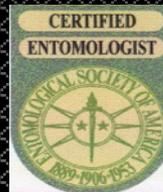


EntoLogix

Entomological
Consulting

John D. Carter
Certified Entomologist



J.H. Robinson 1944



PHOTO BY *Chapman* CLEVELAND

Robinson add 1953

CLEVELAND CALL AND POST SATURDAY, AUGUST 15, 1953.

Household Pests—We Kill 'Em All—Fumigation With Cyanide Gas

J. H. ROBINSON EXTERMINATING CO.

2183 East 83rd Street GA. 1-0444

Declares War On Household Pests! Robinson's New, Guaranteed Roach Executor

Instantly Kills Bedbugs, Roaches
Silverfish And Other Insects

After drying it leaves un-noticeable residue which
retains killing power 3 to 4 months later

Master Licensed and Bonded Fumigators

• Complete Exterminating Service •

18 years in business and now holding PEST CONTROL contracts with 36 large Cleveland Hospitals, Factories and Hotels

ROACH EXECUTOR May Be Purchased At The Following Stores:

Roberts Grocery	3703 Quince	Economy House	3323 Beach	Fleming Drug	10000 Beach
Walton's shop & save	8201 Quince	Pencils Drugs	7038 Cedar	Robinson Drug	8700 Cedar
Brown Grocery	2019 E. 83rd	Schultz Drugs	110 Superior	Walton's Hardware	11102 Superior
VAL Grocery	6100 Scoville	Denker Paint & Hdy	4711 Quince	Times Square Drugs	115 & Superior
Jones Hardware	8211 Quince	Spade Hardware	1143 Kinsman	Walton's Grocery	2810 Quince
Goldberg Drugs	2500 Woodland	Zanich Hardware	1200 Woodland	Walton's Pharmacy	28 & Superior
Moore & Son Drug	7856 Quince	Lalada Drugs	3216 & Central	John Hires	840 & Superior
				Spauld Grocery	2815 Gutwirth



J. H. ROBINSON,
Only Negro Licensed As
Fumigator In Cleveland

Ohio Pest Control Association (pre 1947)



LaVenia (Robinson) Carter and John Carter Sr.



The Bed Bug Phenomena

Entomology

“The branch of science concerned with the study of insects and related organisms, it involves studies of their biology, structure, identifications, economic significance and population management.”



The Bed Bug Phenomena

Never have we seen anything like the explosive resurgence of bed bugs in the United States and much of the developed world. The number of bed bug infestations keeps increasing at a shocking rate as do the impacts on our quality of life and on many businesses.

The Bed Bug Phenomena

Bed Bugs Are Not A Pest You Can Ignore

The Bed Bug Phenomena

“Good night, sleep tight
Don’t let the bed bugs bite
If they do, take your shoe
And beat them ‘till they’re black and
blue”

The Bed Bug Phenomena

Bed Bugs have tormented people throughout human history and have been chronicled by the ancient Greek dramatist Aristophanes in *The Clouds*, and in the religious writings of John Acts 60-61

The Bed Bug Phenomena

We know for certain that bed bugs fed on the blood of the Egyptians, Greeks, and the Romans thousands of years ago. It is speculated that they were even in the caves of early man.

The Bed Bug Phenomena

During the European Industrial Age bed bug populations exploded as people concentrated in cities. By the 1930's it is reported that one third of the inhabitants of London were living with bed bugs.

The Bed Bug Phenomena

**“Ring around the rosy a pocketful full of posy,
Ashes ashes, we all fall down”**

Europeans even five centuries ago were trying to cope with a devastating insect related phenomena and one third of Europeans died before a response was effective

The Black Plague (Death)

The Bed Bug Phenomena

Bed bugs were first introduced into the Americas by the early colonists and were documented as a severe problem in the colonies and in Canada, but not in Indian villages. Old sailing ships were notoriously infested so much so that some ships forbade passengers and colonist from bringing bedding on board.

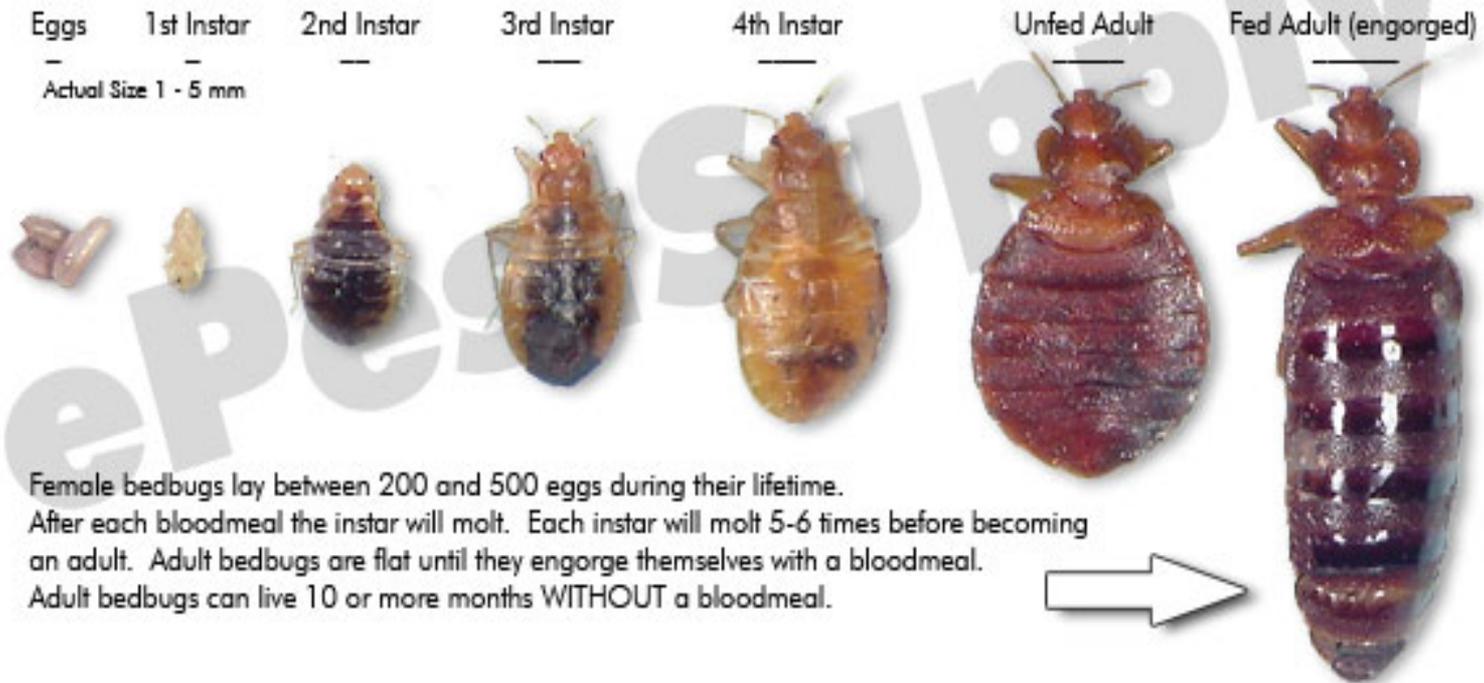
The Bed Bug Phenomena

During the early 20th century it was a rare American who had never been bitten by or a least seen a bed bug. In other words, people in the 20's and 30's were constantly at risk of picking up bed bugs and bringing them home. Names for them included “red coats”, “chinchies”, “wall louse”, “bed louse”, “uko lio”, “mahogany flats”, “crimson ramblers”, etc..

The Bed Bug Phenomena

Bedbug Life Cycle

4 Weeks - 5 Months Depending On Conditions



The Bed Bug Phenomena



Photo Credit: Piotr Naskrecki



Bed bug life cycle: egg, nymph, and adult (courtesy of Dr. Mike Potter, University of Kentucky)



The Bed Bug Phenomena



The Bed Bug Phenomena



The Bed Bug Phenomena



Mahogany Flats



The Bed Bug Phenomena

DDT

Better Living Through Chemistry 1950's Style. Bed bugs met their match and were changed from a major household pest to an occasional pest in socially depressed settings or other unusual circumstances.

The Bed Bug Phenomena

DDT

Bed bugs responded with resistance to the 1950's better living through chemistry strategy. Overuse of DDT and other chlorinated hydrocarbons (lindane) as well as some organophosphates (malathion) reached dangerously high levels within our homes and bodies

The Bed Bug Phenomena



The Bed Bug Phenomena

Bed bugs have made a comeback...big time. In the mid to late 90's they began appearing more and more in hotels and motels, even premium ones, and in apartments, single-family homes, nursing homes, hospitals, even office buildings and schools. Hotels and apartments have been the hardest hit.

The Bed Bug Phenomena

Why Are Bed Bug Problems On The Rise?

Entomologists and pest control professionals have some reasonable theories as to why bed bug problems have increased, but they are only theories

The Bed Bug Phenomena

Increased Worldwide Travel

Clearly, whenever there are significant bed bug infestations in areas where people are traveling, it becomes more likely that these travelers will bring those bugs to their next destinations, infesting hotels and even their own homes with hitchhiking bed bugs. People of all nationalities commonly travel today, to and from all parts of the world, including underdeveloped and war-torn areas, which can have very high infestation rates.

The Bed Bug Phenomena



The Bed Bug Phenomena

Business and Vacation Travel

Has played a major role in the introduction and spread of bed bugs throughout the hospitality industry. For this reason bed bugs are not limited to the low-end motels where one might expect to find them. They are equally as likely to be encountered in the most expensive high-end hotels.

Mahogany Flats

Are Your Guests Finding Their Room Already Occupied?



Are There More Than Chocolates and Fresh Towels Being Left For Them On Their Beds?



The Bed Bug Phenomena

Changes In Pest Management Practices

Throughout the history of the pest control, hotels and apartments were treated on a monthly or quarterly basis with residual pesticides. But technicians (should) no longer regularly spray baseboards or apply insecticide barriers around beds and furniture. The pest control industry is “bait-oriented” today. This dramatic shift in pest management practices began in the late 1980’s. There are no baits for blood-feeding insects like bed bugs.

The Bed Bug Phenomena



The Bed Bug Phenomena

Poor Recognition

Most people do not recognize bed bugs or the signs of their infestation. Until recently most people under 60 had never even seen a bed bug. As a result, people sometimes do not think twice before picking up discarded furniture, bringing it to their homes. Because of the cryptic nature and secretive lifestyle bed bugs may remain undetected for several months. Once bed bug bites begin to occur they can be mistaken for other insect bites or dermatological reactions.

The Bed Bug Phenomena





The Bed Bug Phenomena



The Bed Bug Phenomena

Underground Economy

Large populations of temporary workers constantly shifting in and out of residences. It is not unusual in some neighborhoods to find a dozen people or more living in small apartments. Such residences can become heavily infested with bed bugs conveying them from one state or one country to another.

The Bed Bug Phenomena

Rental and Secondhand Furniture and Merchandise

Rental Furniture, re-conditioned mattresses other items previously in a bed bug infested environment can spread infestations for months and reestablish themselves in a variety of new locations. Mattresses are an especially efficient vector of bed bug invasions and should be much more regulated. Thrift shops, flea markets and garage sales can also play a role.







The Bed Bug Phenomena

Mattresses

Old mattresses (and box springs) can be reconditioned by a bedding renovator and then resold. Unfortunately, some renovators are obtaining items heavily infested with bed bugs (as well as with mites and microorganisms), and then inadequately reconditioning them and then re-selling them complete with bugs. Renovated mattresses may comprise up to 35 percent of new mattress sales and be worth up to over one billion dollars.

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The Bed Bug Phenomena

Medical and Social Considerations

Bed bugs do not discriminate based on one's social status or the cleanliness of a home. The fact is that bed bugs are infesting every conceivable structure regardless of existing sanitary conditions or the financial status of the occupants. However, there is a relationship between poverty and bed bugs, conditions such as old poorly maintained structures provide a myriad of hiding places for them. Clutter is a major ally of successful bed bug infestations.

The Bed Bug Phenomena

Medical and Social Considerations

Bed bugs feed only on one food—Blood. Bed bugs must have at least one blood meal during each of their nymphal stages, and adults can feed as often as every 3-5 days over their lifespan of up to one year. That amount of blood feeding would appear to make bed bugs a serious threat as disease vectors. However, research literature on bed bugs and disease suggests that there is some potential, but no documented cases that a bed bug has transmitted a single human disease.

The Bed Bug Phenomena

Delusional Parasitosis

Sometimes people believe that they are being bitten by bugs that turn out to not exist. We are beginning to see individuals convinced that they are constantly and severely being bitten by bed bugs. To be sure a careful inspection by a entomologist or other pest control professional can help identify actual pests in residence or not, follow-up inspections may be performed to be sure that no low-level infestations are overlooked.

The Bed Bug Phenomena

Impact of Bed Bugs on Public Relations

A recent poll demonstrated how hotel guests would react when bitten by bed bugs.

88% would complain to the manager

50% would leave

58% would never return

38% would be less likely to patronize that chain

51% would notify the health department

50% would tell more people of their experience



The Bed Bug Phenomena

Bed Bugs and the Law

When a law suit is filed, the damage claim is typically for such issues as “pain and suffering”, “emotional distress”, “social ostracism”, “itching, scratching and fear of scarring”, and even “post-traumatic stress syndrome”. Punitive and compensatory awards have sometimes reached nearly \$200,000 per guests after millions were sought. Awards have been upheld on appeal.

The Bed Bug Phenomena

The victims of the [Fox News bedbug infestation](#) are fighting back! Former Fox employee Joan Clark has filed a lawsuit claiming that she has post-traumatic stress disorder from being attacked by bedbugs *multiple times* at the [Fox News](#) headquarters. She says she was bitten by the voracious creatures last October, last November, *and* just last month. She even claims that her entire department was relocated in a futile attempt to escape the bloodsucking insects! The building owner and maintenance company are named in the lawsuit, and Clark has filed a Worker's Comp claim against News Corp. itself. The full press release detailing her suit is below. We've contacted Fox (which may already be [planning its revenge](#)) and Clark's lawyer's for further info. THIS STORY IS FAR FROM OVER.

The Bed Bug Phenomena

Bed Bug Control

Can bed bugs ever be eliminated? The answer is---it depends. It depends on different factors, including:

- Commitment of effort and resources (work and money)
- Type of site (hotel, apartment, dormitory, etc.)
- Condition and age of building
- Degree of clutter and harborage
- Level of cooperation by residents and staff
- Rate of re-introduction of new bed bugs
- Knowledge , talent and commitment of pest control firm

Mahogany Flats



The Bed Bug Phenomena

Prevention

Procedures that reduce the chance that bed bugs will be:

- Introduced into the building
- Go undetected long enough to spread through the building
- Passed on to other guests or clients

If bed bugs are found it should trigger pre-established action procedures to eliminate the bugs and prevent further spread. The specific prevention procedures will differ, but the concepts are the same.

The Bed Bug Phenomena

Prevention strategies may include:

- Training Key Employees
- Detecting Bed Bugs During Bed Services
- Managing Laundry To Prevent Spreading
- Check Housekeeping Equipment/Storage
- Manage Furniture Storage Areas
- Room And Furniture Design
- Proper Building Maintenance Protocols
- Preventive Treatments Insecticide\Others

The Bed Bug Phenomena

Prevention Strategy No. 1 Regular Professional Inspections

Few people realize just how much energy and effort it takes to conduct an effective inspection for bed bugs. A comprehensive inspection may require:

- Moving furniture and fixtures
- Flipping mattresses and box springs
- Turning dressers and nightstands upside down etc.

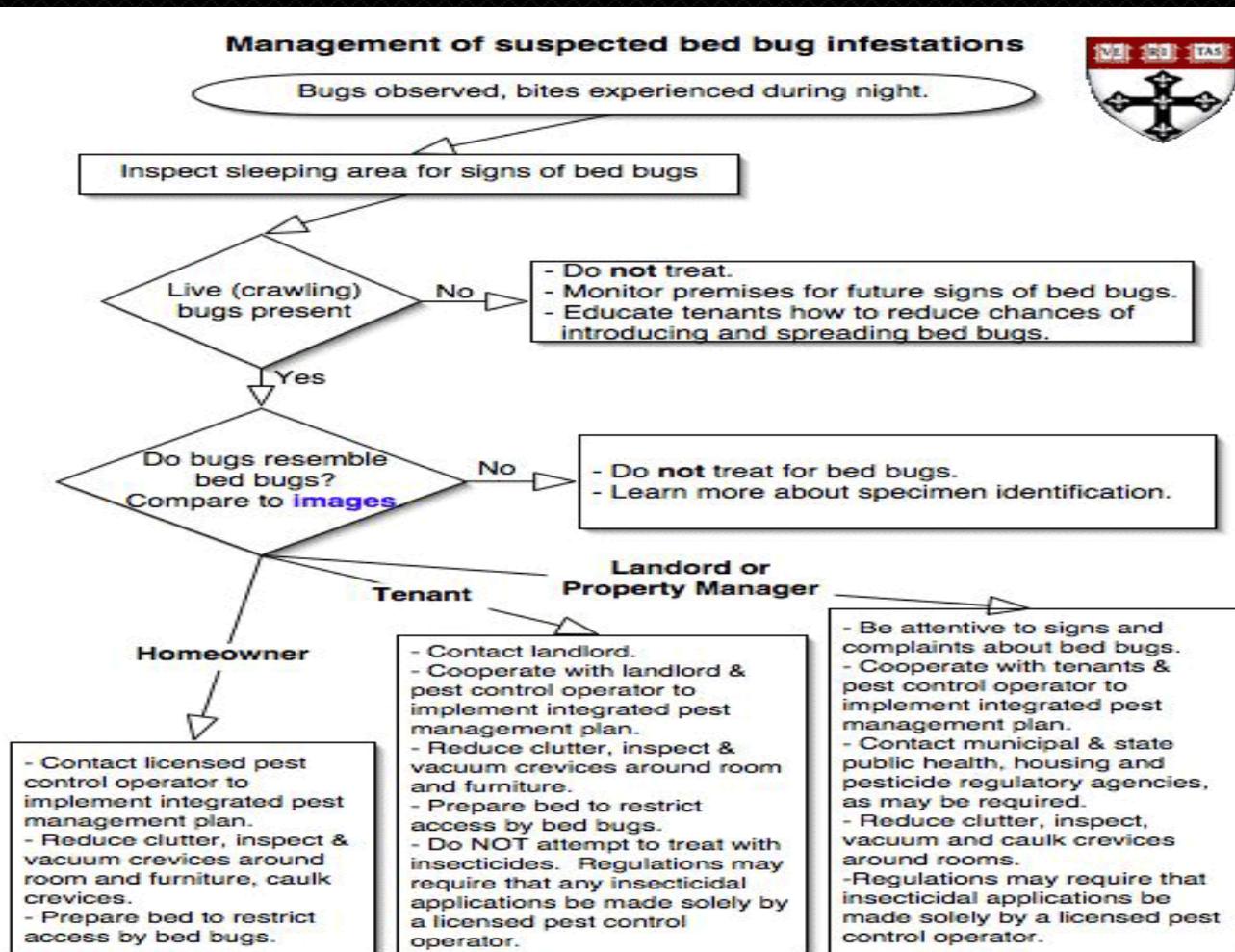
The Bed Bug Phenomena

Inspection Goals

Include the following:

- Finding live bed bugs, bed bug eggs, exoskeletons, blood spots.
- Locating as many infested bug sites as possible
- Identifying conducive conditions such as clutter, peeling wallpaper, high occupancy etc.
- Determine pesticide risk factors such as children, pets, or illness.
- Planning control tactics and estimating service times

The Bed Bug Phenomena



<http://www.hsph.harvard.edu/bedbugs/>

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The Bed Bug Phenomena

Control Tactics (Nonchemical)

- Targeted Vacuuming
- Mattress and Spring Box Encasements
- Discarding Infested Items
- Thermal Treatments
- Steam Treatment
- Laundering and Drying
- Spot Cold Treatment

The Bed Bug Phenomena

Control Tactics (Chemical)

- Insecticides
- Residual Insecticides
- Contact Insecticides
- Insect Growth Regulators (IGR' s)
- Fogs, Space Sprays, ULV' s
- Fumigation (Structural, Chamber, Tarpaulin, etc.)

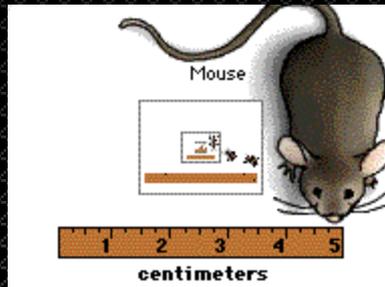
The Bed Bug Phenomena

Some Humor from New York Stay Awake



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