

# Bed Bugs



Aardwolf Pestkare's Thermalator.

**Q:** Is the Bed Bug, *Cimex lectularius*, a nocturnal (active at night) or a diurnal pest (active during the day)?

**A:** It depends on when food is available. If its targeted host works the permanent night shift and returns home to sleep in the day, the Bed Bug will be forced to take its blood meal in the day.



Close up of Bed Bug eggs.

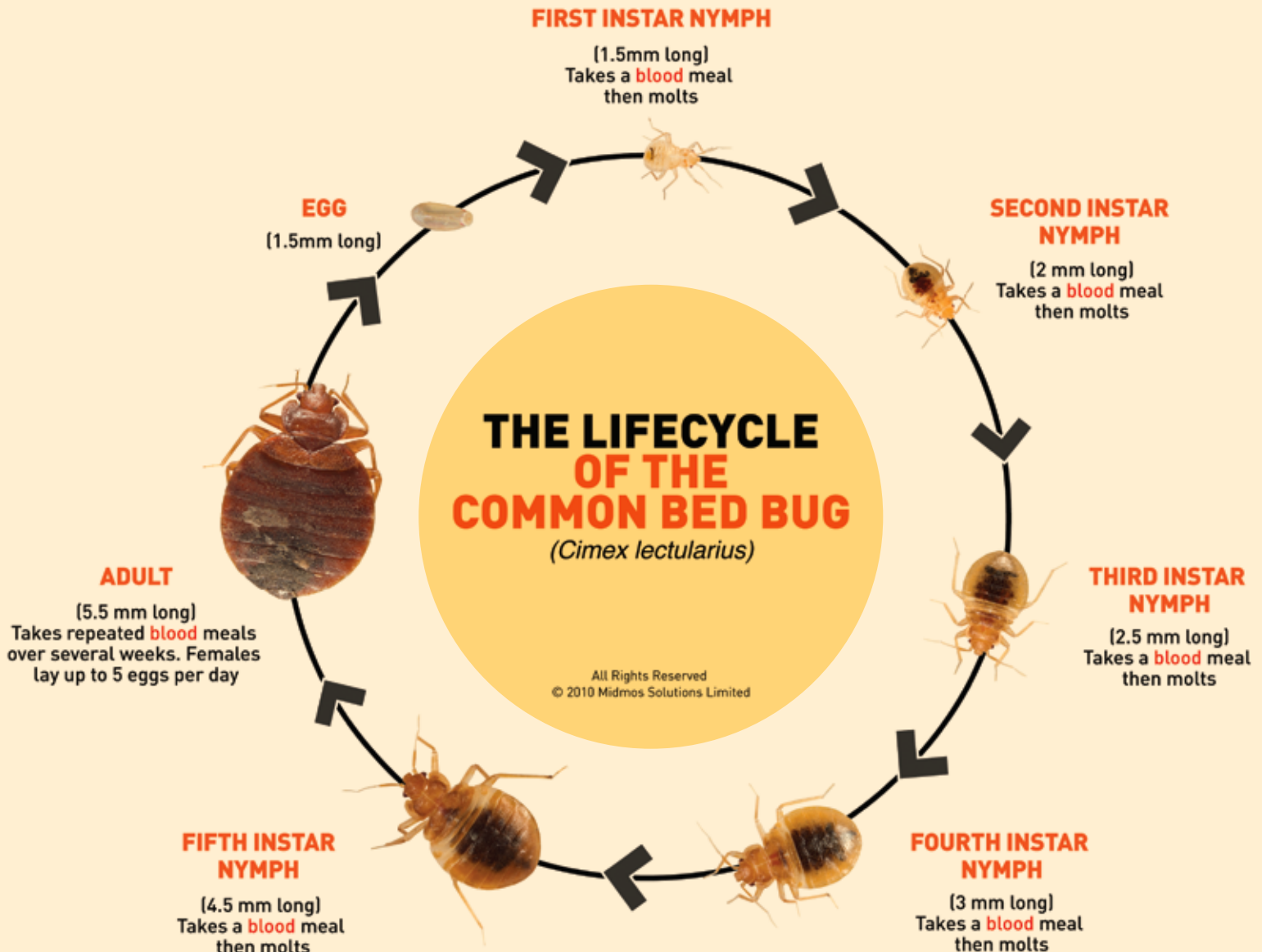
Bed Bugs are tolerated since they are not known to transmit diseases.

The University of Kentucky has reported high levels of insecticide resistance in field-collected Bed Bugs. This is worrisome but not unexpected. In the 1950's some Bed Bug populations were developing resistance to DDT, which is now banned in most countries including Singapore.

It is this flexibility in its behaviour that makes the Bed Bug the world's fastest rising pest. Today no international pest management convention is complete without someone presenting a paper on Bed Bugs.

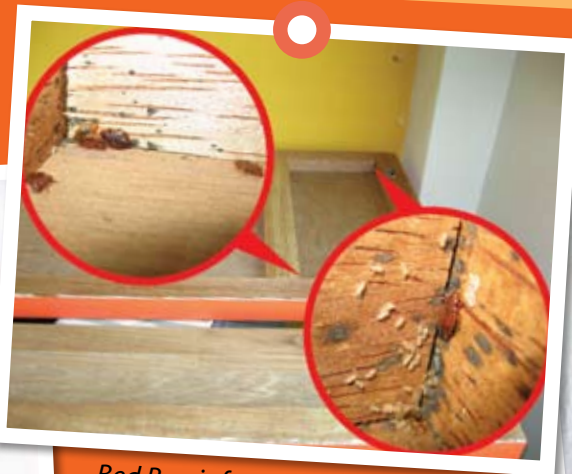
### Chemical Resistance

In the 1950's through the widespread use of chemicals like the "wonder insecticide" DDT, this pest was thought to have been eradicated. But in the past 3 years the pest





Female (left) and Male Bed Bugs.



Bed Bug infestation.



Faecal marks of Bed Bugs.

Today the most common insecticide used against the Bed Bug is pyrethroid-based which has a similar mode of action as DDT, resulting in what is known as "cross resistance".

### **Behaviour and Evidence of Infestation**

An adult Bed Bug is about 5.5 mm long, oval, thin and rusty-red or mahogany in colour. After a full blood meal it is more elongated, plump and red. It can consume more than 5 times its own body weight in blood in a matter of 15 minutes.

It has a piercing-sucking mouthpart, similar to the mosquitoes, which it uses to pierce the skin and sucks blood from its preferred host, the humans, in whose absence it will quite easily feed on poultry, rats, mice, cats and dogs.

Its bite area becomes inflamed and itchy. But some people are less sensitive and do not suffer these symptoms. What makes the bite marks distinct from those of the mosquito bite marks, is that they are in clusters, reflecting its habit of hiding in clusters.

If the infestation is heavy, they produce a distinct odour (described as "sweet, raspberry-like"), which explains why the Bed Bug is called "chou chong" (smelly bug) in Mandarin.

Another tell-tale sign are the faecal marks and bloody spots left on the bed sheet and pillowcases, when an engorged Bed Bug (both sexes suck blood) is crushed by the sleeping host.

The Bed Bug is an insect that does not fly because its wings have degenerated into stubby remnants. But that does not limit its travel range. It can walk 10 metres in one night from its harbourage for a blood meal, attracted by the body temperature, carbon dioxide and body odour from the host.

Bed Bugs harbour in cracks and crevices, preferring wood and paper to stone or plaster, which explains why the Cantonese refer to them "mok sact" (wood bug). With their flattened body they hide typically in the folds

and tufts of mattresses, coil of springs and bed frames, upholstery of chairs and sofa, loose wallpaper, behind pictures on the wall, doors and window frames, behind baseboards and even inside light fittings. In principle these places offer darkness, isolation and protection.

Just like a cockroach a Bed Bug goes through a gradual metamorphosis. After mating the female lays about 5 eggs per day, which she glues onto cracks and crevices. She lays up to about 500 eggs in her lifetime. These eggs hatch in 6 to 17 days, producing small, almost colourless nymphs with the body appearance of an adult. These nymphs need a blood meal before they can moult through 5 instars to become adults.

A Bed Bug takes only 4 weeks to develop from egg to egg laying, and the adult can live up to 7 months. It is a very hardy insect and can, in various stages of its life cycle, survive a year without food. This coupled with the fact that it is usually a "takeaway pest" in luggage, clothes and used furniture, explains why people are often surprised at what appears to be a sudden or mysterious infestation.

### **How do you DIY?**

If you detect an infestation in your bedding you can treat the Bed Bugs hiding in the folds with an aerosol can of an insecticide early in the day. Then take the bedding out to dry in the sun for several hours. This should also help desiccate the Bed Bugs in the various stages of their life cycle. As a safety precaution, dry and ventilate the mattress before re-use.

Should the problem persist, call for professional help.

Aardwolf Pestkare employs a range of techniques, including its own in-house heat dispensing-Thermalator, without the use of chemical.

This is one pest that we cannot assume can be eliminated with a single treatment. To guarantee that the treatment has been successful, Aardwolf Pestkare will install a BB Alert Monitoring Station to confirm that the Bed Bugs have gone.