



HOME & GARDEN

Ants in the Home

no. 5.518

by W.S. Cranshaw ¹

Quick Facts...

Most ants found in a home nest outdoors and enter a home only to look for food.

Different species of ants have various food habits. Some like sweet materials and others like seeds, grease or protein-rich foods.

Ants periodically produce mating swarms with large numbers of winged males and females that emerge from the colony and fly.

To keep ants out of the home, remove food. Use insecticides around the exterior foundation to kill foraging worker ants.

Destroy ant nests for more permanent control.

Ants are common throughout the Rocky Mountain region and tremendous numbers are found in the average yard. Most ant activity is unobserved but considered useful in controlling pest insects, weed seeds, and improving soils by nest building.

Ants can cause a nuisance problem by foraging for food inside a home and forming nests in unwanted areas, such as playgrounds or lawn areas. Pharaoh ants and carpenter ants nest indoors, and carpenter ants occasionally damage wood. Ants also are commonly associated with aphids and other honeydew producing insects. The ants collect and feed on the sweet, sticky honeydew that these insects excrete. In turn, ants protect these pest insects from attack by lady beetles and other natural enemies.

Life History and Habits

Ants are social insects that live in a colony of many specialized ant types. Most ants are wingless workers. They gather most of the food, rear young and defend the colony. Eggs are produced by the large queens, which have wings until they mate. The males are the smaller, winged ants in the colonies.

Ants are characterized by a narrow, pinched "waist," and bent or elbowed antennae (Figure 1). They can be confused with termites (see fact sheet 5.532, *Termites*), particularly when swarms are produced. However, termites have a broad waist and antennae that look like a string of small beads (Figure 2).

Queen ants lay the eggs. Worker ants feed the pale, legless young (larvae). After larvae grow and molt over a period of a few weeks, they pupate. The pupae do not feed and are immobile, soft and white. Pupae often are seen when ant colonies are exposed by turning over a rock or log. The adult ants later emerge from the pupa.

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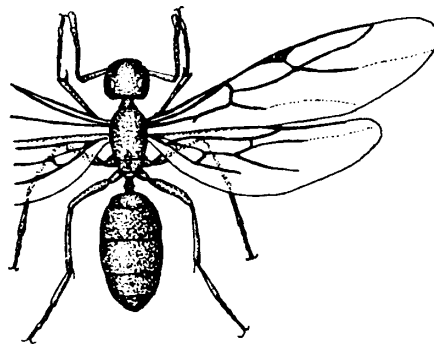


Figure 1: A winged ant. Note the pinched waist, uneven size of wings, and the elbowed antennae. Worker ants are similar in shape and color, but are smaller and lack wings.

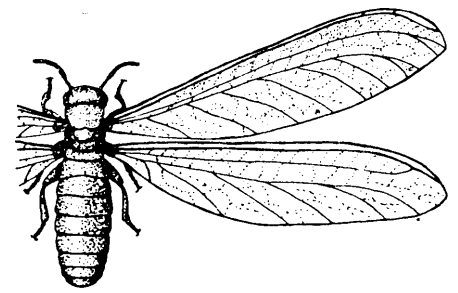


Figure 2: A winged termite. Note the broad waist, equal sized wings, and the beaded antennae. Winged stages of termites are dark, colony workers are white.

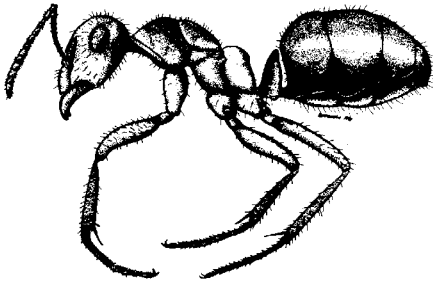


Figure 3: Field ant. (Drawing by M. Kippenhan.)

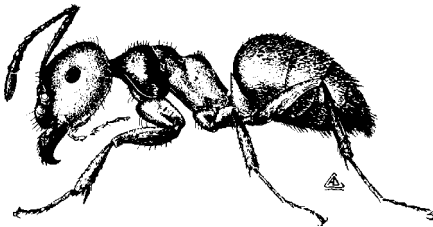


Figure 4: Cornfield ant. (Source: USDA.)

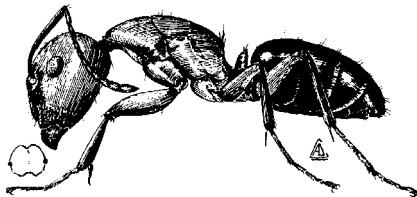


Figure 5: Carpenter ant. (Source: USDA.)

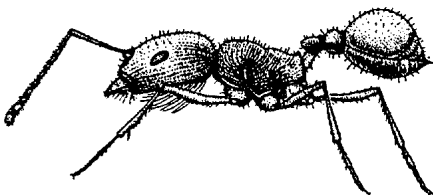


Figure 6: Harvester ant. (Source: USDA.)

New colonies are founded by mated queens. Mating occurs during periodic mating swarms when the winged males and queens emerge from the colony. Mating flights occur during many periods from early spring through summer. Most follow within a few days of a heavy rainstorm. After mating, the queen seeks a nest site and attempts to begin the colony. Colony development is slow. Nests are inconspicuous for several months until a large population of worker ants is produced.

Ant nests usually are produced underground and colonies contain tens of thousands of workers. The large carpenter ants construct nests in wood that is almost always partially decayed. Other than the occasional carpenter ant colony, few ants in Colorado form a nest indoors, with the exception of the pharaoh ant.

Worker ants forage constantly during the warmer months of the season. The workers lay down a chemical trail as they forage, which helps direct other workers to foods. Ants feed on a variety of foods. Sugary materials are preferred by most species. Seeds, grease or protein-rich foods and insect pests make up the diet of other ants. Feeding habits may shift during the year due to changes in colony needs.

Common Colorado Ants

Field ants (*Formica* species) are among the most common ants found in homes and around buildings. They are generally dark brown or black and medium size (about 1/8 to 1/4 inch). They nest in loose soil around rocks and foundations. Although field ants do not nest indoors, nests adjacent to or under homes allow these ants to forage indoors during early spring, before other ants are active. Field ants feed on a variety of foods. They often collect honeydew and protect honeydew-producing insects (aphids, leafhoppers) from their natural enemies. However, field ants also feed on other insects.

Field ants do not have a stinger but they can pinch thin areas of skin and secrete formic acid that produces a short-lived pain. Note: Formic acid can be neutralized by applying a thick paste of bicarbonate of soda (the common ingredient in baking soda) to the sting area.

Cornfield ants (*Lasius* species) make their nests in fields and around homes. Nesting sites can be brick or stone walls, cracks in the pavement, under rocks, and in openings around foundations. They do not nest in houses but often forage inside in search of sweet materials. Cornfield ants generally are small (less than 1/8 inch) and brown or black.

Carpenter ants (*Camponotus* species) are the largest ants (1/4 to more than 3/8 inch) and often are black, red or dark brown. Some eastern plains species are lighter. (See 5.554, *Carpenter Ants*.) The most distinctive habit of carpenter ants is their ability to nest in wood. They excavate galleries and pile coarse sawdust at the nest openings. Unlike termites that eat wood, carpenter ants scavenge on dead insects, insect honeydew and other materials. Carpenter ants primarily nest in wood that is softened by water damage and decay. Nests made in damaged wood can result in further structural damage. Carpenter ants do not sting but can produce a mildly painful pinch from their jaws.

Harvester ants (*Pogonomyrmex* species) are fairly large (1/6 to 1/3 inch) and red or dark brown. Harvester ants clear the vegetation from the area around the nest and produce conspicuous mounds. They eat seeds and rarely enter homes. One unusual situation where harvester ants sometimes do enter buildings is when winged stages are swarming. Mating flights concentrate around prominent points in the landscape. As a result, large numbers of winged ants may be found on top of large buildings or around chimneys and similar points.

Harvester ants have a blunt stinger but can produce a painful sting. Usually they can't penetrate thick areas of skin, such as a hand. Children generally are more likely to feel harvester ant stings than adults.



Figure 7: Pavement ant. (Source: USDA.)

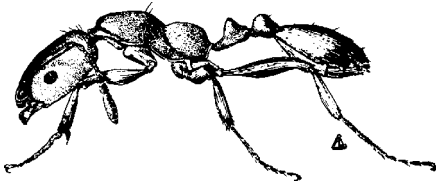


Figure 8: Pharaoh ant. (Source: USDA.)

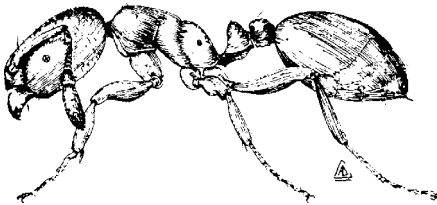


Figure 9: Thief ant. (Source: USDA.)

Pavement ants (*Tetramorium caespitum*) commonly make their nests around foundations, under rocks and in cracks of sidewalks and driveways. They are a recent arrival to the state but are currently the most common ant found in homes. They are small ants (1/10 to 1/16 inch) with a dark body, pale-colored legs and antennae, and a series of grooves on their faces. Pavement ants forage on a variety of food that includes grease, meat, small seeds and sweets.

Pharaoh ants (*Monomorium pharoanis*) are one of the most persistent and difficult ants to control. They are small (less than 1/8 inch) and yellow or pale reddish-brown. Unlike most other ants, pharaoh ants adapt well to nesting indoors. They spread their colonies throughout a building and readily split into smaller colonies when disturbed. Pharaoh ants like a wide range of food, which includes syrups, jellies, grease, cake and pet foods. They are a serious pest in hospitals, dormitories and apartments.

Thief ants (*Solenopsis molesta*) are small (less than 1/8 inch) and sometimes confused with pharaoh ants. They nest indoors and outdoors and often live in the nest of larger ants. They forage and feed on a variety of foods that include grease, sweets and meats. Thief ants that nest in the colony of other ant species will kill and eat the larvae of the other ants.

General Control

An important step to any ant control program is to remove attractive food. Crumbs, grease, food scraps and other food is sought by foraging worker ants and they will return to areas where food is found. If ant-feeding bait is used as a control, remove other food so the ants concentrate on the bait and not the food.

Most nuisance ants nest outdoors. To prevent many ants from foraging indoors, apply perimeter treatments of residual insecticides around foundations. Numerous insecticides are currently registered for general suppression of ants outdoors.

For more permanent control, destroy nests. Dusts usually are more effective on nests than sprays because dusts are more readily tracked into the colony. Slow-acting insecticides, such as hydramethylnon, are most useful since they allow the forager to return the poison in the food to be fed around the colony, killing queens and young. Several brands of ant baits or ant traps are sold.

Make ant bait by mixing a small amount of boric acid into food that foraging ants feed on. (Boric acid is sold as a disinfectant in pharmacies and as an insecticide in many cockroach powders such as Roach-Prufe.) To prepare bait, first determine what the ants like. They usually prefer something sweet like honey or jelly, or something greasy like peanut butter. Apple jelly or honey mixed with peanut butter is a common bait. Add boric acid at 1 to 2 percent concentration (approximately 1 teaspoon of boric acid per cup of the food bait). Place in an area visited by ants but not readily accessible to children. If successful, the bait kills the ants in 10 days to two weeks.

Caution: Although relatively nontoxic, keep boric acid or any other bait away from children and pets. Place the bait in out-of-the-way areas or enclose it in "bait stations" such as straws. Also boric acid is a soil sterilant and should never be placed on soils where plants are growing or that may be used for growing plants in the future. Some ants, such as carpenter ants and pharaoh ants, require more specialized treatment for control.

Control of Carpenter Ants

To effectively control carpenter ants, you must find the ant nest. Carpenter ants do not readily accept baits and residual treatments fail to kill

colonies. (Recent research has identified some sweet baits that are picked up by carpenter ants. Some carpenter ant baits may be on the market soon.) Carpenter ants most often nest outside a building and enter only for food. Nests in buildings usually are found in high-moisture wood such as areas around plugged drain gutters, poorly fitted or damaged siding and flashing, wood shingle roofs, hollow porch posts and columns, and leaking doors and window frames. Wood in contact with soil, such as porches or stairs, also may provide nest areas.

Piles of shredded wood or wood with clean tunnels (not containing mud or other debris that termites produce) are signs of carpenter ant nesting. Sometimes carpenter ant nests can be located by the distinct, dry rustling sound an active colony makes.

To control indoor carpenter ants, eliminate high moisture conditions that provide wood suitable for carpenter ant nesting and apply insecticides to nest and nest areas. Dusts are an effective way to treat nest galleries because they are tracked in by the legs and bodies of the ants. If nests are located, drilling allows a direct and effective way to apply insecticides. Spraying or dusting an infected area will not be as effective as treating the nest directly.

Control of Pharaoh Ants

Pharaoh ants are unusually well suited to nesting indoors and most colonies are located in buildings rather than outdoors. They also are poorly controlled with residual sprays, since irritating chemicals (including many cleaners and other solvents) may irritate the ants and cause the nest to “bud” into separate colonies which disperse throughout the structure.

Slow-acting baits are the most effective control for pharaoh ants. Foraging workers readily accept sweet baits, particularly mint apple jelly. However, pharaoh ants may later become saturated by the sweet baits and no longer accept them. Fat-based bait in combination with sweets (peanut butter and honey) is often effective for a longer period than just sweet baits. To improve bait acceptance, remove other sources of food. Where other attractive foods remain, ants may not readily feed on the poisoned baits.

Because the purpose of baiting is to get the ants to feed on the bait and return it to the colony, do not use residual insecticides or volatile cleaners that repel pharaoh ants. Residual insecticides are preventive treatments and can be used in areas where pharaoh ants are not yet present.

Table 1: Insecticides used in control of ants around homes.

Insecticide	Active Ingredient Used for Ant Baits ¹
Boric acid	Sulfluramid
Avermectin	Hydramethylnon
	Active Ingredient Used for Ants Outdoors²
Permethrin	Deltamethrin
Bifenthrin	Tralomethrin
Esfenvalerate	Carbaryl (Sevin)

¹Baits include an attractive food base combined with a slow-acting toxicant. These are designed to be carried back to the colony where it will be spread to the developing young, queen, and other workers.

²Outdoor applications are used to suppress activity of ants but usually fail to eliminate colonies unless direct applications are made which penetrate to the colony. A wide variety of formulations are available—dusts, granules, and sprays. Dozens of registered products containing the above active ingredients are sold in Colorado.

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