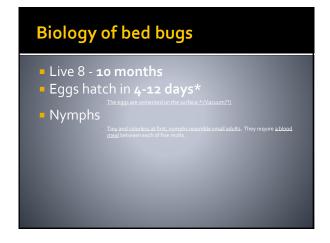
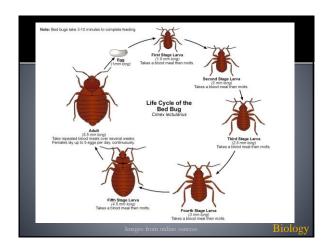


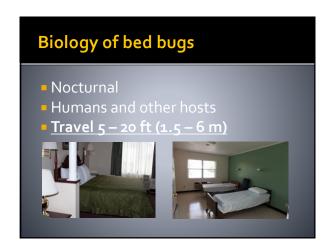
Adults feed on blood reddish-brown in color flattened oval bodies Pierce-sucking mouthparts* The tiny wings are represented only by pads*

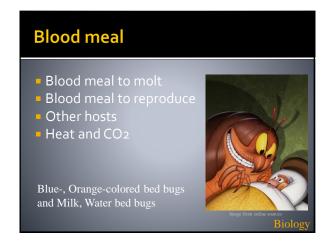
Blood meals every 3-4 days*** 1-2 hours for foraging*** and hide in harborage 10 minutes to complete a blood meal



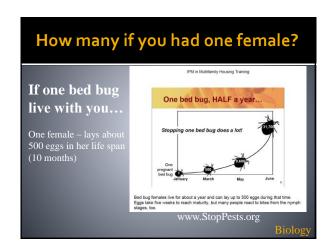
Survive 6-7 months without food* 3 months ...









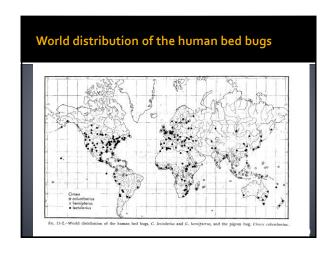




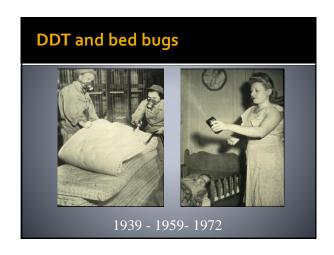


One theory is that bed bugs originated from bugs that fed on bats living in caves. When man moved into the caves the bugs adapted to feed on them; when man left, the bugs went with them. Mentioned from earliest recorded history. Commonly referred to as chinches by grand folks. Mahogany flats and red coats were also used. Sometimes legs of bed were placed into cans of oil or kerosene to prevent bugs from climbing into the bed. An assortment of treatments used for control.

Iron or brass bedsteads* are better for controlling bed bugs than wood. Kerosene oil, gasoline, or benzine will kill bedbugs if forced into cracks and crevices with a feather or with a hand syringe. A mixture of corrosive sublimate (mercury chloride) one ounce, alcohol one pint and spirits of turpentine one-fourth pint painted into the cracks of a bedstead with a feather Boiling water poured over the parts of a bedstead that have been carried where they may be liberally treated. Sulfur candles for fumigating are now made and are very convenient Hydrocyanic acid (cyanide) gas – this is the killing agent par excellence for bedbugs and household insects. Formed by chemical reaction between potassium cyanide, water, and sulfuric acid and is a deadly poison to human beings and other animals. However it can be generated and used in the fumigation of houses, without the least danger if care and precaution are used in the work.



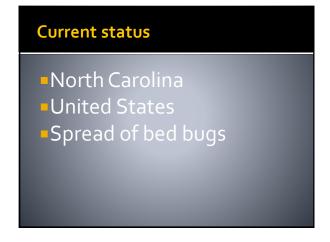


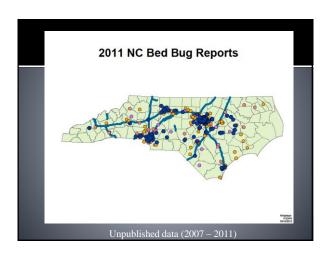


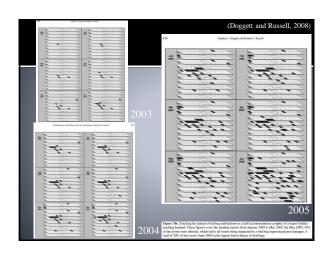


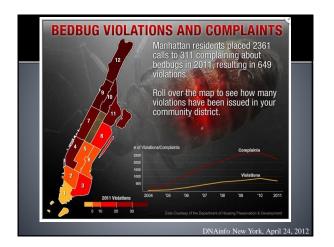








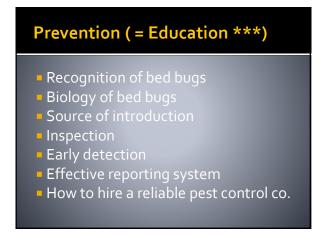








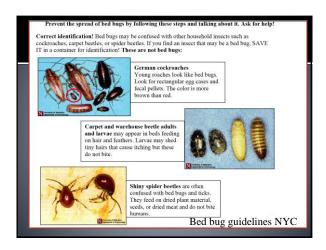










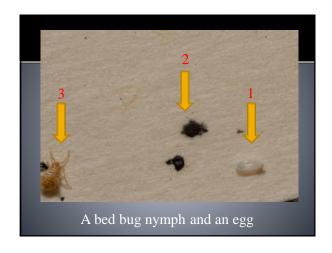




























































Recognition of bed bug infestation and case studies



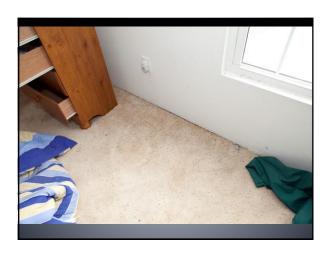
Extreme infestation
Single family home





















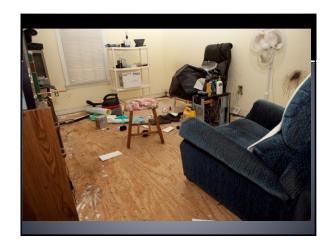






Extreme infestation Single family home + roommate

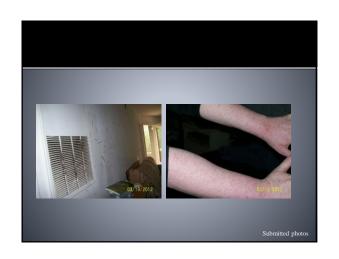




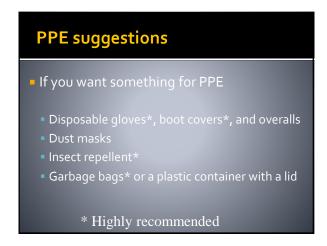




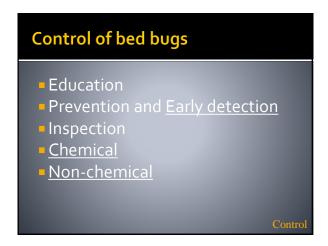


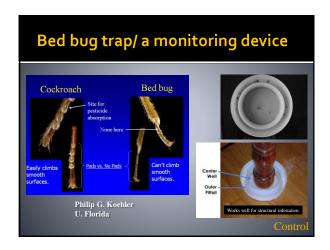


Remember that bed bugs are nocturnal, hiding during daytime. They live in the cracks and crevices. They do not live on people. If you simply inspect (unless it is a heavy infestation), you may not need to worry too much about getting bed bugs on you. Be careful when you control (or treat) bed bugs or when move infested furniture.

































Conclusions

- Be prepared
- Be preventive
- Be proactive
- company, and IPM specialists
- You save your time, money, and emotion



the 2013 Bugs Without Borders Survey (comparing to 2011 results)

- Hotels/motels 75 percent (80 percent in 2011)
 College dorms 47 percent (54 percent in 2011)
 Nursing homes 46 percent (54 percent in 2011)
 Office buildings 36 percent (38 percent in 2011)
 Schools and day care centers 41 percent (36 percent in 2011)
 Hospitals 33 percent (31 percent in 2011)
 Transportation (train/bus/taxi) 21 percent (18 percent in 2011)
 Movie theaters 10 percent (17 percent in 2011)
 Retail stores 15 percent (21 percent in 2011)
 Libraries 12 percent (8 percent in 2011)
 Airplanes 2 percent (6 percent in 2011)

- Airplanes 2 percent (6 percent in 2011) Laundromats 9 percent (6 percent in 2011)

Protect your family

Save your money and time

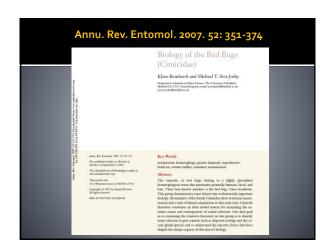
- Several \$1,000 dollars

 - Replacing furniture
- Your family
- Pesticide exposures (misuse/ overuse)

Health concerns

- Systemic effects from numerous bites
- Lose of sleep insomnia
- Anemia in young children
- Pathogens have been isolated, but <u>bed bugs</u> are not known to transmit diseases

Not a vector Not a sanitary issue



Delaunay, P. et al. 2011. Clinical Infectious Diseases. 52(2): 200-210.

Bedbugs and Infectious Diseases

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Highatia Bornet, Centre Hospitalier Infercaminal de Frijes-Sam-Rehighat, Frijes-Sam-Rehighet, Pérezio de Remotingie, Highatia Lamer, Sanctice
Santid ete Armées, Marsellie, "Service de Dematologie, Highati Harri-Androte, Assistance Publique-Héginau de Paris, and UFEC Université Paris-Est
Cestal Val de Manne, Fris and "Uhité de Recherche sur les Maladies infectieuses et Trojobles Emergentes at Marsellie, Centre Nariscola de Recherche Scientifique, Institut de Richarche pour le Dévelopement, Unité Motre de Recherche 8026/198, Université de la Modiferranée, France

Bedbugs are brown and flat hematophagous insects. The 2 cosmopolite species, Cimex lectularius and Cimex hemipterus, feed on humans and/or domestic animals, and recent outbreaks have been reported in occidental countries. Site assessment for bedbug eradication is complex but can be assured, despite emerging insecticide resistance, by hirring a pest-control manager. The common dermatological presentation of bites is an itchy maculopapular wheal. Urticarial reactions and anaphylaxis can also occur. Bedbugs are suspected of transmitting infectious agents who ton report has yet demonstrated that they are infectious disease vectors. We describe 45 candidate pathogens potentially transmitted by bedbugs, according to their vectorial capacity, in the wild, and vectorial competence, in the laboratory. Because of increasing demands for information about effective control tactics and public health risks of bedbugs, continued research is needed to identify new pathogens in wild Cimex species (spp) and insecticide resistance.





