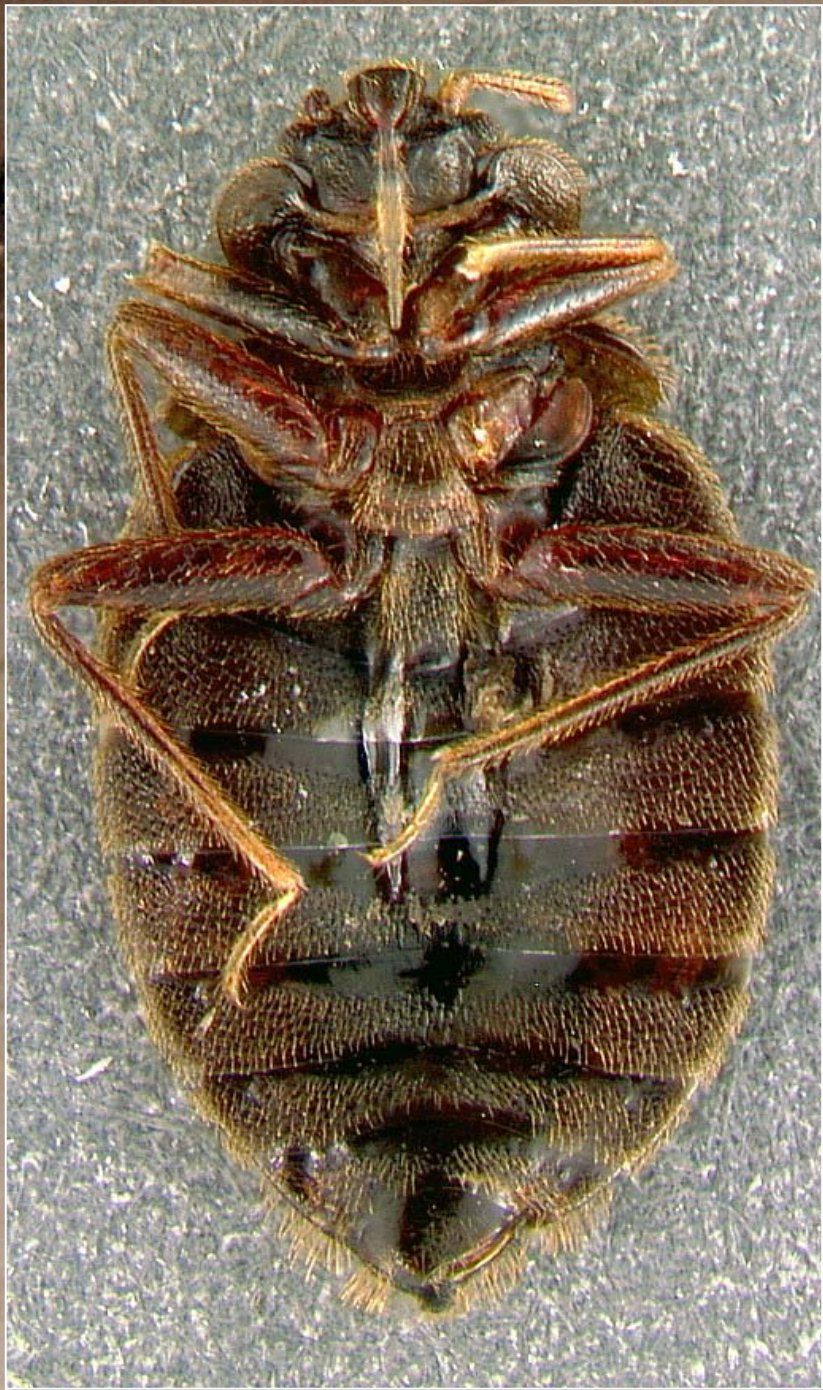




ADULTS ARE ABOUT THE SIZE
OF AN APPLE SEED





THE LIFE OF A BED BUG

Feeding



Hiding





Female bed
bugs > 500
eggs

Molt 5 times,
feed each time.



Slow their
metabolism
until blood is
available

- From egg to adult: 5 wk to four months
- Can >18 months without blood, but usually do not.

- Adults live about 10 months

- Remain active at <math><45^{\circ}</math> F



- During the early 20th century
 - bed bugs - top three structural pests
- Bed bugs all but disappeared in 1940s and 1950s
- Widespread use of DDT





1 in 15 New Yorkers
had problems with
bed bugs in 2009

3,590 confirmed cases in
2010-11 school year –
New York School District

MARICOPA COUNTY – 300% INCREASE BETWEEN 2008-2010

Cockroaches VS Bed bugs 2006-2010



WHY ARE BED BUGS BACK?

World-wide
resurgence:
Norway, Sweden,
Germany,
Australia, Japan,
Canada, and
many other
locations you
might not expect
reporting 100-
500% increase in
bed bug
infestations.



Bed bugs where never actually gone

Why have bed bug infestations re-emerged in the developed world?

- Immigration from third world countries
- Reduction in pesticide use indoors
- Increase in global travel **AZ bed bug 2000**
- Loss of DDT
- Insecticide resistance
- Transient homeless
- Al Qaeda!



Shelters, hotels, public housing,
medical facilities, student dorms.
Apartments, homes, fire stations,
child care.

Work places, schools, facilities,
Public transport,
Entertainment
places,
Everywhere
people go.



Bed bug go where
people go

Something
Lingering in the
Lingerie?
Bed Bugs Hit
Victoria's Secret



Bed bugs force
yet another store
to shutter its
doors, this time
it's Abercrombie
& Fitch





Bed bugs on a backpack

Bed bug conducive

Emergency shelters

Hotels

Medical facilities

Student dorms

Fire stations

Child care

Work places

Schools

Transport

Entertainment

Shops

Parks



Risk factors:

People sleep

Dense no. people

Transient

Impoverished

Disabled



Bed bug discouraging

EPA and CDC joint statement describes bed bugs as: “a pest of significant public health importance”



Bed bugs are **not known to vector pathogens**

- Allergen and respiratory effects (similar to cockroaches)
- Sleep disturbance
- Mental health complications
- Bites cause mild to serious skin reactions
- Delusional parasitosis may be incited
- Pesticide poisoning
- Economic hardship
- Isolation, stress, anxiety, depression.





How to get your very own bed bugs

How

• Do

matter

• If re

• Wh

room

• Try

thin

• De-

• Kn



40 bed bugs are
in a 70°F room
on May 2. By
Nov 2 there are
5,905!

Low functioning
adult











STO

Blind resident in
disabled public
housing







IN A HOME, WHERE DO BED BUGS HIDE?

(CHOOSE THE TOP 3)

- a.) box springs
- b.) couches / chairs
- c.) mattresses
- d.) night stand / dresser
- e.) baseboards and moldings
- f.) head boards and bed frames
- g.) walls / ceilings
- h.) TV remotes
- i.) curtains / drapes
- j.) toilets



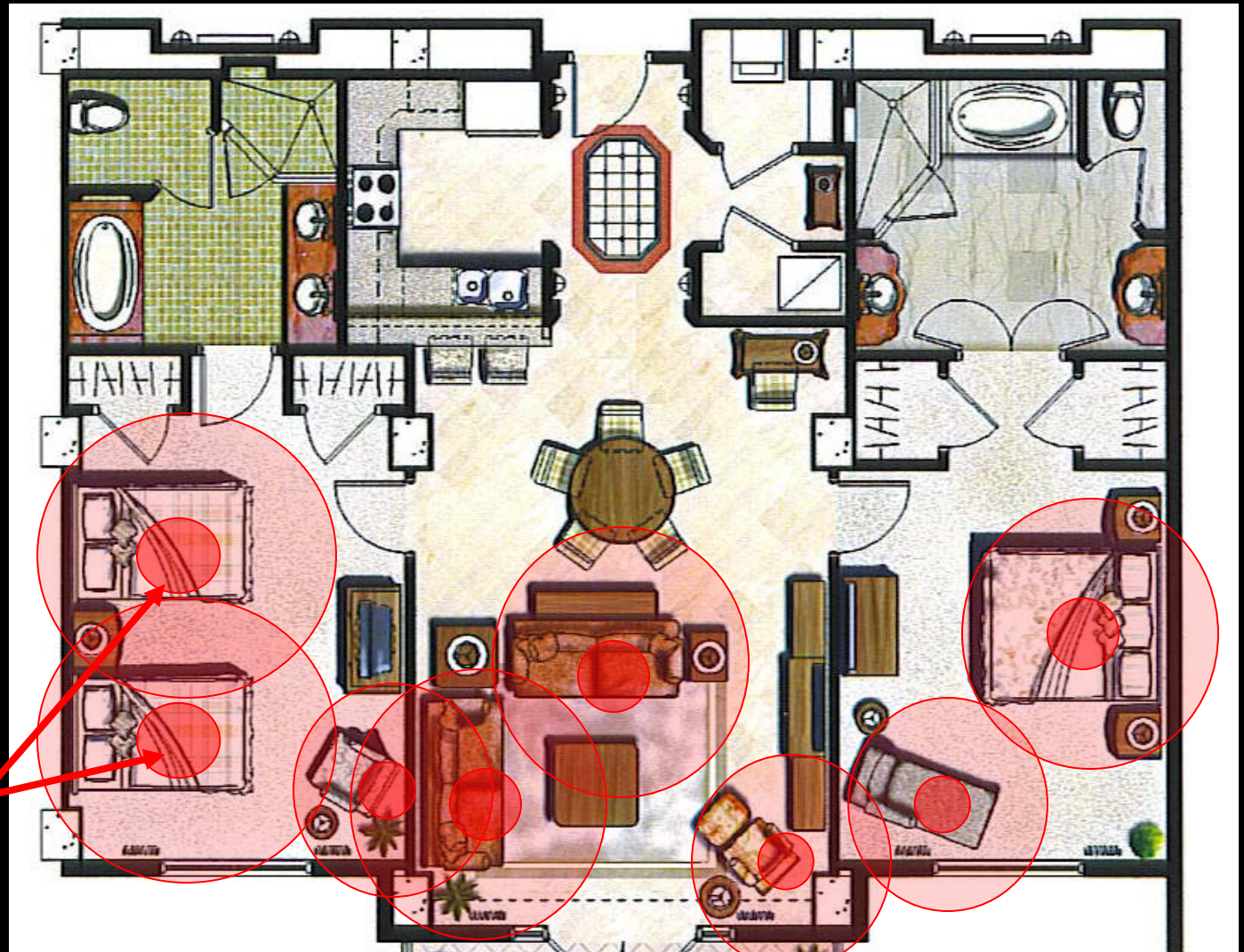
Even in the loo!



WHERE BED BUGS LIVE

Beds,
sofas,
bedside
tables,
recliners,
picture
frames...

● = Hot Spot



Bed bug signs

blood spots on sheets

bites

dead or living bugs

fecal spots

cast skins

bed bug smell



Shared resources can harbor and transfer bed bugs

- Wheelchairs
- Vacuums
- Medical equipment
- Games
- Cots
- Clothes
- Luggage



Confirm

identification

Contain

limit spread

Chuck

dispose

Clean

HEPA

Control

(several effective approaches)



All infestations can be remediated – bed bug reservoir environments need to be addressed



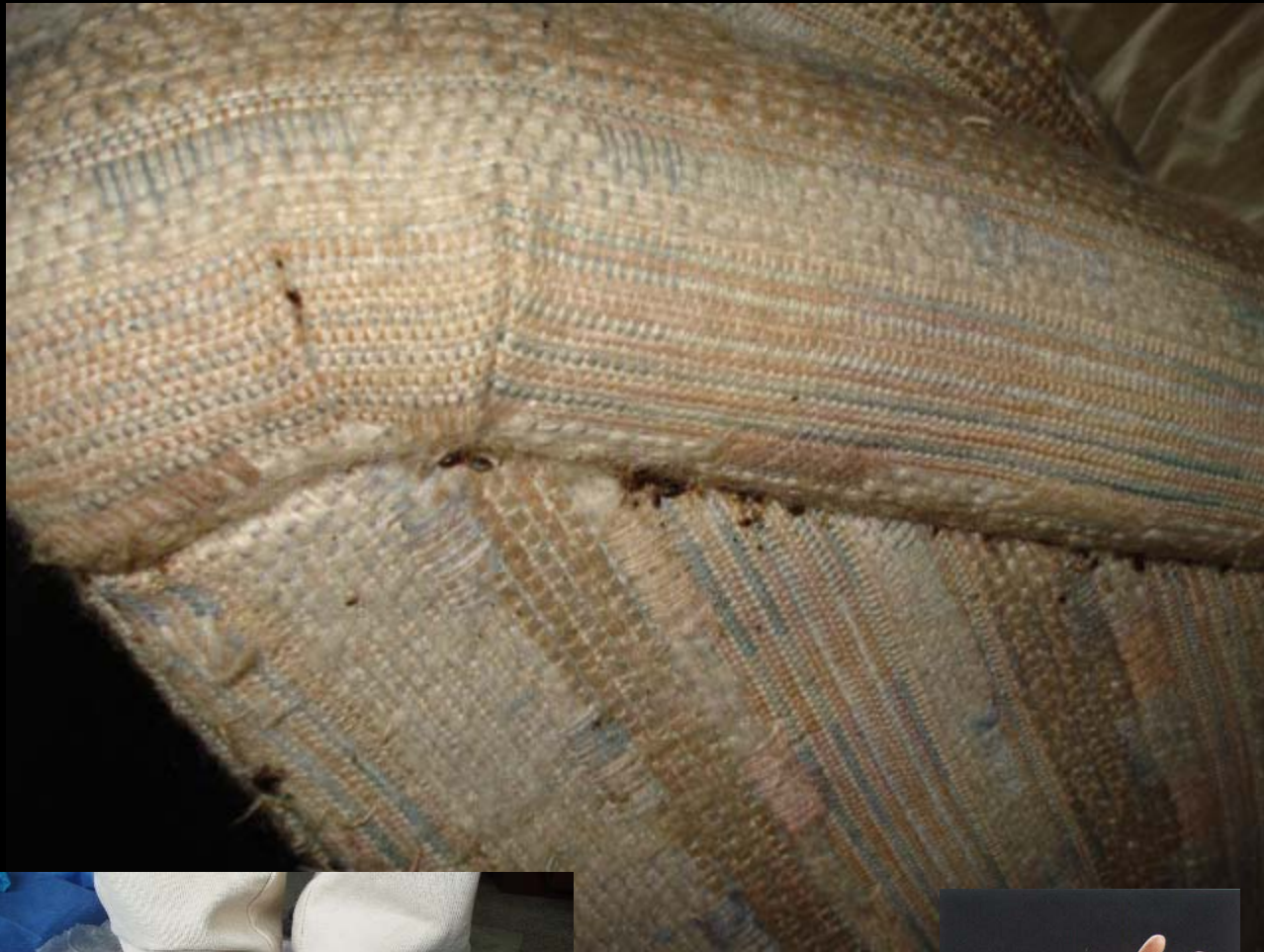
Infested!!!
BED BUGS!!



CITY OF BOSTON
INSPECTIONAL SERVICES
DEPARTMENT
CAUTION
THIS MAY CONTAIN
BED BUGS
DO NOT REMOVE!



CUIDADO
ESTO PUEDE
CONTENER



What people do



MISIDENTIFY

- Ticks
- Cockroach nymphs
- Other kinds of bug bites



Tick



Mosquito Bites

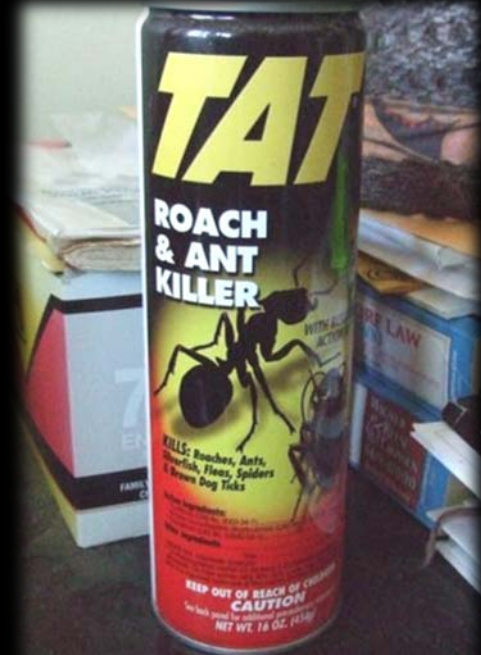


**Cockroach
Nymph**



Bat Bug

bed bugs.



Over use and abuse of OTC pesticides







MISUSE – MALATHION

- Repeated treatment with Malathion – inconsistent with label use – not labeled for indoor use
- Non-Licensed Business & Applicator



Malathion



Lab results:

Malathion 581.09 ug

MISUSE – SEVIN DUST

- Grandparents used Sevin Dust to treat bedbugs ... “it worked for someone else”





Clean up
procedures
?



Gasoline



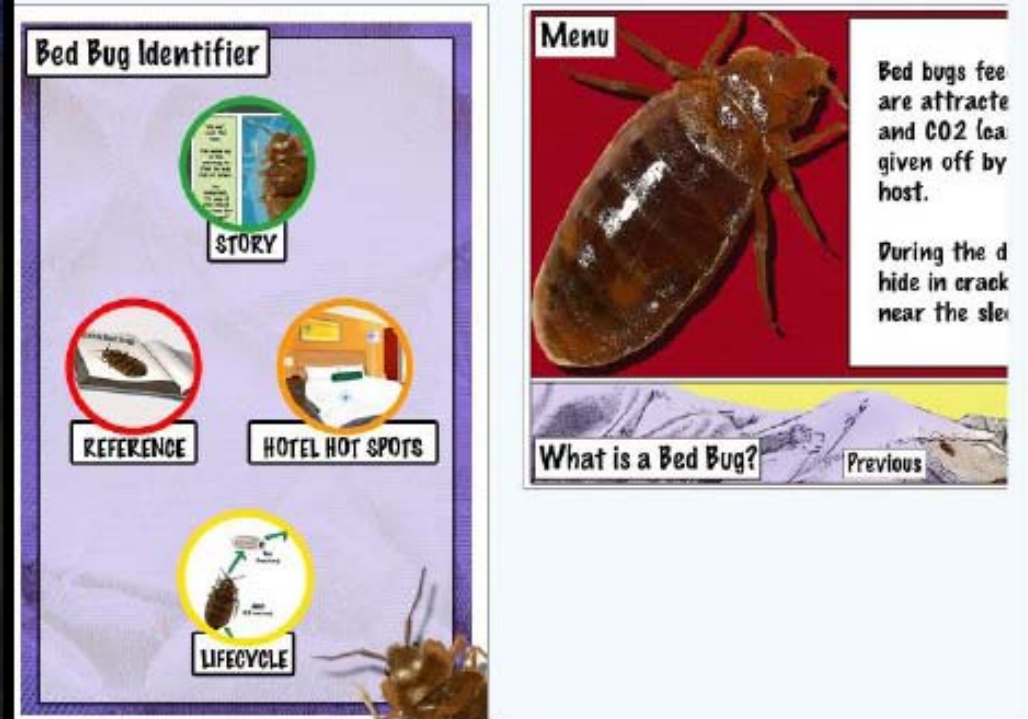


3

DANGER
KEEP OUT

Iphone apps

Phone Screenshots





Latest Bed Bug Reports

Bed Bug Hotel and Apartment Reports.
Click on the city below to find our latest bed bug reports in Arizona on hotels.

To report a new bed bug incident, navigate to our city page below to see further details.

If you would like to see the latest bed bug reports in Arizona, scroll to the bottom of the page (under the city links).

[Kill Bedbugs With HEAT](#) Serving the entire State of Arizona The most experienced HEAT providers [www.hearest.com/heatears](#)

[Bed Bug Superstore](#) Largest Selection Of Bed Bug Treatment And Prevention Solutions [www.BedBugSupply.com](#)

[Bed Bugs Bites Pictures](#) Search multiple engines at once for bed bugs bites pictures [www.webcrawler.com](#)



AdChoices

Search For Latest Bed Bug Reports In All Arizona Cities:

Anthem	Apache Junction	Avondale	Benson
Bisbee	Buckeye	Bullhead City	Camp Verde
Carefree	Casa Grande	Cave Creek	Chandler
Chinle	Chino Valley	Cottonwood	Eagar
Ehrenberg	Eloy	Flagstaff	Florence
Fountain Hills	Gila Bend	Gilbert	Glendale

This is a compilation of real travelers who have visited hotels and made reports about bed bugs.

We are not responsible for false claims.



The Bed Bug Registry is a free, public database of user-submitted bed bug reports from across the United States and Canada. Founded in 2006, the site has collected about 20,000 reports covering 12,000 locations.

You can find us on Twitter as [@bedbugregistry](#).

New! Report bedbugs on [cruise ships](#).
Search coming soon.

Check For / Report Bugs:

Hotel name:

City and state

Street Address

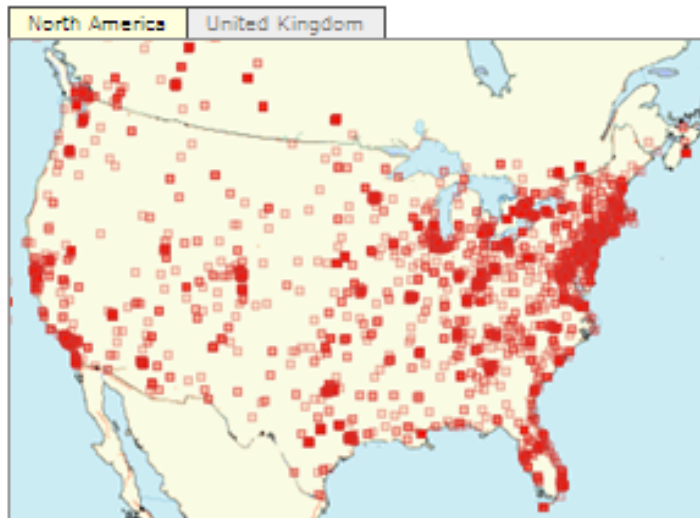
City and State

Get a proven bed bug solution today.

[Schedule a FREE evaluation](#)

TERMINIX
Power over pests.

The Bed Bug Registry exists to give travelers and renters a reliable and neutral platform for reporting



click on any region to see an interactive map of infestations

27,051 people like this. Be the first of your friends.

[242 San Francisco Hotels](#)

74000 Reviews in San Francisco Find Deals for San Francisco!

[TripAdvisor.com/San_F](#) AdChoices

Recent Bedbug Reports:

DAYS INN, Lenox, MA

CROWNE PLAZA HOTEL HOUSTON-DOWNTOWN, Houston, TX
90 Sea St, Weymouth, MA

RED ROOF DETROIT SOUTHFIELD, Southfield, MI
7511 Rue Chambord, Montreal, QC
351 Columbia St, Vancouver, BC
1019 Nanaimo St, New Westminster, BC

23 Poole Ave, Stellarton, NS
5588 Morris St, Halifax, NS

5578 Morris St, Halifax, NS

1830 Sherman Ave, Cleveland, OH

The Registry is a free, public database of user-submitted reports from across the US and Canada. Founded in 2006, the site has collected about 20,000 reports covering 12,000 locations.

“BED BUGS EASILY MOST DIFFICULT & MOST EXPENSIVE PESTS IN HOMES”

- Pest management companies may charge from \$200-\$1,000 per unit for initial service; AZ \$500 / room, pesticide treatment.
- Apartment complex of 200-500 units may spend \$20,000-\$50,000;
- Multi-dwellings face financial hardships, liability costs, lawsuits, and adverse public relations from bed bug infestations.

Bed Bug Legislation Arizona
SB1306 - 2011




DEADLIEST BUG

APOCALYPSE



48

Bed bugs can carry ultra-virulent MRSA bacteria

 **Esther Inglis-Arkell** – Apocalypse by fiery nuclear war, apocalypse by ancient Mayan prophecy, apocalypse by Buffy villain - we expected almost anything. But not apocalypse by bed bug.

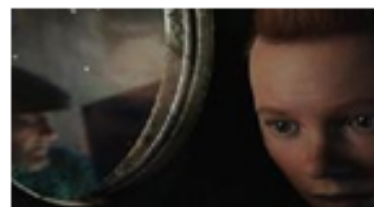
There has been a rise in bed bug infestations of major cities over the last few years. People have been all abuzz about which major buildings have been



NEWER STORIES

APOCALYPSE Bed bugs can carry ultra-virulent MRSA bacteria
7:00 AM

TRAILER FRENZY



First Tintin movie trailer reveals a pirate mystery and his loyal dog Snowy

MORNING SPOILERS The Highlander Reboot and the next Resident Evil movie move ahead. Plus tons of Doctor Who hints!
5:00 AM
18,712

MAY 16, 2011

MERMAIDS

29,157



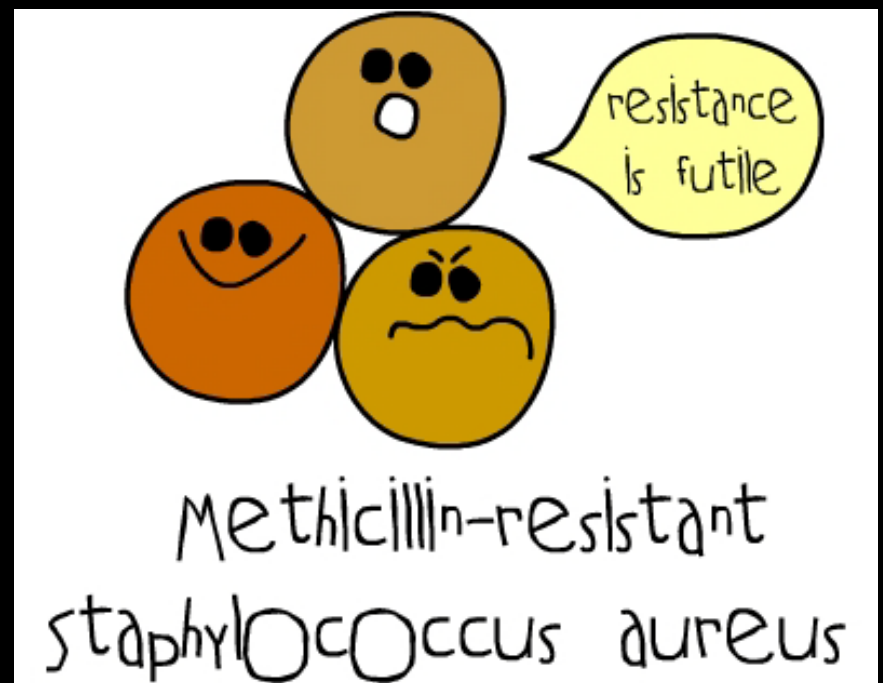
How To Have Sex With a Mermaid

ZOMBIES Are you ridiculously emaciated? You could be a zombie extra on The Walking Dead

BOOK REVIEW "Leviathan Wakes" is as close

Vancouver-based researchers discovered several instances of bed bugs infected with Methicillin-resistant *Staphylococcus aureus* (MRSA) as well as vancomycin-resistant *Enterococcus faecium*.

No evidence of transmission by the bed bugs.



Number of fatalities US 2009:

Heart disease	779,367
Cancer	568,668
Motor vehicles	36,284
Homicide	16,591
Flu	2,808
Accidental gun	588
WNV	32
Honey bees	~20
Chlorpyrifos &/or pyrophus*	>10 cases
Malaria	4
Bed bugs	0

Number of deaths in US in 2009 = 2,436,682

* Applied for bed bug control

Bed bugs have been known to carry but not
vector MANY pathogens - 1963 review paper
(previous 55 y)

Wuchereria bancrofti

Mansonella ozzardi

Leishmania donovani

Leishmania tropica

Leishmania braziliensis

Mycobacterium leprae

Staphylococcus aureus

Bacillus anthracis

Diplococcus pneumoniae

Pasteurella tularensis

Brucella abortus

B. melitensis

B. suis

Salmonella paratyphi

Pasteurella pestis

Rickettsia rickettsii

Rickettsia prowazekii

Rickettsia typhi

Coxiella burnetii

Borrelia recurrentis

Borrelia duttoni

Spirochaeta merionesi

Leptospira icterohaemorrhagiae

Poliomyelitis virus

Yellow fever virus

Smallpox virus

*Lymphocytic choriomeningitis
virus*

Wuchereria bancrofti

Leishmania tropica

Leishmania donovani

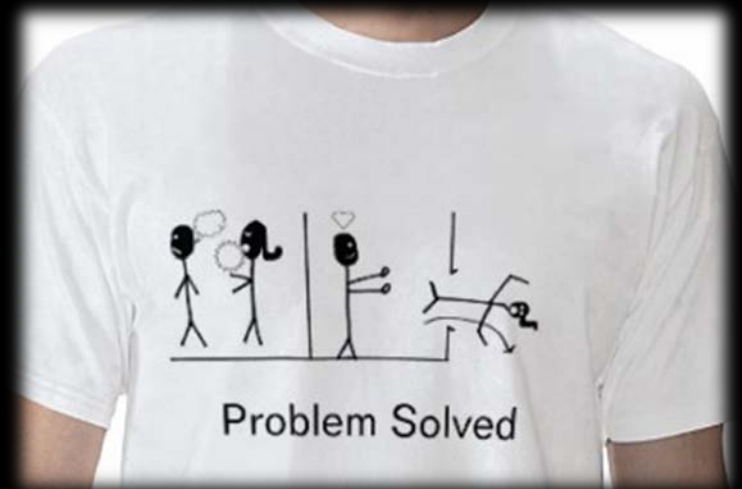
Borrelia recurrentis

Yellow fever virus

Staphylococcus aureus has been isolated from cockroaches and ants



25% to 30% of the human population is colonized with staph (meaning that bacteria are present, but not causing an infection), approximately **1% ARE colonized with MRSA.**



Staphylococcus aureus is commonly carried on the skin and in the nose of healthy people.

Sometimes, Staph can cause an infection. Staph bacteria are one of the most common causes of skin infections in the US.

Affects weakened immune systems, so common in hospitals and healthcare facilities.

