

STRANGE BEDFELLOWS

also known as

BEDBUGS



Tim McGonegal M.S.

Environmental Health Biologist

ALEXANDRIA HEALTH DEPARTMENT

VECTOR-BORNE ILLNESS PREVENTION PROGRAM

Why Discuss Bedbugs?

- Re-Emerging Public Health Nuisance Problem, rising complaints through out US
- Can harbor pathogens but are **NOT** known to transmit diseases to humans
- Medical symptoms limited to itching and inflammation of bites



Where do they come from?

- Recently have made a comeback through international trade, travel and commerce.
- Insect hitchhikers, since eggs, young and adult bedbugs are readily transported by luggage, clothing, bedding and furniture.
- Known to infest trains, airplanes and buses.
- Found in dwellings with a high rate of occupant turnover ex. hotels, motels, hostels, apartment complexes, shelters.



Biology

■ Nocturnal

- Active at night, which means that they feed during this time

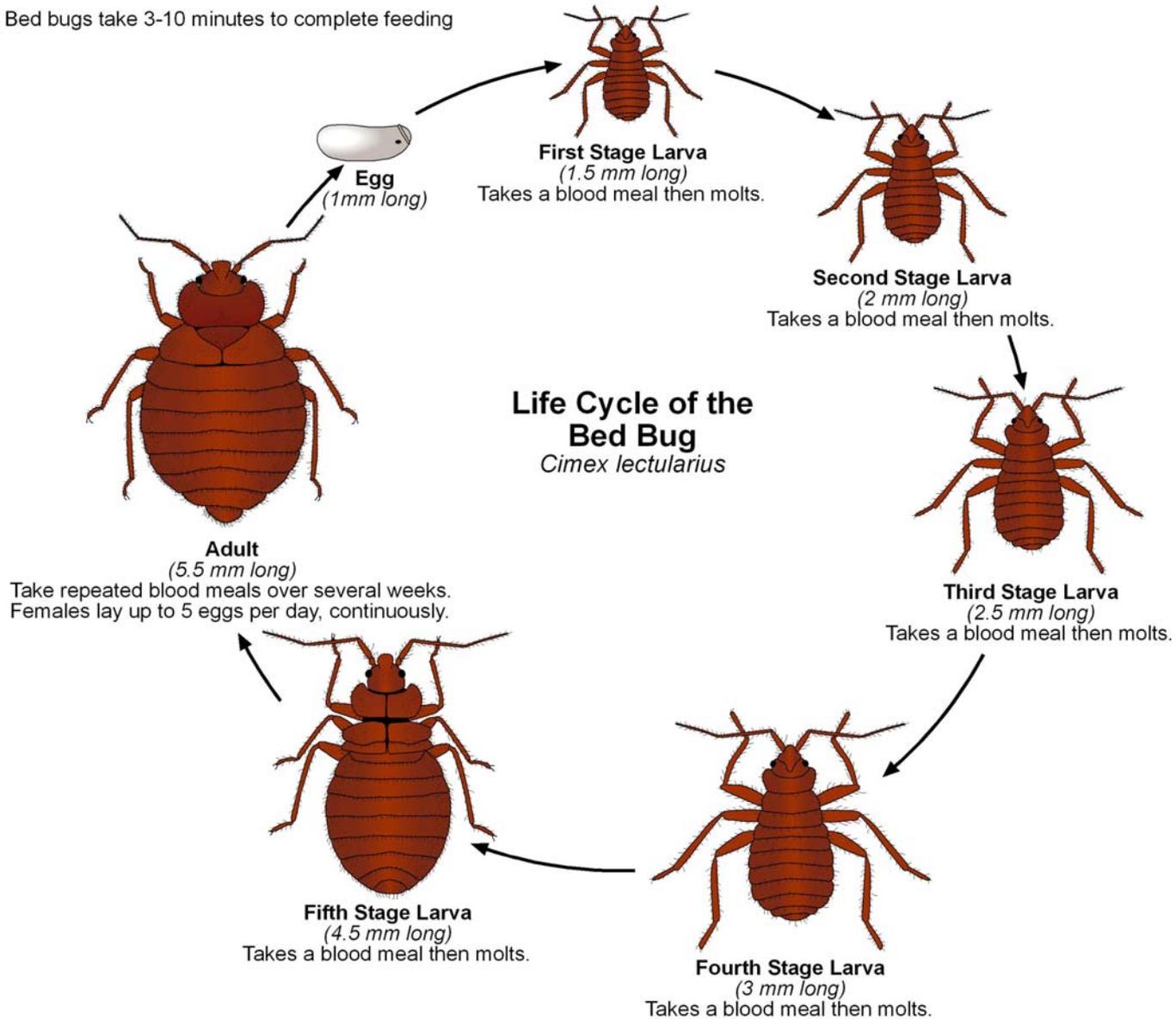
■ Feeding Habits

- Feed on blood of warm-blooded mammals including humans
- Adults can survive >1 yr. w/o feeding, nymphs 3-4 months

■ Infestation can be detected by

- Bite marks
- Offensive odor associated with them, caused by oily secretion produced from special glands
 - Smell resembles offensive sweet, musty odor
- Blood or fecal spots on bedding with large infestations

Note: Bed bugs take 3-10 minutes to complete feeding



Eggs



- Females lay 1 – 10 eggs a day and 200-500 eggs in a lifetime
 - Eggs are coated with a sticky substance
 - Eggs hatch in 6-20 days into nymphs

Nymph



- Nymphs begin to feed soon after hatching mostly at night (nocturnal) and feed within 3 mins
- They molt through 5 nymphal instars before reaching maturity
- Developmental time is affected by temperature and availability of food (blood meals)

Adults

Blood Feeding Adult



Blood-Fed Adult



- Lifespan for well-fed bedbugs is about 6 – 10 months but they can survive 12-18 months when dormant
- Developmental time from egg to adult is 21 days at 86F and 120 days at 65F, 3 or more generations occur each year
- Feeding takes place at night (nocturnal) and lasts for 3-12 minutes after which they crawl to a hiding place to digest their meal
- Can survive several months without a blood meal (food)

Where do they hide?



Seams in mattresses

Crevices in box springs

In between cushions

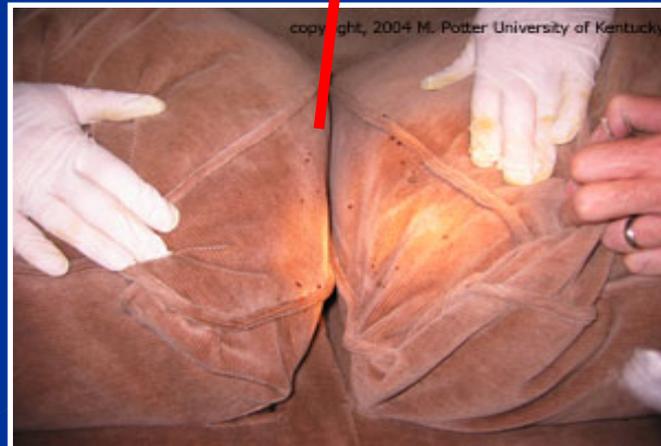
Cracks in walls

Spaces under baseboards

Loose wallpaper

Behind pictures

Any space between cracks



Control of Active Infestations

- The major steps that should be taken when developing a bed bug management program include:
 - Proper identification of the cimicid species present
 - Education and cooperation of the client/owner of the infested facility
 - Thorough inspection of the infested area and all adjacent areas
 - **Implementation of control measures (both chemical and non-chemical)**
 - **Follow-up visits to evaluate the success of the program and to provide additional control measures if necessary**

Education and Cooperation

- Pest management professionals should be:
 - well-trained in bed bug biology, behavior and control before implementing control plans.
 - Familiar with chemicals they use, resistance awareness
- Clients and managers of multiple unit dwellings should understand, and take precautions against, the ways in which bed bugs are introduced into new environments.
 - These include the use of leased furniture and the purchase of pre-owned items at garage sales, thrift stores, etc.

Non-chemical Measures

- Reducing or eliminating bed bug infestations:
 - Frequently vacuuming the premise (dispose of bag immediately)
 - Temperature modification (heat and cold). Beds can be steamed. Bedding, clothing and upholstery can be treated with deep freezing
 - Physical barriers – plastic mattress covers
 - Laundering of clothes and bedding in hot water
 - Discarding of infested items
 - Elimination of harborages – fill and caulk holes and gaps
- Discard the mattress if the infestation is severe, although a new mattress can become infested if bedbugs are still in the premises.

Insecticide Treatment

- Tenants need to prepare the home before any insecticide treatment
 - Clean and brush surfaces. Discard vacuum bags after use.
 - Discard mattresses (if infestation is severe) or enclose mattresses, at least a year (if infestation is mild).
 - Move beds away from the walls.
 - Clean and treat furniture.
 - Discard and remove trash and in and around the home.
 - Repair cracks in walls.
- Tenants need to re-inspect premises after treatment as a follow up.
- Prevention and Sanitation should continue after a insecticide treatment.
- **FOLLOW UP TREATMENTS MUST BE DONE.**

Questions?

Thank You

For more Information Please Call

703-746-4910