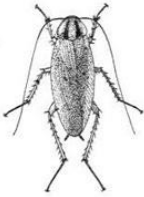


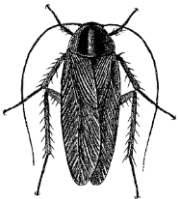
COCKROACHES

Cockroaches are familiar to everyone because they eventually find their way into every home. The usual haphazard spraying of insecticides to rid homes of cockroaches is both inefficient and dangerous. Effective control requires knowledge of: (1) The species of cockroach and its habits; (2) How they got into your home and (3) How to apply insecticides safely and effectively.

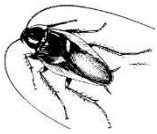
DOMESTIC COCKROACHES IN HAWAII



The German Cockroach is the most common cockroach infesting homes. *Description:* light brown, slender, ½ inch long with two longitudinal black stripes between the wings and head. Wingless immatures are similarly striped. *Habits:* Active only at night. Hides in cracks and crevices in walls, furniture, appliances, and cabinets during the day. Observed during daylight only when home is heavily infested. Found mostly in kitchens and bathrooms where water is available. *Entry Routes:* holes in walls around shared plumbing pipes in apartments, duplexes, townhouses, and among articles brought in from elsewhere that contain hidden cockroaches or egg cases.



The American Cockroach is the largest and second most common cockroach found in homes. *Description:* Reddish brown, 1 ½ inches long and wide-bodied. Wingless immatures are reddish brown with pale edges along body segments. *Habits:* An outdoor cockroach that enters homes at night. Breeds and hides in sewers, cesspools, sumps, meter boxes, and other damp enclosed places outdoors. *Entry Routes:* Into homes through gaps under doors; from sewers through unused floor and sink drains that have no water in traps; and into yards from sewers and cesspools through rooftop vent pipes.



The Brown-banded Cockroach is the least common of the three species, but the most difficult to control because it is found throughout the house. *Description:* Similar to the German cockroach but having two lateral pale bands where the wings attach to the body instead of dark stripes. Wingless immatures are similarly banded. Females have broader bodies and shorter wings than males. *Habits:* Active only at night. Found throughout the house because it is not as dependent on water as the other two species. Hides in closets, dressers, picture frames, clocks, radios, televisions, furniture, and in a crack or crevice that can accommodate them. *Entry Routes:* Same as German cockroaches.

LIFE CYCLE

Cockroaches lay brown, bean-shaped egg cases that vary in size and shape with the species. Immature domestic cockroaches grow with little change in appearance except for acquiring wings when they become adults. Life spans average six months for German and brown-banded cockroaches; two years for American cockroaches.

PERMANENT CONTROL

Prevent entry of American cockroaches:

- 1) Close all gaps under doorways
- 2) Screen all unused floor and sink drains
- 3) Screen rooftop vent pipes with ¼ inch mesh screen

Prevent entry of German & Brown-banded cockroaches:

- 1) Caulk all holes in walls around shared water and sewer pipes in apartments, duplexes, and condominiums to prevent your neighbor's cockroaches from entering your home.

Eliminate Hiding Places:

- 1) Caulk all cracks and crevices beneath counters and sinks; along baseboards,

Eliminate All Food Sources:

- 1) Keep kitchen free of exposed food and food scraps.

- 2) Inspect all boxes, packages, appliances, and furniture brought into your home for hidden cockroaches and egg cases.

cabinets, and bathtubs, and around pipes that enter walls.

- 2) Empty trash container nightly.

TEMPORARY CONTROL

Ant & Roach Aerosols

Use of these prepared insecticides eliminates the hazards of mishandling and dilution errors that may occur with insecticide concentrates. **WHERE YOU SPRAY, NOT WHAT OR HOW MUCH YOU SPRAY, IS THE KEY TO EFFECTIVE CONTROL WITH THESE AEROSOLS.** Insecticides are most effective when sprayed directly on cockroaches in their hiding places. Total eradication requires a thorough treatment of all potential hiding places in the entire house. Piecemeal treatments only result in re-infestations after the insecticide wears out. **DO NOT SPRAY IN ELECTRICAL OUTLETS OR ELECTRONIC APPLIANCES.**

Baits & Sticky Tape

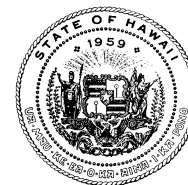
Baits and traps are used when sprays are inappropriate or undesirable. They reduce cockroach populations but do not eliminate them.

CAUTION: *Certain pesticides and their solvents may cause respiratory irritation. Persons with respiratory diseases should consult their physicians before using any pesticide. IT IS A VIOLATION OF FEDERAL LAW IF PESTICIDES ARE NOT APPLIED EXACTLY AS THE LABEL DIRECTS.*

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