

bugs are small and agile, avoiding detection by crawling into concealed locations. The eggs are especially tiny and are usually overlooked. Acquiring secondhand beds and furniture is another way they can be transported into buildings. The bugs also can be inadvertently carried in on one's clothing, shoes, wheelchair, etc.

Once bed bugs are introduced, they can crawl from room to room, or floor to floor via cracks and openings in walls, floors and ceilings. They also can be transported throughout buildings by 'hitching a ride' on people and belongings. Unlike cockroaches and flies that feed on filth, there is often no relationship between bed bugs and cleanliness. Since the bugs feed solely on blood, pristine surroundings can be as vulnerable to infestation as places of squalor. Nonetheless poverty and privation are often associated with persistent problems due to an inability to afford professional extermination.

Some bed bug species are parasites of bats or birds (e.g., swallows or chimney swifts), and may bite people if the wild hosts are no longer present. Although similar in appearance, the species that normally feed on bats and birds can be differentiated from those that prefer humans. Entomologists and pest professionals can make this determination. If bat bugs or bird bugs are present, roosting and nesting sites should be the main focus of treatment, combined with removal and exclusion of wild hosts.

CONTROLLING INFESTATIONS. Bed bugs are challenging to eradicate. Since they can hide in so many places, inspections must be thorough and elimination is not always a certainty. Where resources allow, it usually is prudent to enlist the services of a professional. Experienced pest control firms know where to look for bed bugs and have an assortment of management tools at their disposal.

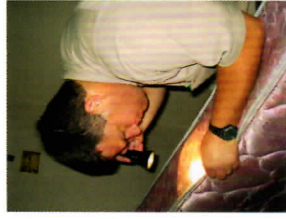
Where They Hide. Bed bugs can live in almost any crevice or protected location. The most common place to find them is beds or where

people sleep. This is especially true during the early stages of an infestation. As numbers grow larger, the bugs tend to move beyond beds into other locations, making control more difficult. Bed bugs often hide in seams, tufts and crevices of the mattress, box spring, bed frame and headboard. A thorough inspection requires dismantling the bed, and standing the components on edge so that upper and lower seams and surfaces can be examined. Things to look for are the bugs themselves, shed skins of the nymphs, and the blackish fecal spots. Dark spots of dried bed bug excrement are often present along mattress seams or wherever the bugs have resided.

Box springs afford many places for bed bugs to hide, especially along the upper seams and underneath, where the bottom edge of the box rests on the frame. If an underlying mesh dust cover is present, it may have to be removed to gain access for inspection and possible treatment. Crevices of bed frames also should be examined, especially if the frame is wood.

Bed bugs have an affinity for wood and fabric more so than metal or plastic. Wooden support boards, if present, should be removed and examined since bed bugs often congregate where the ends rest on the frame. Screw holes, knots and other recesses are also common hiding places. Headboards affixed to walls should be removed and inspected. In hotels, the area behind the headboard is often the first place bed bugs become established. Bed bugs also frequently hide inside items stored under beds.

Upholstered chairs, recliners and sofas are the next most likely areas for bed bugs, and should be examined carefully along seams, skirts and folds of fabric. Sofas and recliners can be major bed bug hotspots, especially when used for sleeping. Nightstands and dressers may need to be emptied and examined inside and out, and tipped over to inspect the woodwork underneath. Oftentimes the bugs will be hiding in cracks, corners, and recesses. Other common bed bug hiding places include: along



Dark fecal spots on the seams of mattresses and box springs are classic signs of bed bugs.

and under the edge of wall-to-wall carpeting, especially behind beds and sofas; cracks in wood molding; ceiling-wall junctures; behind wall-mounted pictures, mirrors, outlets and switch plates; under loose wallpaper; clothing and clutter in closets; along bindings of books; and inside clocks, phones, televisions and smoke detectors.

Bed bugs tend to congregate, but it's also possible to find a single bug or some eggs here and there. A thorough inspection and treatment may take up to several hours. Some companies use specially trained canines to help find small dispersed infestations, especially in such places as hotels, libraries, offices, and movie theaters. When properly trained, bed bug detection dogs can be quite effective. Relatively few companies routinely use them, however, due to the expense of training and maintaining such animals. Reliability of some of the dogs is also being questioned as more enter the market.

Preparing for Treatment. Preparing for a bed bug treatment is important. Owners and occupants will need to assist the pest controller to ensure a successful outcome. Affording access to bedrooms and living areas is crucial, and excess clutter may need to be eliminated. Belongings strewn about rooms offer many places for bed bugs to hide, and impede inspection and treatment. Since bed bugs can disperse building-wide, it often will be necessary to inspect adjoining rooms and apartments as well.

Very comprehensive preparation is necessary

when infestations are heavy and the bed bugs are dispersed. More limited prep may be sufficient for light infestations, given that in these cases the bugs are typically more confined to sleeping and resting areas (beds, sofas, recliners, etc.). Pest managers have their own policies, however, in regards to preparation which also may depend on the manner of treatment. Some firms want beds stripped and furniture moved before they arrive, while others prefer to inspect first and perform these tasks themselves. Clutter and belongings on floors (especially under beds) often must be removed since it impedes treatment and affords additional places for bed bugs to hide. Housecleaning activities such as vacuuming floors and surfaces seldom reach areas where bed bugs reside. For this reason, many firms consider vacuuming by clients less crucial than other preparatory activities.

Laundry Items — Bedding and garments often will need to be laundered and/or hot dried (120°F minimum) since they cannot be treated with insecticides. An effective and efficient alternative to laundering is to place bedding, clothing, toys, shoes, backpacks, etc., in a clothes dryer set at medium-to-high heat for 10 to 20 minutes (lethal temperatures will be achieved more quickly if items are initially dry). This can be done in lieu of washing and will kill all bed bug life stages. According to textile experts at the Drycleaning & Laundry Institute (Laurel, MD), most garments designated as 'dry-clean only' (e.g., cotton, wool, silk, linen, rayon, nylon) will not be harmed provided they