Helpline Happenings - December 2024
Managing Cockroaches

(Cockroach / Water bug / Palmetto bug)

By: Oksana Gecha

Description - General

- Cockroaches are one of the most common insects.
- Very old - cockroaches originated more than 280 million years ago in the Carboniferous era.
- Agile and can run extremely fast.
- Considered one of the most successful groups of animals because they are so adaptable.
- About 70 species in US living mostly outdoors in woods and 4,000 different species worldwide.

Identification

Cockroaches come in a wide range of sizes and appearances. But they all share several similar characteristics making them recognizable as a cockroach:

- Oval shaped
- Long “thread-like” antennae
- Legs with spines
- “Shield-like” plate called the pronotum just behind the head – light brown area



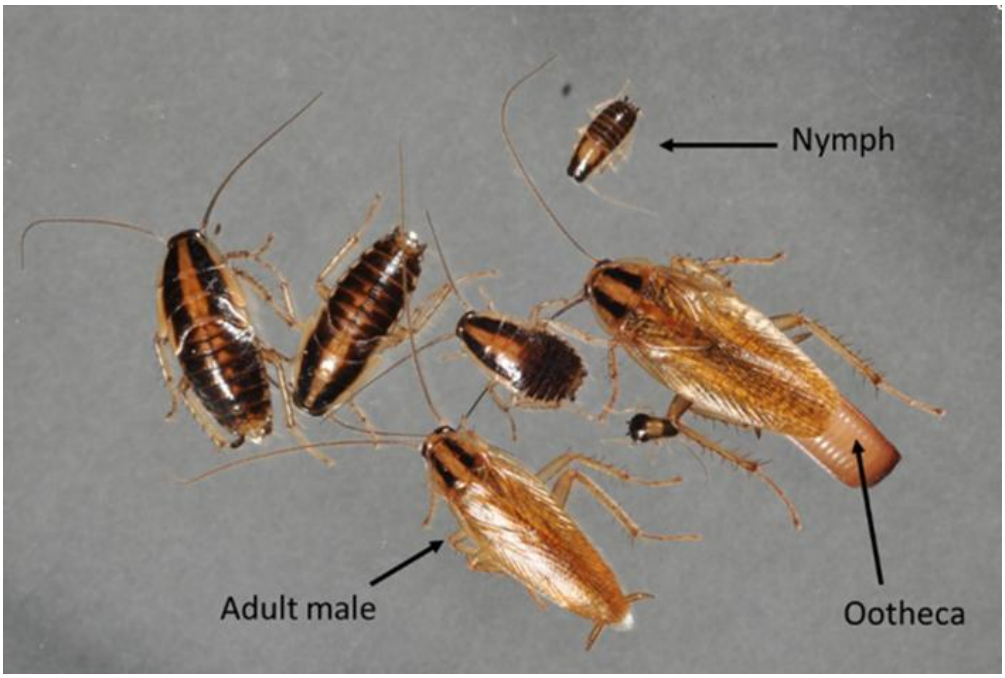
Figure 3. Adult male American cockroach, *Periplaneta americana* (Linnaeus) Photograph by P.G. Koehler, University of Florida.

Growth cycle

- Go through gradual metamorphosis (egg, nymph, and adult).
- Adult female produces an egg capsule (ootheca) which contains up to 44 eggs
- Nymphs typically go through 5–7 stages (instars), shedding their skin (molt) between each stage before reaching adulthood.

About 7 species in NJ can be found as pests in residential & commercial structures:

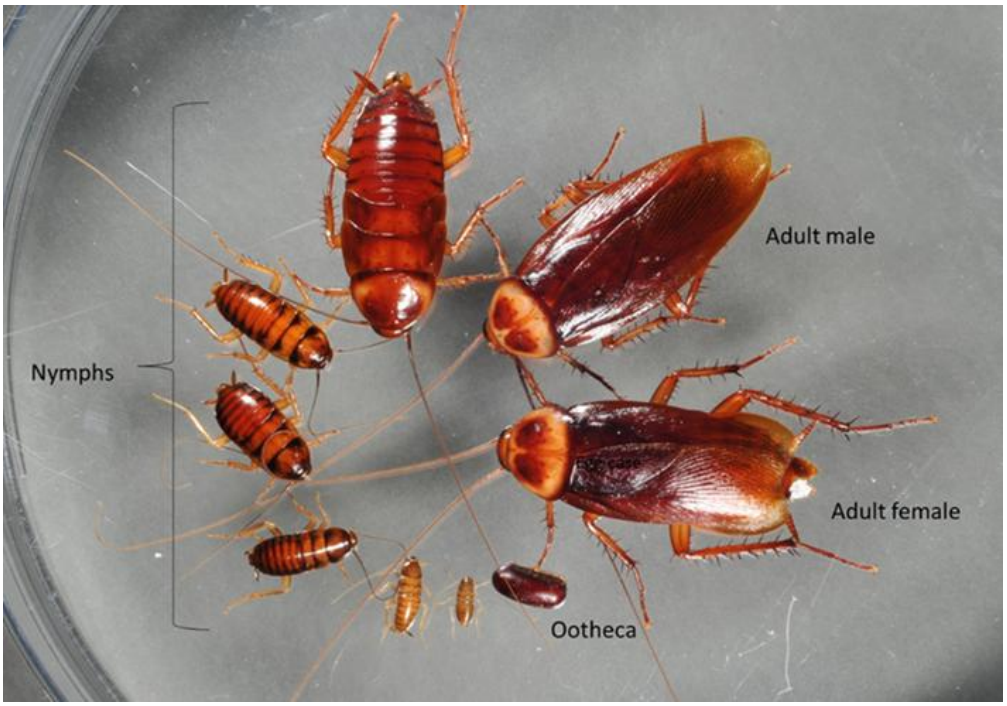
1. **German Cockroach,** *Blattella germanica* (~ ½ in.) – **highest occurrence** – **Only lives in buildings.** Cold **temperature (< 60 °F) is the limiting factor for the survival and egg production** of this species. Two dark parallel stripes appear on its pronotum (shield like plate covering part of thorax) and wings cover their thorax and abdomen but are incapable of flying. It feeds on a wide range of human foods, pet food, fruit, leather, and even book bindings. Most active at night and prefer to live in cracks and crevices that are not frequently disturbed. Seeing German cockroach activity during the daytime hours is typically an indication of a severe infestation. Mostly found in kitchen (around stove/refrigerator) and bathroom (around the sink, toilet, and tub or shower) where food and water are available.
2. **Pennsylvania Wood Cockroach**, *Parcoblatta pennsylvanica* DeGeer (~ ¾ in.) - common in eastern U.S. Found outdoors beneath loose bark in woodpiles, stumps, hollow trees. Brought indoors with firewood. During mating season adult males may fly into homes. Feed primarily on decaying organic matter. **Rarely breeds indoors**. To prevent home invasion**,** seal crevices, gaps in walls, windows, garage door, and entry doors.
3. **American Cockroach –** *Periplaneta americana* (~2 in.), palmetto bug – larger species – Found in subtropical and tropical regions. Abundant in city dumps, most common in basements and steam tunnels of restaurants, bakeries, food-processing facilities, and grocery stores.
4. **Oriental Cockroach** - *Blatta orientalis* (1-2 in.), water bug - more common in temperate regions than subtropical regions, found near damp places. most active during the nighttime hours. Prevent home invasion by reducing organic material around foundation, including vegetation and mulch, seal crevices, gaps on the walls, windows, doors, eliminating clutter. Place sticky traps around baseboards to detect and catch invading cockroaches.
5. **Spotted Mediterranean Cockroach**, *Ectobius pallidus* (Olivier) - has become more common in New Jersey in recent years. It lives in a variety of outdoor environments. Can be found flying around structures and enter homes through doors, windows, and vents. However, it is very rare that they will reproduce and infest structures, once inside. To control them, seal any gaps around windows, doors, vents. Place sticky traps around baseboards to trap them. Exterior treatments to foundations, around doors and windows, porches, patios, and other areas where outside lights are located may help control their numbers.
6. **Brownbanded Cockroach,** *Supella longipalpa* (F.) - common in tropical and subtropical regions, prefers to live in areas of the home that are constantly warm, such as near water heaters. Apply same control methods as German Cockroach.
7. **Surinam Cockroach,** *Pycnoscelus surinamensis* (L.) - common in the southeastern region of US. Burrows into loose soil. Active at night and feed on plant material which can cause damage to plants. They are not found outdoors in NJ but can be introduced into homes and commercial buildings in the soil of potted plants. In buildings with Surinam cockroaches, removal of infested potted plants or applying cockroach bait is effective in controlling them. Removal of leaf litter, landscape timbers, and firewood will reduce Surinam cockroach habitat in parts of the country where outdoor populations exist.



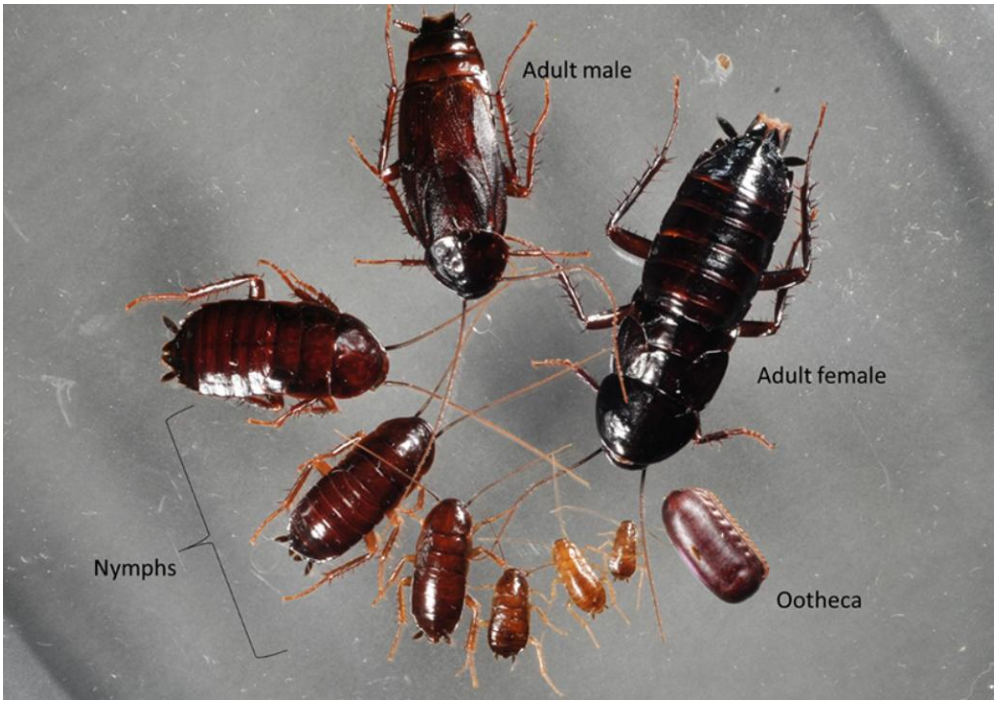
German cockroach life stages - John Obermeyer and Changlu Wang – Rutgers FS1327



Pennsylvania wood cockroach. Photograph by Brandon Woo via BugGuide, used with permission.



American cockroach life stages - John Obermeyer and Changlu Wang – Rutgers FS1327



Oriental cockroach life stages - John Obermeyer and Changlu Wang – Rutgers FS1327

Control Strategy – German Cockroach

- Controlled by a combination of non-chemical and chemical methods.
- Most over-the-counter pesticides sprays and total release aerosols, also referred to as “bug bombs” are not effective and should be avoided.
- Gel bait and bait stations can be very effective - Place in areas where cockroaches are most prevalent, in areas not accessible to children and pets.
- Boric acid dust can be applied in hard-to-reach areas behind refrigerators, stoves, in cracks and crevices behind cabinets.
- Use sticky traps for monitoring and as an effective control measure.
- Place traps in areas where cockroaches are most active - around stove, refrigerator, sink, toilet, tub, or shower where food and/or water are available.
- After treatment, periodically check traps and visually check cabinets, stove, refrigerator areas, and other areas with food and water to confirm cockroaches are eliminated.

Control Strategy - ALL cockroaches

- Ensure excellent sanitation and reduce clutter.
- Keep kitchen clean, seal food materials, reduce water sources, and use sticky traps to monitor their presence and distribution.
- Keep cabinets, countertops, and the area around the refrigerator free from clutter, including paper bags.
- When applying pesticides, be sure to follow product label instructions.
- If needed, contact local exterminator.

Fun Facts

- American cockroach has shown an attraction to alcohol, especially beer, most likely drawn to hops, sugar.
- They can run up to 3 miles an hour.
- Can hold its breath for 40min.
- Can live a week without its head.
- Some species, like the Madagascar hissing cockroach, are even reared as pets.

References

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