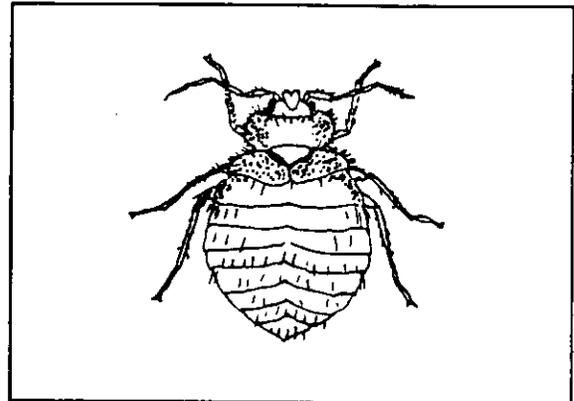


Figure 10-1

hatching. Where hosts are scarce, bedbugs can survive a year without feeding. They can also endure freezing.

Bedbugs use a variety of vertebrate hosts besides man, such as poultry, rodents, dogs, and cats. The surprise occurrence of bedbugs in urban residences can usually be traced back to residents' use of recreational facilities. However, bedbugs are also accidentally introduced into homes on laundry, clothing, and possessions of individuals, by visitors, and from infested moving vans. These insects move between apartments in multi-unit dwellings along water pipes, electrical wires, and through voids and ducts. The bite of a bedbug is distinguished from that of a flea by not having a central red spot surrounded by a circular and reddish halo. Bedbug bites usually produce a small, hard, whitish-colored swelling. One indication of bedbugs is small blood spots on bed sheets after sleeping.

Bedbug females lay batches of one to five eggs (1 mm long) per day for a 60-day period until, over a lifetime, 200 to 500 eggs are produced. The female cements her eggs into protected cracks and crevices or to bedding near a host's sleeping quarters. Although humidity has no effect on development of bedbug eggs, temperatures below 55 and above 98 degrees F prevent development. Hatching takes one to two weeks at optimum temperature, and warmer weather shortens incubation time. Nymphs are tiny and colorless at first, developing color when taking blood meals between each of five molts. The nymphal period can last from several weeks (under favorable conditions) to a year (when hosts are unavailable and temperatures are low); adults mate soon after reaching maturity.

Under normal conditions, bedbugs feed at night. Their flat bodies permit them to hide in very narrow cracks in beds, bedside furniture, dressers, wall boards, door and window frames, behind pictures, under loose wallpaper, and in rooms near host sleeping areas. Heavily infested homes have a distinctive bedbug odor.

Batbugs are another kind of bedbug, found on wild animals, that may be seen filtering into residences through ceiling cracks connecting to bat-infested attics. Similarly, pigeon, swallow, sparrow, starling, and rat nests in attics or voids can be sources of bedbug infestation.

SECTION B HAZARDS OF INFESTATION

Immediately after feeding, a bedbug defecates semi-solid, sticky waste material from its last meal. Although this material may enter the bite and cause inflammation, bedbug bites have not been proven to transmit communicable diseases. However, in some people who are sensitive to bites, bedbugs cause dermatitis, nervous disorders, sleep problems, and contribute to ill health.

SECTION C INSPECTION AND MONITORING

1. INSPECTION

The bedroom is usually the center of bedbug infestation; dark cracks and crevices are potential harborage. Inspect as follows:

- Slide a large piece of butcher paper under the bed and spray the bed springs and frame with pyrethrin flushing agent. Bedbugs, if present, will fall onto the paper.
- Look for black spots near crevices on walls and in bed frames where bedbugs might hide after feeding.

SECTION D CONTROLS

1. PHYSICAL, MECHANICAL, AND CULTURAL CONTROLS

Use the following methods to control bedbug infestations:

- Tighten and caulk, all possible routes of bedbug entry. Since bedbugs use hosts other than human beings (rodents and some birds), prevent all animals from entry to crawlspaces or entering attics of dwellings.
- In vacant dwellings, store mattresses in protected areas so mice cannot gain access to them.
- Leave unused mattresses in vacant storage space, unfolded.
- Keep weeds and shrubs trimmed back from foundations to prevent bedbug access.
- Eliminate garbage that attracts rodents and other animals.
- Remove bat and bird nests from attics and close access points.
- Steam clean all used furniture before bringing it into the residence.
- Practice good sanitation and good housekeeping; frequently vacuum rooms.
- Caulk and paint all cracks in bedrooms.
- Before placing bedding into moving vans, launder or dry clean it, then seal it in plastic bags.

2. BIOLOGICAL CONTROLS

Household predators of bedbugs include pharaoh and Argentine ants, spiders, pseudoscorpions, and reduviid bugs.

3. OTHER CONTROLS

Heat sterilization is a good alternative where possible; bedbugs quickly die in temperatures of 113 degrees F, and die in 30-60 days at temperatures below 48 degrees F.

4. CHEMICAL CONTROLS

Apply approved residual chemicals labeled for bedbugs to cracks and crevices, behind baseboards, and in all known or suspected harborage areas. Dust formulations of diatomaceous earth with synergized pyrethrins are effective low-toxicity products with residual activity.

END OF CHAPTER TEN