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### G93-1129 Cockroaches and Their Control

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# Cockroaches and Their Control

This NebGuide provides information on common cockroaches found in Nebraska, and management strategies, including prevention, sanitation, trapping and use of insecticides.

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At the height of its popularity many years ago, millions of Americans could hum or sing the song, "La Cucaracha" .... The Cockroach. But singing is usually the farthest thing from one's mind when these hardy pests become invaders.

Cockroaches are the most important insect pests in Nebraska households and public places. These insects are oval, flat-bodied, dark colored, with chewing mouth parts, three pairs of legs and usually two pairs of wings. All roaches have three stages in their life cycle -- egg, nymph (young) and adult. Females carry a bean-shaped egg capsule (ootheca) which is full of eggs. The newly emerged nymphs are identical to their parents except for their smaller size and lack of wings. The nymphs grow into adults by periodically shedding their skins, and may appear white for a few hours until their new skin darkens.

Cockroaches can be present in almost any place inhabited by humans. They move quickly and are especially active at night. Characteristically, most roaches hide in cracks and crevices or between surfaces that provide darkness and cover. Inside buildings, roaches move freely between rooms or adjoining apartments using wall spaces, plumbing and other utility installations. They can be carried into structures in food and beverage boxes, grocery sacks, animal food and other household goods.

Cockroaches can eat almost anything, but they are especially partial to starchy foods and meat products. They feed on such diverse items as cereals, pastries, chocolate, milk products, beverages, cooked potatoes, glue, book bindings, wall paper, animal food, fresh or dried blood, excrement, dead animals and leather products.

## Damage

**Disease Transmission.** Cockroaches can carry organisms that cause human diseases, including food poisoning, dysentery and diarrhea. However, roaches have not been associated with serious disease outbreaks in the United States.

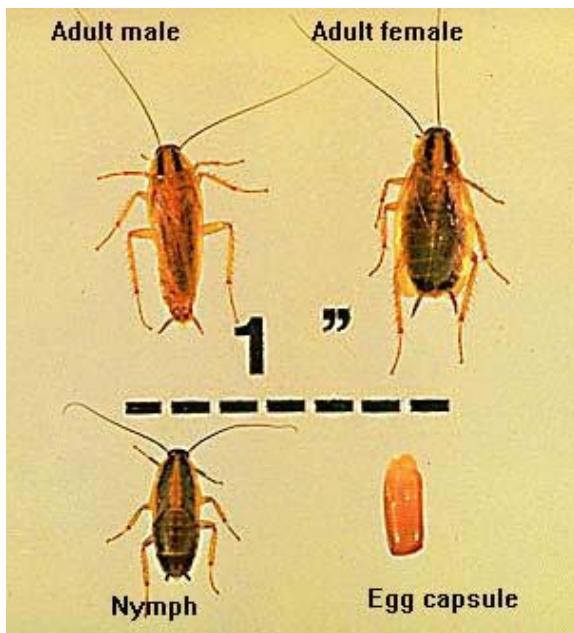
**Repulsive Odor.** Most cockroaches produce a secretion or chemical that has a repulsive odor. This characteristic odor can be detected in infested areas.

**Allergy.** Roaches can cause allergic reactions in some people. The response is caused by roach "allergen" that is ingested with contaminated food or inhaled when dried fecal particles and fragments of ground-up bodies of dead roaches are mixed with house dust.

**Anxiety.** The sight of cockroaches can cause considerable psychological or emotional distress in some individuals. Cockroaches usually do not bite, but their heavy leg spines may scratch.

## Common Cockroaches in Nebraska

There are 55 species of cockroaches in the United States, but only five of these are troublesome in Nebraska.



**German Cockroach.** The German cockroach (*Figure 1*) is the most common and the most difficult to control. Both adults and nymphs are light brown and have two longitudinal dark lines on their thorax (back). Adults are 1/2 to 3/4 inch long, and both males and females have wings as long as the body. Nymphs are similar in general appearance, but lack wings and may be as small as 1/8 inch.

**Figure 1. German Cockroach. *Blattella germanica* (L.)**

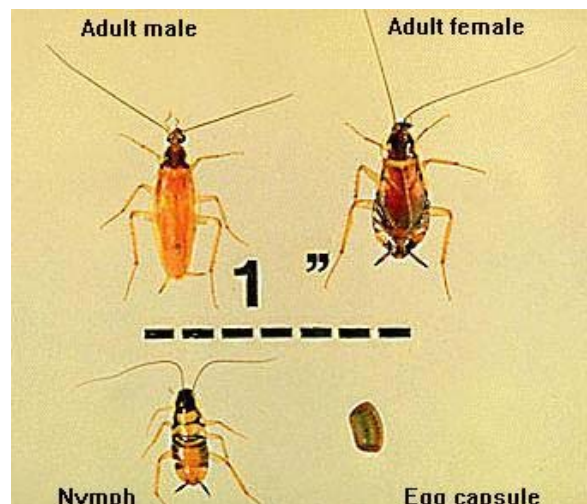
The female carries the egg capsule (ootheca) until a few eggs begin to hatch, and then deposits it in a dark location. Each female produces approximately six oothecae in her lifetime, each containing 30 to 40 eggs. The German cockroach has approximately six generations per year and each generation is completed in 50 to 60 days. The adult German cockroaches have a life expectancy of six months. This roach cannot fly but may glide very short distances if disturbed.

German cockroaches can live in almost any room of a home or building. Because these roaches require water, they prefer a warm moist environment, such as around kitchen and bathroom sinks, appliances, furnaces, water heaters and furnace ducts.

**Brown-banded Cockroach.** Both nymphs and adults of this species (*Figure 2*) are light brown and can be distinguished easily by the presence of two angled or transverse bands across the base of the wings and abdomen. Adult males are 1/2 to 5/8 inch long; the female is slightly shorter. Though both have wings, only the male can fly.

**Figure 2. Brown-banded Cockroach. *Supella longipalpa* (F.)**

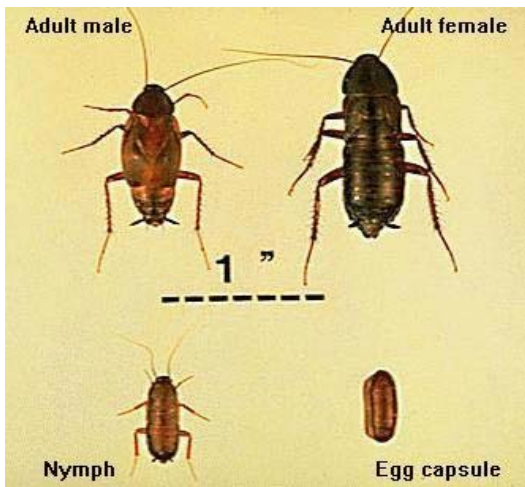
The female carries each egg capsule for only a day or two before attaching it to a protected surface. The egg capsules are usually deposited in clusters or rows, and



most of the eggs hatch within 50 days. Approximately 5 to 18 egg capsules are produced per female, each containing 19 eggs. About 3 to 9 months are required to complete the reproductive cycle.

Brown-banded cockroaches prefer a dry, warm environment. They are generally found on ceilings, high on walls, and in light switches, closets and furniture. In some places they are known as "TV roaches" because of their frequent presence in living-room furniture and appliances.

**Oriental Cockroach.** This dark reddish brown to black roach (*Figure 3*) is commonly referred to in Nebraska as the "water bug." It is considered the most repulsive of all of the roaches and has a strong odor. The adult females are 1 1/4 inches long and almost wingless. The adult males are 1 inch long and have wings that are about half as long as their body. Neither males nor females can fly or glide.



**Figure 3. Oriental Cockroach. *Blatta orientalis* (L.)**

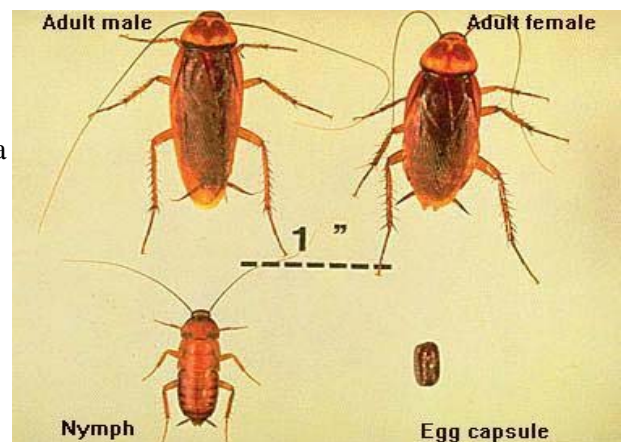
The female carries an egg capsule for about 30 hours and then drops or attaches it to a protected surface near food. On the average a female produces eight egg capsules, each containing 16 eggs which hatch within 60 days. The reproductive cycle of this roach is completed in 6 to 9 months.

Oriental roaches prefer damp, cool, dark areas. They are generally found in sewer drains, crawl space areas, basements, cellars, or on the first floor of buildings. Infestations by this roach are most frequently found during spring (April and May) and fall (October). They may spend considerable time outdoors during warm weather.

**American Cockroach.** Adults of this species (*Figure 4*) are 1 1/2 to 2 inches long. They are the largest of all the cockroaches common in Nebraska. Both nymphs and adults are shiny, reddish brown with a pale brown or yellow band around the edge of the head and back. The wings of both the male and female extend slightly beyond the body.

**Figure 4. American Cockroach. *Periplaneta americana* (L.)**

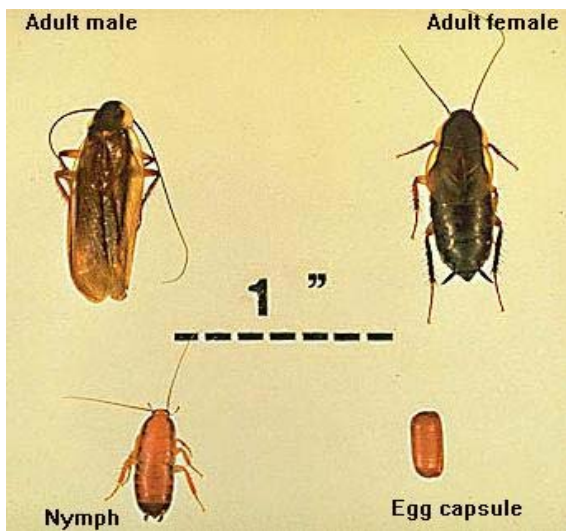
The female produces 15 to 90 egg capsules, each containing 14 to 16 eggs. Egg capsules are deposited near a food source where the majority of eggs hatch within 60 days. The reproductive cycle is completed in 12 to 18 months. The adult can survive 2 to 3 months without food and for a month without water. Although incapable of extended flight, both male and female can glide when disturbed.



American cockroaches are not typically found in homes; however, in commercial and industrial establishments they can be found in damp, warm basements, in furnace or boiler rooms, and storage rooms. Because of their preference for sewers and heat tunnels, they are notable as a problem in urban commercial districts.

**Wood Cockroach.** This group of roaches (*Figure 5*) causes occasional problems in Nebraska homes and public places. They are seen in late May or June, especially after rains. This roach is often confused with both adult American and oriental roaches. However, the wood roach is chestnut brown and has a dull white band

around the edges of the head and back.



**Figure 5. Wood Cockroach. *Parcoblatta* spp.**

Adults are 1 to 1 1/4 inches long. Females have wings covering only about half the body and do not fly. Males have wings longer than the body and are excellent fliers. Females produce about 30 egg capsules, each containing about 32 to 36 eggs. This roach completes one generation per year.

Wood cockroaches are usually found in wood piles, hollow trees or under loose bark. Buildings in wooded areas are prone to have problems with wood roaches during rainy periods. Although this roach prefers to live outside, adult males are attracted to light and may enter buildings. They are sometimes brought in along with firewood, but do not usually survive or multiply inside buildings.

### **Management Strategies**

#### **Prevention**

Entry and establishment of roach colonies can be prevented by close inspection of incoming merchandise, such as food boxes, beverage cartons, appliances, furniture and clothing.

Caulking or puttying areas such as cracks and crevices around kitchen cabinets, bathtubs, water and plumbing pipes, cracks on floors and walls, and exterior windows and doors can eliminate most hiding places and help reduce the cockroach population. Other structural modifications, such as weather stripping and pipe collars, also help to reduce cockroach entry and establishment.

#### **Sanitation**

Good housekeeping is the most important factor in preventing and controlling cockroach populations. Cockroaches cannot live without food, water and shelter.

Do not allow food particles to remain on shelves or floors. Dishes should not be left unwashed after a meal, particularly overnight. Clean areas under refrigerators, stoves, sinks and furniture regularly to remove bits of food that have accumulated. If pets are fed indoors, do not leave food in their dishes after feeding, especially overnight. Store pet food in tight containers, and clean litter boxes frequently.

Keep all food items covered or in a refrigerator at all times between uses. Empty garbage and waste containers frequently and keep refuse in a covered container away from the residence.

If possible, prevent cockroach access to water sources. Common sources include leaking faucets and pipes, drains, toilet tanks, wash basins and sink traps, aquaria and water-filled tubs. Pets' water dishes, beverage bottles or cartons, and pipe condensation can provide an adequate water supply for roaches.

Roach breeding is encouraged by clutter. Avoid unnecessary storage of corrugated paper boxes, piles of paper bags, newspaper, magazines, and soiled clothing and rags.

#### **Trapping**

Several types of cockroach traps are commercially available. Traps capture roaches, and are a good monitoring device. While the traps can be useful to reduce light infestations, they do not effectively control heavy cockroach infestations.

Place traps against a vertical surface, preferably a corner, where cockroaches are usually found. They are most effective when placed under sinks, in cabinets, near the kitchen stove or refrigerator, in basement corners or near floor drains.

## Chemical Control

If cockroaches become established, chemical control may be needed in combination with good sanitary practices. The following generic insecticides are registered for controlling cockroaches:

acephate (Orthene®)	permethrin
allethrin	phenothrin
boric acid	propoxur (Baygon®)
chlorpyrifos (Dursban®)	pyrethrins
cyfluthrin	resmethrin
diazinon	sulfluramid
malathion	tetramethrin

These insecticides are sold in different formulations and under various brand names. Basic formulations available are: aerosols, baits, dusts and liquid sprays. The insecticide products must be applied in a thorough manner to all areas where roaches are located. Application may be repeated for effective control.

### Safety Notes

- READ, UNDERSTAND and FOLLOW all insecticide label directions and precautions. Some product labels may require that pilot lights should be off on stove, furnace and water heater.
- Keep insecticides in original containers with the label intact. Do not contaminate food, water, dishes or utensils.
- Keep insecticides out of reach of children and do not allow children or pets near treated surfaces until dry.

**IF COCKROACH PROBLEMS PERSIST, SEEK HELP FROM A PROFESSIONAL PEST CONTROL COMPANY.**

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Looking for more information? Check out University of Nebraska's *Cockroach Control Manual*

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**G-7, Household Pests**

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