



Ants are social insects: Understanding ant biology and behavior is the key to treating infestations

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Ants are social insects. This means that ants live in highly organized groups commonly called colonies. Depending on the species, ant colonies may contain hundreds of thousands or millions of ants. Each ant has a specific "job" in the colony. This division of labor assures that the colony is organized and focused on the single most important thing—the survival of the colony. Ants cooperate to meet their basic needs of food, shelter and defense. No individual ant other than the queen matters. The queen must survive at all costs. The queen alone is responsible for egg production and colony growth. How colonies are formed and prosper has been the subject of scientific research for hundreds of years. With almost 12,000 ant species identified, investigators continue to discover new secrets about these amazing animals. If you could weigh all the ants on earth they would weigh more than the weight of all humans which means they are the most numerous animal on earth. Ants can carry 10 -20 times their body weight. Ants have the largest brain in the insect world. Their brain functions similar to the neurons of the human brain. It is estimated that ant brains have similar power as that of a Macintosh II computer. To be sure, there are similarities between humans and ants. Some ants care for and maintain livestock. They keep and protect "herds" of aphids and milk them for sweet nectar called "honeydew" that the ants eat. Some ants grow and maintain underground gardens for food. Special worker ants are assigned to care for the developing young of the colony. Older ants act as educators teaching young ants how to do their assignments. They are truly environmental engineers. They maintain constant temperature and humidity inside the colony. They raise an army for protection and provide security for the colony against invading ants. They provide flood-control for the nest by designing water traps to help keep the nest dry during heavy rains. The vast majority of the 12,000 plus ant species on earth are not pests. However, there are some ants that are. Some ants are capable of damaging structures and some can sting and bite. Some even carry disease organisms.

Carpenter ants hollow-out structural wood to create nesting chambers in which to establish colonies. Carpenter ants do not eat wood. They tear off chunks of wood to create galleries in which to live and raise a colony. Carpenter ants eat protein (insects) and carbohydrates in the form of "honeydew" they get from maintaining groups of aphids.

Managing carpenter ant infestations in structures is difficult. The focus is to find the nest(s) inside a structure. This is easier said than done. Pest management professionals understand ant biology and behavior. They know what conditions are conducive to carpenter ant survival and know where to inspect and what to look for. Carpenter ants require moisture-laden wood. The wooden fragments that are torn from the wood often accumulate on the ground or on other wooden members inside the structure. A competent inspector can identify this material and use it to locate nests. Once the nest(s) is located, treatment can be performed. There may be more than a single nest in a structure.

All nests need to be identified and treated.

On the exterior of the structure, the inspector looks for signs of ant activity. The inspector looks for conditions that enable these ants to access the structure and help the colony to survive. Overgrown shrubbery touching the house, over-hanging trees in contact with the roof, rain gutters filled with debris, wood piles stored near the structure and other similar conditions help carpenter ants access structures and survive.

Treatments are performed to the interior and exterior of infested structures. Among pesticide formulations, dusts are the most effective choice for carpenter ant abatement. Small holes may need to be drilled into wall voids to access the nesting sites. For exterior treatments, a residual, non-repellent liquid is applied on the foundation to intercept ants. Depending on where the nest(s) are found, small holes are drilled into exterior walls to access nests located in wall voids. The roof-line, a common area where these ants travel, is also treated.

Carpenter ants follow utility lines directly into structures. Electrical, plumbing, gas, cable TV and even underground sprinkler lines are used by these ants to enter structures. Professional pest managers understand this behavior and inspect accordingly. Entry point(s) are examined and closed after treatment to prevent access by insects and/or other pests such as mice.

Inspection techniques and treatment protocols will vary from structure to structure and from pest to pest. However, conditions conducive to the survival of pests such as carpenter ants are universal. For long-term management of carpenter ants and other structural pests, pest management professionals apply the principles of Integrated Pest Management (IPM). After the pest has been accurately identified, conducive-conditions need to be identified and removed or modified. Pesticides are not a "stand alone" solution to pest problems. Pesticide use should be integrated into the overall design of the abatement program in conjunction with non-chemical tactics. A properly designed and executed IPM program will provide long-term pest population suppression.

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