

Cimex as Vector

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BED BUG (*Cimex lectularius*), (*C. hemipterus*- India)

Class: Insecta

Division: Exopterygota

Order: Hemiptera

Family: Cimicidae

Bed bugs are world wide in distribution. They inhabit human dwellings old buildings, hotels, and their infestation is considered as a sign of filth and uncleanness. They are nocturnal and hide in crevices, mattresses, joints of wooden furniture and hide out in bed rooms.

External Features:

They are small (5mm long and 3mm broad), oval, dorsoventrally flattened and dark brown in colour. Antenna are four segmented. Hemelytra are short and poorly developed. Hind wings are absent. Head is closely surrounded by prothorax. Mouth part piercing and sucking type, reduced to proboscis and two pairs of stylets, the mandible and maxillae.

The abdomen of male is narrower and pointed than the female and terminates into a curved hook like clasper, which function as sheath for aedeagus. Abdomen of female is broad, rounded apically with a prominent niche or incision ventrally on the posterior margin of the 4th segment, which is an opening of blind copulatory pouch.

Life Cycle:

Male takes up diagonal position across the body of female during mating. Female lays elongate whitish eggs singly at the rate of 3-4 egg per day, in the cracks of furniture, strings of cots loose edges of wallpaper and corners of durries, almost throughout the year in warm climate. A single female lays 500 eggs during her life span.

The eggs hatch in 6-7 days. The nymphs feed after 1-2 hr of hatching. There are 5 nymphal stages. They last for 42-56 days. Egg laying commences after 6 days of last nymphal stage. Adult subsist upto 3 months without food. Life cycle is completed in 15-50 weeks depending upon weather conditions.

Economic Importance:

Both the nymphal and adults bite and suck the blood of human beings during night. During feeding they inject saliva which contain anticoagulin and anaesthetic factor. Bites produce intense itching, irritation and inflammation. When they are present in sufficient number sleep becomes almost impossible. Their striking odour becomes unbearable.

They are susceptible to be the vectors of typhus, relapsing fever, kala-azar, plague, tuberculosis, leprosy, etc. but they have not been proved and they are not responsible for major outbreaks for epidemics.

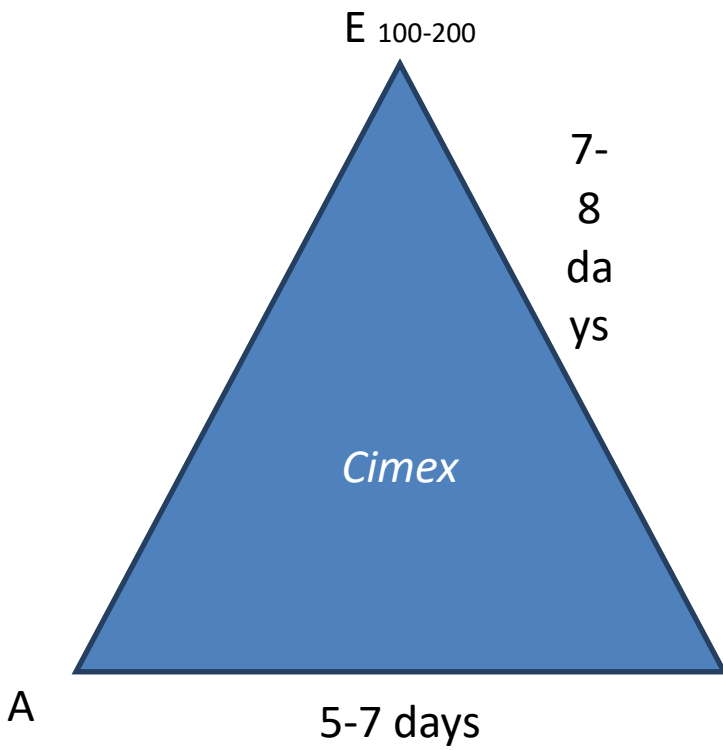
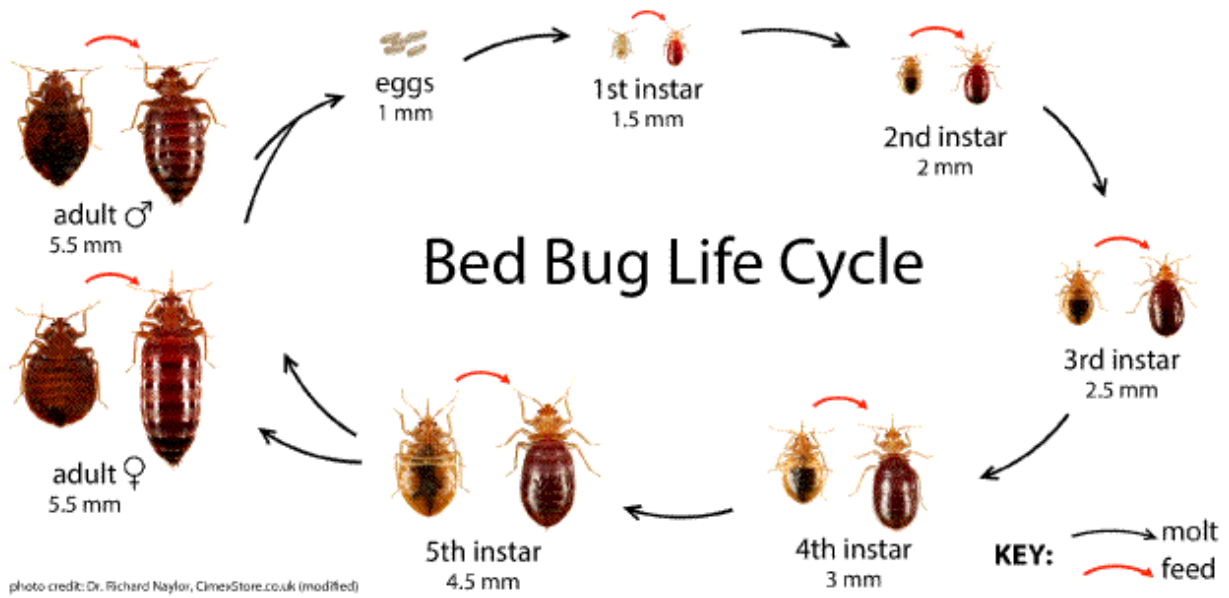
Control:

- i. Pouring boiling water on sites of oviposition will kill the eggs and nymphs.
- ii. Occasionally exposing the bed sheets pluries, etc. to hot sun will kill the eggs.
- iii. Natural enemies are red ants, reduvid bugs, and mice.
- iv. Liberal application of kerosene, turpentine, benzene, or petroleum oils with small brushes, or syringes in wooden bedsteads, furnitures, floors and walls.
- v. Other insecticides like organophosphorous and pyrethroids should be applied on beds, beddings, crevices, etc. Tik. 20 has been found to be effective.
- vi. In case of heavy infestation, fumigation of house should be done by HCN, etc.

Cimex traumatic insemation

https://www.youtube.com/watch?v=mBWlrg24itg&ab_channel=MadBaarman

https://www.youtube.com/watch?v=OLaaqX6A3AU&ab_channel=RichardNaylor



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