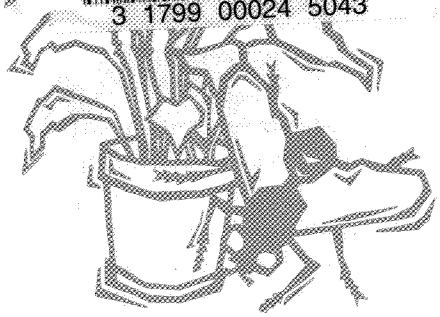

HOME & GARDEN

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 and use insecticides around the exterior foundation to kill foraging worker ants.

Destroy ant nests for a 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**, who 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).

The eggs are laid in the colony by the queen ants and the pale, legless young (larvae) are fed by worker ants. After they 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.

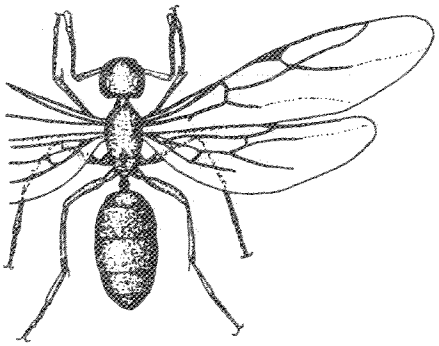

Figure 1: A winged ant. Note the pinched waist, uneven size of wings, and the elbowed antennae. Worker ants are similar in shape and color, but are smaller and lack wings.

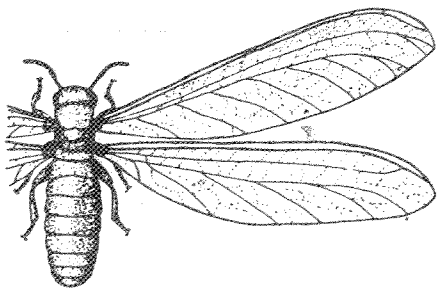

Figure 2: A winged termite. Note the broad waist, equal sized wings, and the beaded antennae. Winged stages of termites are dark; colony workers are white.

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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 and 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 different foods. Sugary materials are preferred by most species. Seeds, grease or protein-rich foods and insect pests make up the diet of other ants.

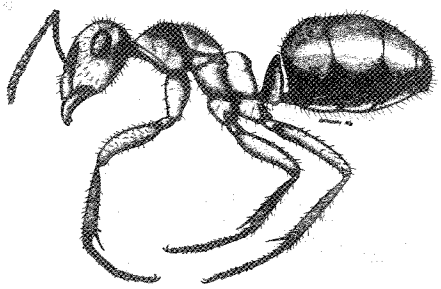

Figure 3: Field ant. (Drawing by M. Kippenhan.)

Common Colorado Ants

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

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-sized (3 to 7 mm) and 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.

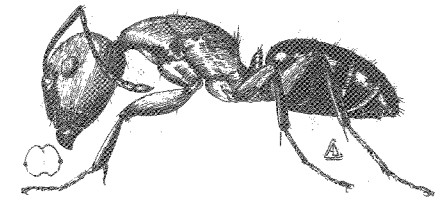

Figure 5: Carpenter ant. (Source: USDA.)

Cornfield ants (*Lasius* species) make their nests in fields and around homes. Nesting sites can be brick or stone walls, cracks in the pavement, beneath rocks, and in openings around foundations. They do not nest in the house, but often forage inside in search of sweet materials. Cornfield ants generally are small (2 to 2.5 mm) and brown or black in color.

Carpenter ants (*Camponotus* species) are the largest ants (6 to 10mm) and often are black, red or dark brown. Some eastern plains species are lighter in color. (See fact sheet 5.554, *Carpenter ants*.)

The most distinctive habit of carpenter ants is their ability to nest in wood. Galleries are excavated and the ants 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 that are made from damaged wood can result in further structural damage. Carpenter ants do not sting but can produce a mildly painful pinch from their jaws.

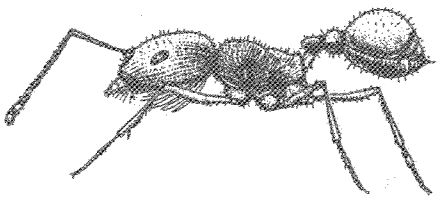

Figure 6: Harvester ant. (Source: USDA.)

Harvester ants (*Pogonomyrmex* species) are fairly large (4 to 8 mm), and red or dark brown in color. Harvester ants clear the vegetation from the area around the nest and produce conspicuous mounds. They are seed feeders 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

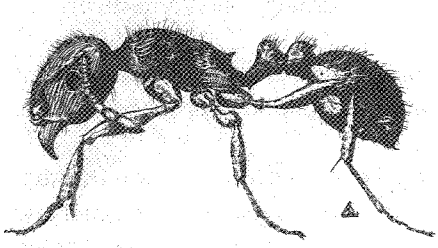

Figure 7: Pavement ant. (Source: USDA.)

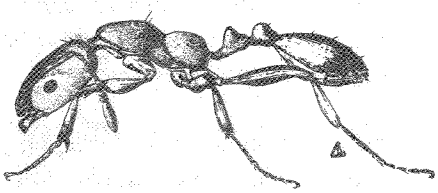

Figure 8: Pharaoh ant. (Source: USDA.)

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

more likely to feel harvester ant stings than adults.

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 (2.5 to 4 mm) with a dark body, pale-colored legs and antennae, and have 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 (1.5 to 2 mm) 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 (1 to 1.5 mm) 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, it's important to remove other food so the ants concentrate on the bait and not the food.

Most nuisance ants nest outdoors. Perimeter treatments with residual sprays applied around foundations can prevent many ants from foraging indoors.

For more permanent control, destroy nests. Dusts usually are more effective on nests than sprays because dusts such as hydramethylnon are more readily tracked into the colony. Slow-acting insecticides 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 as well 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 percent to 2 percent concentration (approximately 1 teaspoon of boric acid per cup of the food bait). Place in area visited by ants but not readily accessible by children. If successful, the bait kills the ants in 10 days to two weeks.

Caution: Although relatively non-toxic, 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

The ant nest must be found to effectively control carpenter ants. Carpenter ants do not readily accept baits and residual treatments fail to kill colonies. 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.

Caution: Although relatively non-toxic, keep boric acid or any other bait away from children and pets.

To control indoor carpenter ants: 1) eliminate high moisture conditions that provide wood conditions suitable for carpenter ant nesting; and 2) 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.

Since 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 useful for ant control.

Insecticide	Trade names	Comments
Boric acid	Roach-Prufe, Pow!, Roach Killer	Used as a tracking powder to be picked up by the legs of the ant or incorporated into baits. Non-volatile.
Chlorpyrifos	Dursban, Bug-Out, Ortho-Klor, DexaKlor	Widely available in many formulations. Some products allow indoor use and perimeter foundation and lawn treatment. Somewhat volatile with a moderately strong odor.
Diazinon	Diazinon, Spectracide	Available in dust, granules and liquid sprays. However, very few diazinon products allow interior use. Diazinon is highly toxic to birds.
Hydramethylnon	Various ant baits	Hydramethylnon is a slow-acting, selective insecticide that is used in several ant traps and baits.
Propoxur	Baygon, Raid ant traps	Used in sprays or traps, often in combination with cockroach/ant products. Most formulations have indoor and outdoor use.

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