BED BUGS
Life Cycle and Identification

content courtesy of
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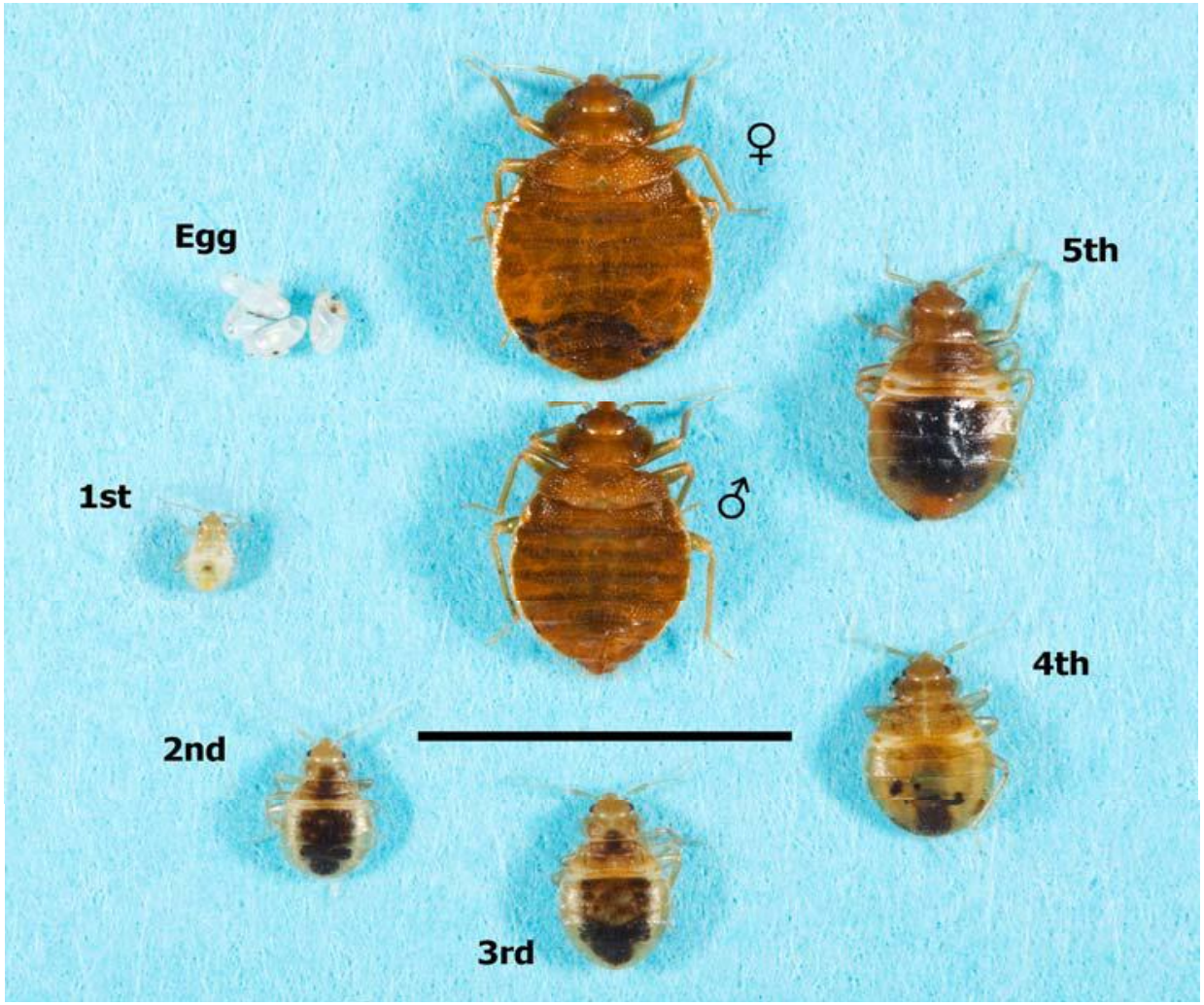
BED BUGS: LIFE CYCLE AND IDENTIFICATION

Understanding the lifecycle of bed bugs enables proper identification during all stages

Stages in the Life Cycle

bar indicates 5mm scale



EGGS

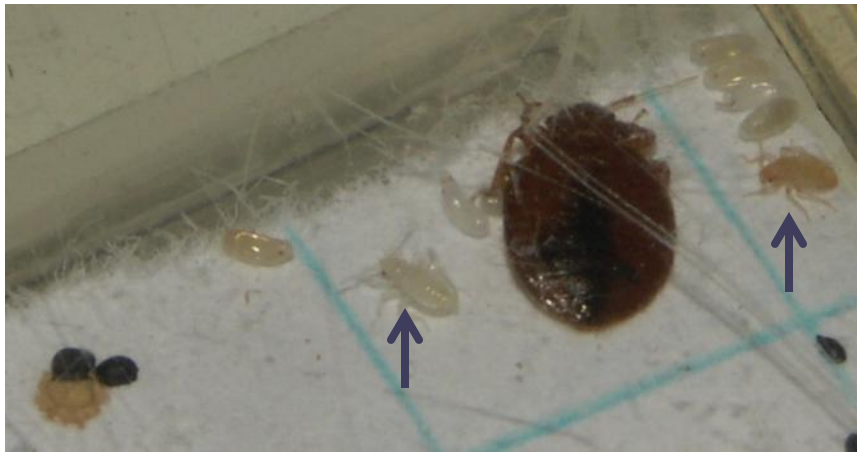
Eggs are 1 mm in length and produced with a glue to help them stick where they are placed

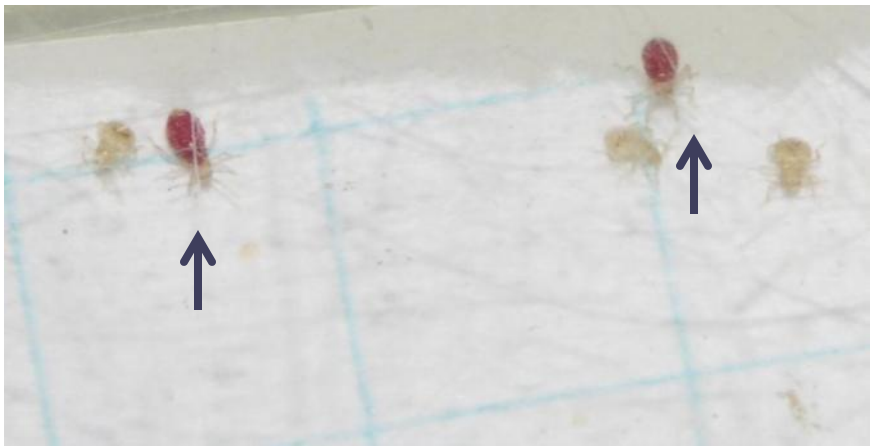
Empty egg cases on mattress surface

1st Instar

Once laid, the eggs hatch within 10-14 days. The newly hatched nymph is light in color. After one hour, the 1st instar nymph darkens.

After feeding the nymphs appear red in color.



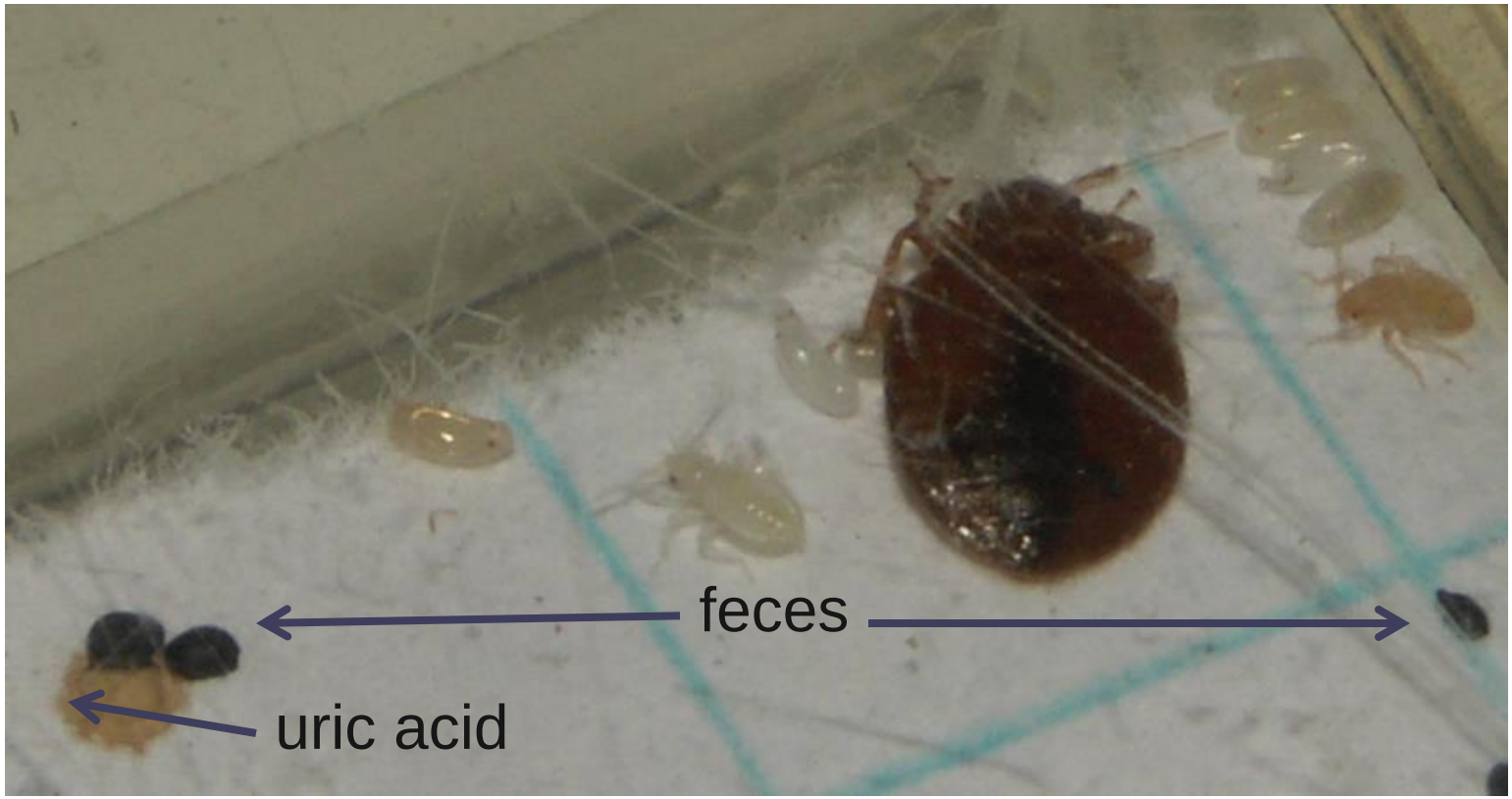


Molting

Shed Skins of 5th instar nymphs (dorsal and ventral views)

Top - adult female (one hour older below) with shed skin still attached. Bottom - adult female, recently molted, dark region is digested blood in the gut

Uric Acid and Waste Material



An initial waste product is a uric acid secretion, not feces, that is light in color.

BED BUGS: IDENTIFICATION

The following slides show detailed views of bed bugs for identification purposes

Details of head and rostrum

Details of head and rostrum

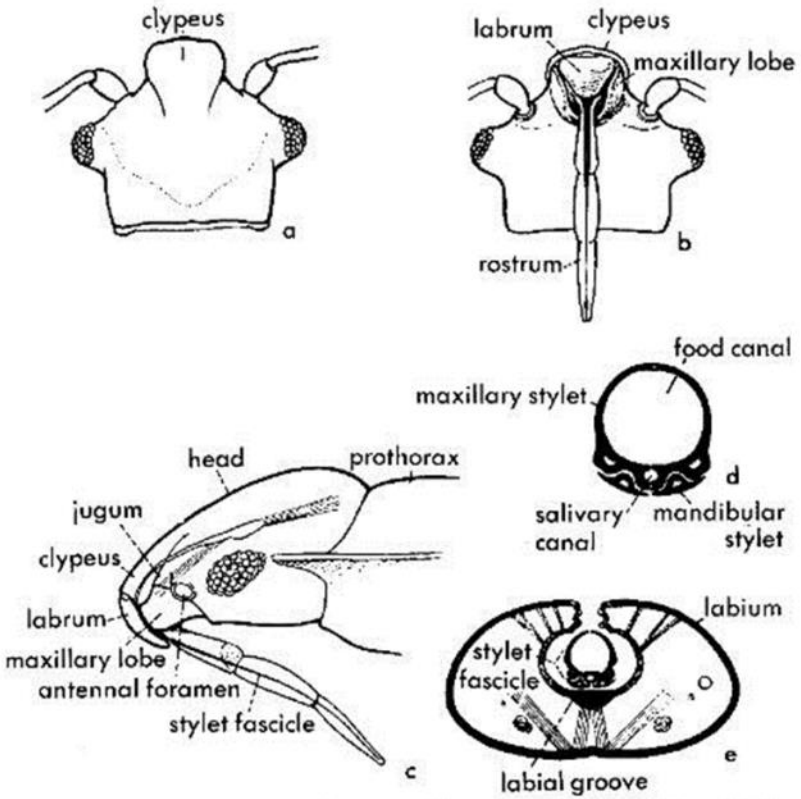


FIG. 6–3.—Details of head and rostrum, *Cimex lectularius* (Snodgrass 1944).

Ventral view of head

Adult Bed bugs - dorsal & lateral views

Adult bed bugs – unfed (L.) and fed (R.) – dorsal view

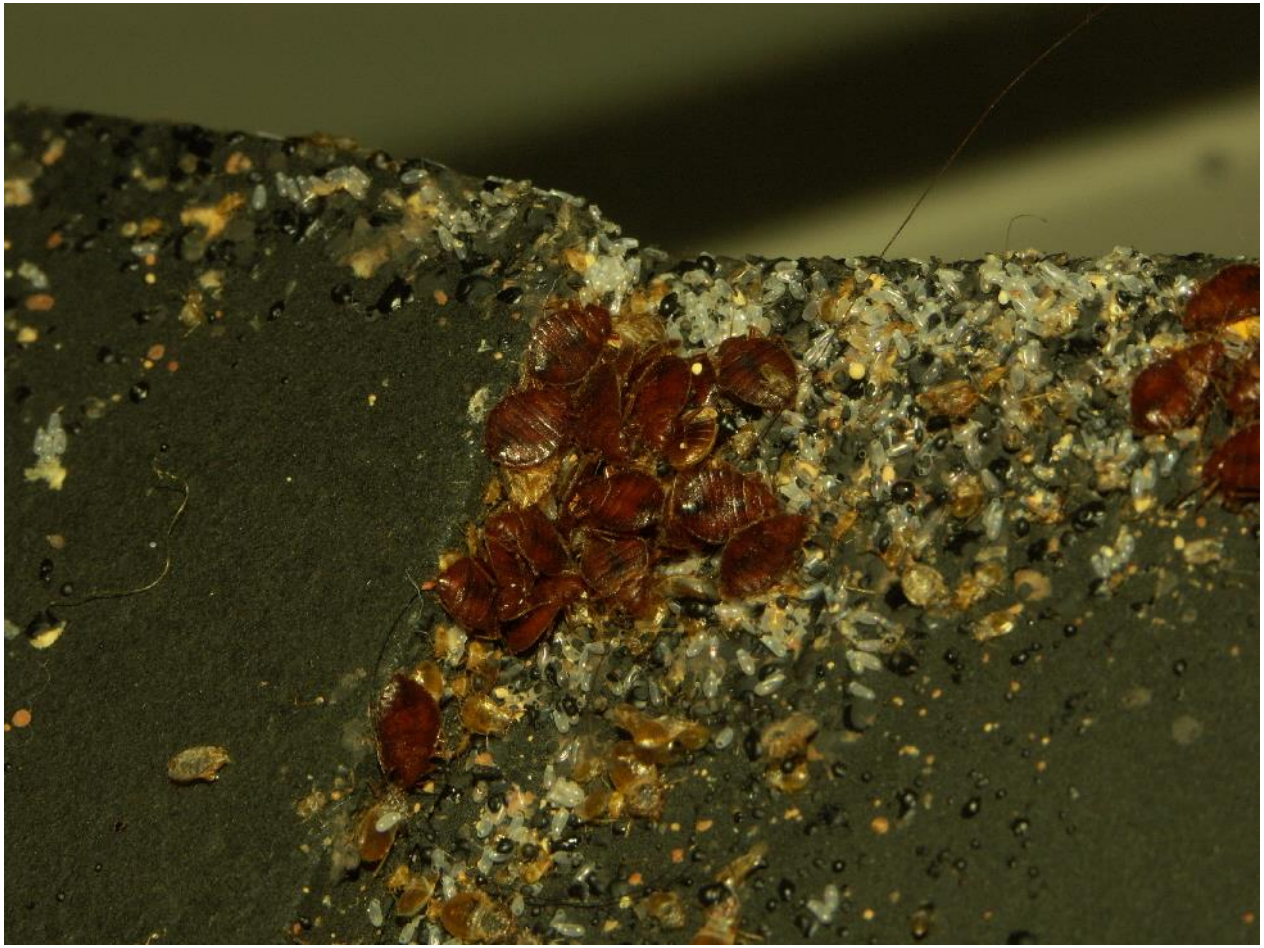
Engorged adult bed bug – lateral view

Adult bed bug – ventral view

FEEDING

Feeding leads to engorgement and a more swollen appearance.

Bed bugs do not truly exist in colonies. They survive independently from one another, but they do harbor together.



A bed bug harborage contains droppings, eggs, egg shells, shed skins, and insects in various stages of the life cycle.

DETECTION OF INFESTATIONS

The following images of bed bug infestations give examples of the range of locations in which they can be found.

Edge of Matress

On underside of mattress tab - not visible from above

On a wall molding

In a CD collection

Adult, nymphs and eggs and droppings visible on wood

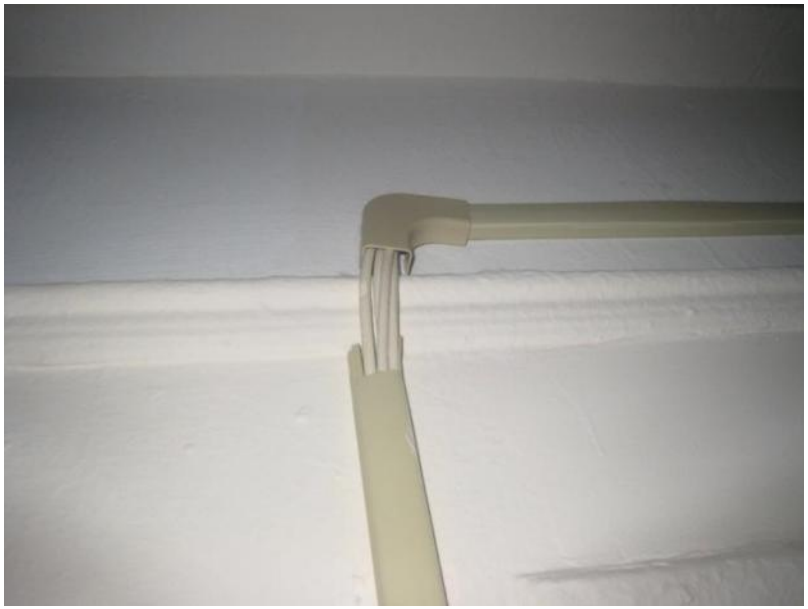
German cockroach nymph and bed bug nymphs, mixture of feces

Feces showing evidence of infestation on door hinge

Bed bug infestations can be transferred from one bed to another in one household through bedding being briefly used on both beds.

Bed bugs can harbor in the chandelier base and also drop from the ceiling

Electric and cable conduits can serve as an entry route and harborage area



MONITORING DEVICES

The following slides give examples of some of the products that can be used to monitor for bed bug infestations.

Examples of Sticky Tape Monitors

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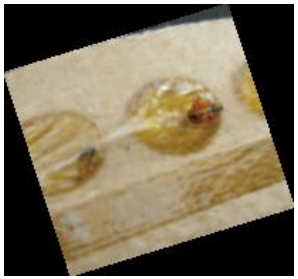

Catchmaster Bedbug Detection System

Examples of “climb-into” monitors

MuseumPests.net

BB ALERT® Active

BB ALERT® Passive

CO_2 Monitor

Dr. Changlu Wang, Rutgers University
Dry Ice Detector Device
(Now produced by Bed Bug Central)

Bed Bug Beacon

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Expired metrocards used to aid in detection in crevices