

Traveling Bed Bug-Free

Chris Nash

ProGuard Commercial Pest Solutions
Varmint Guard Environmental Services, Inc.

Don't Let the Bedbugs Bite



Why now?

- **Incorrect identification**
- **Change in pest management practices**
- **Pesticide resistance & misuse**
- **Increased global travel**
- **Immigration**
- **Employee / staff introduction**
- **Furniture delivery vehicles**
- **Lack of education**

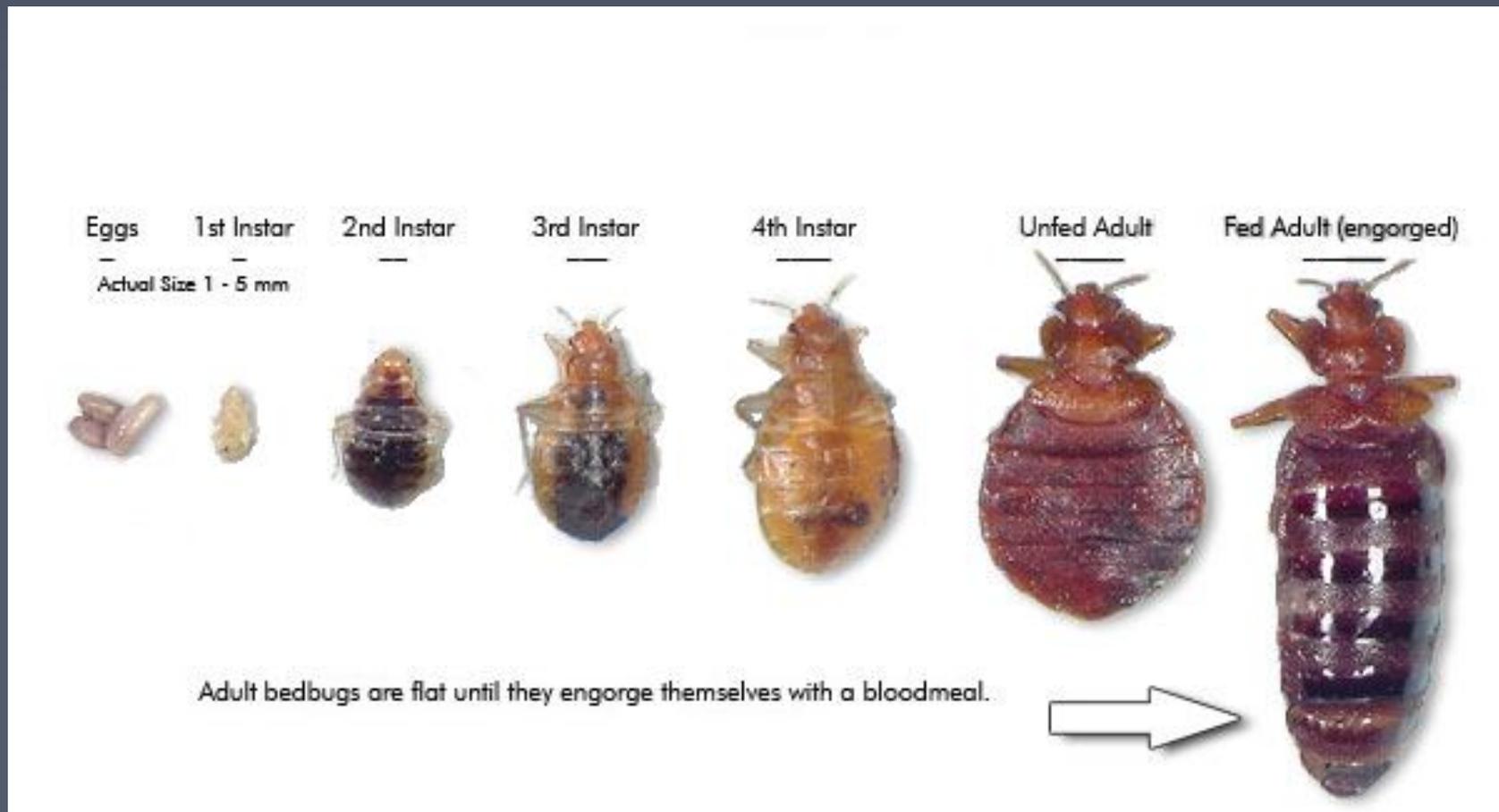
Bed Bug Implications

- Infected with 20 human pathogens . . . yet,
- No transmission ever proven
- Reaction to bite
- Other species occasionally bite humans
- Social stigma
- Litigation



Biology

- Life Cycle: Gradual / Incomplete Metamorphosis
- Early instars may look like those of other arthropods



Life Cycle: Adults

- Adults can live a year or more without feeding
- Semi-hibernation / dormancy at $<61^{\circ}\text{F}$

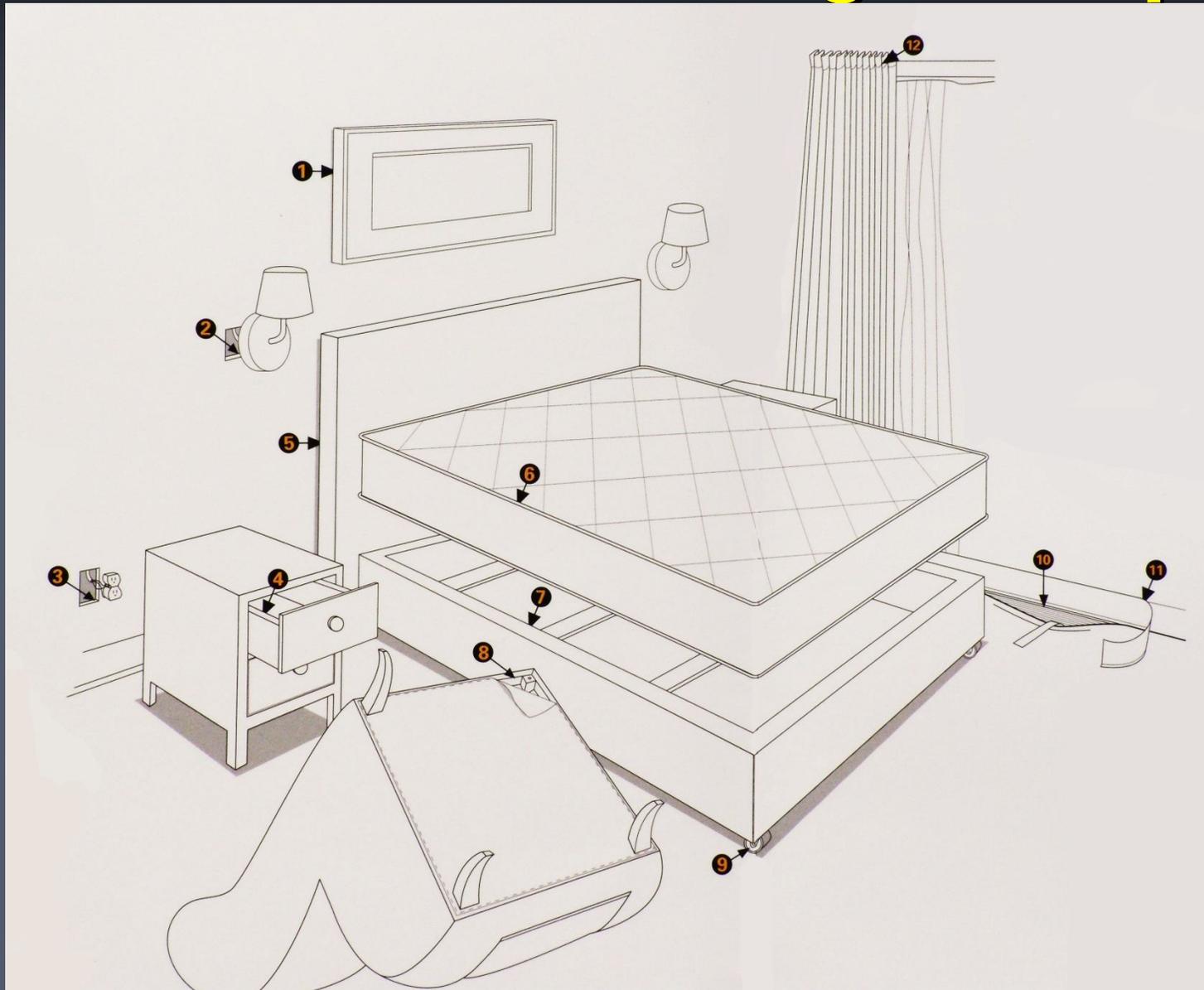


Habits

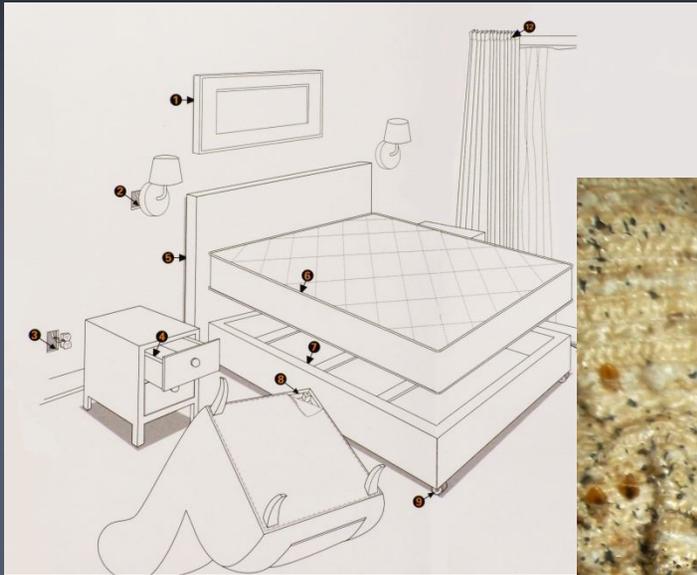
- Nocturnal (typically)
- Hide in any conceivable crack
- Readily travel to find host



Guest Room Harborage Hotspots



Guest Room Harborage Hotspots



Courtesy of Mark Sheperdigian

Guest Room Harborage Hotspots



Guest Room Harborage Hotspots



Inspect all seams, folds, attachment points, crevices and depressions



Guest Room Harborage Hotspots



Signs of Infestation & Bites



What are Hoteliers Doing?

- Inspect all guest rooms on semi-annual basis
- Dogs / canine detection now used to monitor hotels, motels and other commercial settings
- Education – management and staff
- Bed bug monitors / host decoy devices? – some expensive (e.g., FMC's VeriFi™)
- Launder linens in hot water and detergent and hot dryer cycle ... or dry clean
- Place items in portable heat chamber (e.g., PackTite™) or dedicated heating room

Bed Bug Monitors (Host Decoy Devices)

- NightWatch™
Bed Bug Trap**
- CO² release
 - Heat
 - 7 part kairomone*
(* volatile compounds given off by host)



Bed Bug Monitors (Host Decoy Devices)

FMC VeriFi™

Bed Bug Monitor /Trap

- CO₂ release (initially)
- Bed bug pheromone
- Host kairomone*

(* volatile compounds given off by host)

Several brands of bed bug sticky monitors are available with and without CO₂ release + host kairomones



Bed Bug Scent Dogs

Dogs are only as effective
as their handlers



Non-Chemical Treatment Options

- Vacuuming (use brush to tease bugs from C&C)
- Fitted encasements (with micro-zipper and breath-able fiber) for mattress & box spring; (e.g., MattressSafe: <http://www.mattresssafe.com>)
- Wrap, remove, destroy and replace mattress and box spring if older and highly infested
- Temperature (structure/ chamber treatment)
 - Heat: $> 125^{\circ}\text{F}$ \rightarrow 2 hrs (for penetration)
 - Cold: $< -15^{\circ}\text{F}$ \rightarrow > 48 hours or Cryonite CO_2
- Steam (dry, super-heated): $>200^{\circ}\text{F}$ \rightarrow seconds

Pesticide Options

- Dusts – effective but often misused
 - Drione (pyrethrins + amorphous silica gel)
 - CimeXa (amorphous silica gel)
 - Delta Dust (deltamethrin)
 - Diatomaceous earth (DE – freshwater diatoms)
 - Boric acid? **No!**

How can you tell if a pest management company is proficient at treating bed bugs?

- **Does the company come highly recommended? Referrals?**
- **Do the technicians perform thorough inspections of the rooms, with or without a dog?**
- **Do the technicians address all the sites listed earlier?**
- **Are effective communication and follow-up part of the service process?**
- **Are favorable / satisfactory results achieved?**

A Word to the Wise . . .

(in a perfect world)

- **Protecting yourselves from “hitchhikers”!**
- **Inspect likely harborages with bright flashlight**
- **Bring as little into your hotel room as possible**
- **One change of clothing**
- **Plastic bags**

A Word to the Wise . . .

(in a perfect world)

- **No suitcases, duffle or garment bags left in room**
- **Use makeup/shaving kits then return to car**

A Word to the Wise . . .

(in the real world)

- **Storage bags/bed bug proof mattress encasements**
- **Over night items in bathtub**
- **Upon returning home...**
 - **Eyeball test**
 - **Clothing in dryer on high heat for 30 minutes**
 - **Heat chamber**
 - **Worst case scenario...bring in the dogs!**

*Roy, I thought you got
this room for just the two
of us!*

