



American Cockroach

Order: Blattaria

Family: Blattidae

Species: *Periplaneta americana* (Linnaeus)

AKA: Palmetto bug

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Size:

The American cockroach is a large cockroach, adults are approximately 1-1/2 inches long (38mm).

Color:

The adult is a shiny reddish brown to dark brown and has a yellow margin on the pronotum (region directly behind the head). Immature American cockroaches are also reddish brown to dark brown in color and often have yellow markings on the abdomen.



Figure 1: Adult American cockroach

Description:

Adult American cockroaches have wings and will occasionally fly. However, they are awkward fliers and prefer to run when disturbed. Male and female American cockroaches are about the same size and look very similar. Both have a pair of cerci, finger-like appendages, at the tips of their abdomens. The cerci are used to detect air currents in the cockroach's surroundings. Male cockroaches have an additional set of appendages called styli on their abdomens. The styli are located between the cerci but are smaller and more delicate. The presence of styli is the easiest way to distinguish male from female cockroaches. Immature

American cockroaches resemble adults, except they are wingless. The American cockroach egg capsules are mahogany brown and about 1/3 inch long.

Habitat:

American cockroaches are a "peridomestic species" this means that they generally live outdoors. However, populations can also move indoors and live in human structures.

American cockroaches usually live in moist, humid environments but can survive in dry areas if they have access to water. The cockroaches prefer temperatures between 70°F and 85°F and will not survive 15°F. In structures, American cockroaches are common in areas where food is prepared or stored and moisture is plentiful. They are frequently found in restaurants, grocery stores, and bakeries. They are also commonly associated with boiler rooms, sewers, steam tunnels, and other warm, moist locations. In residential and commercial buildings, American cockroaches usually infest basements, crawl spaces, bathrooms, and decorative landscaping. Indoor populations tend to forage outdoors during warm weather. Likewise, during the winter months, populations established outdoors will venture inside seeking moisture and warmth.

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Life Cycle:

After mating, the female American cockroach will produce an egg case in three to seven days. She will carry the egg case protruding from the tip of her abdomen for another two days. The egg case is then deposited in a hidden location and glued to a surface with the female's saliva. Hiding the egg case helps to protect it from predators, parasites, and pest technicians. Each egg case contains an average of 15 embryos. The immature cockroaches will emerge in 24 to 38 days under warm conditions. They will complete their development and become reproductive in six to 12 months. Adult American cockroaches can live approximately a year to a year and a half. An adult female will produce between six and 14 egg cases during her lifetime.

Type of Damage:

American cockroaches feed on a wide variety of materials, including cosmetics, beer, potted plant shoots, wallpaper paste, soap, postage stamps, and fermenting fruit. They can foul human food, clothing, paper goods, and surfaces with their feces and body parts. American cockroaches also produce a strong unpleasant odor. This characteristic odor is not only detectable in infested buildings but is also transferred to items that the cockroaches crawl across when foraging. So a pest management professional can often detect an American cockroach infestation before he has actually seen any cockroaches.

Health Risks:

When American cockroaches aggregate, their presence is primarily an aesthetic nuisance. However, members of this species are also known to carry infectious bacteria on their bodies and in their gut. These bacteria may be transferred to food and other items that the cockroaches contact. Several bacteria commonly associated with American cockroaches are known to cause food poisoning, dysentery, and diarrhea in humans. American cockroaches also produce allergens on their bodies and in their fecal material. While American cockroaches are not considered to be major culprits of human respiratory problems like some other cockroach species, they have been implicated as a cause of allergic dermatitis and childhood asthma.

Control Methods:

Prevention (Non-Chemical):

1. Exclusion: Inspect bags, boxes, cartons, etc. for evidence of American cockroaches before they are



Figure 2: Aggregating cockroaches

brought into a building. Cockroach evidence includes feces, body parts, or live cockroaches. If evidence is found, do not allow the container into the building until it is emptied and all its contents inspected. Use expandable foam or caulk to block pipe chases and conduit access to prevent cockroaches from moving between one location and another inside a building. Weatherproof windows and doors, screen vents in the attics and crawlspaces, and trim trees and shrubs that are close to the structure. In buildings that are frequently unoccupied, flush toilets regularly to prevent American cockroaches from entering through plumbing traps.

2. Sanitation: Eliminate as many moisture sources as possible. Fix leaking pipes, store recyclables (cans and bottles) outside the structure, insulate pipes to prevent condensation, and do not leave water standing in the sink. Eliminate all cockroach food sources. Clean up spilled pet food every day. Use a vacuum attachment to remove fallen crumbs from behind the stove and between cabinets. Avoid leaving unwashed dishes on counter tops and keep food in tightly sealed containers. Rinse cans and bottles before putting them in the trash or recycling. Take the trash out every night and place it

in dumpsters or receptacles with tight fitting lids. Remove clutter. American cockroaches can use boxes, bags, paper goods, old clothes, and magazines as places to hide. Eliminating cockroach harborage areas will make the environment much less conducive to cockroach infestation.

3. Monitoring: Sticky traps are used to detect and monitor American cockroach infestations. Traps such as the Roach Motel can be placed at many locations throughout a structure. The traps should be left in place at least 24 hours so they are present when the cockroaches are most active, at night. Cockroaches caught in monitoring traps can let you know that there is a developing infestation in the structure. Although sticky traps can detect cockroach populations, they cannot control them. They usually will not catch enough cockroaches to control the population. Sticky traps are not recommended for outside use because they are not weather resistant and may capture non-target insects and small vertebrates.

Treatment (Chemical):

1. Baits: Cockroach baits consist of a toxicant (active ingredient) formulated in a food source. American cockroach baits are usually packaged as dusts, gels, pastes, or granules. Dust baits are applied into cracks, crevices, and wall voids with a bulb duster or as an aerosol. Pastes and gels are usually purchased in a syringe, which can be used alone or inserted into a bait gun for more precise application. Most granular baits are applied outside in landscaping around the perimeter of the structure. However, some may be applied in wall voids using a bulb duster. The most common and effective active ingredients formulated in American cockroach baits include: hydramethylnon (Combat, Maxforce, Siege), fipronil (Combat, Maxforce), abamectin (Avert), and imidacloprid (Pre-empt).

2. Insect Growth Regulators (IGRs): IGRs for cockroach control are generally not available for homeowner purchase but are professional-use-only products. These compounds do not kill cockroaches. Instead, they disrupt the normal development of immature cockroaches making them functionally sterile as adults. The cockroach population then dies of attrition. Because of the slow-acting nature of IGRs, they are frequently used in combination with baits for faster control. While IGRs are certainly capable of controlling American cockroach populations, they are not commonly used for peridomestic cockroach control because the cockroaches are not breeding indoors. However, to treat incipient populations in steam tunnels or boiler rooms, IGRs are available in spray for-

mulations or point-source dispensers (the IGR is released on filter paper contained in a permeable plastic station and then transmigrates throughout the infested area). The most common IGRs (active ingredients) used in cockroach control products are hydroprene (Gentrol Point Source) and pryiproifen (Nylar).

3. Inorganic Dusts: These dusts are normally applied for indoor cockroach control with a squeeze-bulb duster, which puffs the dust into cracks and crevices. Examples of these dusts are silica aerogel and boric acid. Silica aerogel is a finely ground silica (similar to glass) that adheres to the cuticle of the cockroach and absorbs the protective wax covering. This dehydrates the cockroach and eventually kills it. Boric acid is a stomach poison that also adheres to the cockroach when it walks across the dust. The cockroach will then ingest the dust while grooming itself.

Interesting Facts:

American cockroaches are significant pests throughout the world. However, they are not native to the Americas at all. The original home of the American cockroach is actually tropical Africa. Evidence indicates that the American cockroach was transported to the Americas on slave ships.

References:

- Cornwell, P. B. 1968. *The Cockroach, Vol. 1*. Hutchinson & Co. New York. 391 pp.
- Rust, M.K., Owens, J. M., and Reiersen, D. A. 1995. *Understanding and Controlling the German Cockroach*. Oxford University Press. New York. 430 pp.

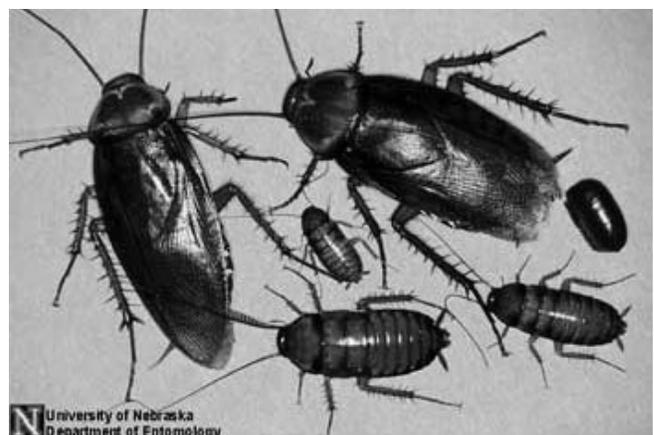


Figure 3: American cockroach adults, immatures, and egg case

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