

FIELD REPORT

Practical 'How-To' Strategies for Successfully Servicing Accounts.

Carpenter Ants

An effective pest management program for carpenter ants requires an integrated approach, in which the pest control technician draws on his/her knowledge of ant behavior and biology, and seeks to control the infestation through chemical as well as non-chemical means. In this article, we draw upon the extensive knowledge and experience of one of the authors, Bryan Warder. Bryan has spent many hours in the field controlling carpenter ants. Our goal is to present, in broad outline form, the important points to be considered in any carpenter ant job, and to provide important background information on carpenter ant biology and control for both the beginning and more experienced technician interested in picking up a few pointers on successful control techniques.

Bryan is a technician for Reliable Exterminators, a small, family-owned business that has been operating out of Lafayette, Ind. since 1936. Like many other pest control companies, Reliable's carpenter ant control program is an integral part of their business. In the following remarks, we will follow Bryan in a step-by-step fashion from his initial inspection to his choice of treatments for a typical carpenter ant account.

ARRIVAL AT THE ACCOUNT. Bryan's inspection begins as soon as he arrives in the customer's driveway. Since carpenter ants are nocturnal and technicians typically make their calls during the day, this makes inspection an even greater challenge. As he walks up to the house, he determines which areas need inspection. He begins to assess the situation, looking for likely areas of infestation. For example, a house built on the outskirts of town in a woodland habitat is a prime candidate for carpenter ant infestation. The numerous trees,

landscape timbers, wooden porches and fences, and bay or box windows are all potential "hot spots." As Bryan walks up to the home, he looks at the structure carefully, noting whether there is any moisture damage to soffits, clogged gutters, or decay fungi or moss on the roof. Homes with flat roofs, dormers or hollow porch columns alert Bryan to potential problem areas for ant infestation.

Bryan keeps in mind that ants have a tendency to travel along the various structural and utility lines found on

the outside of a home. For example, ants will utilize all types of conduits, plumbing and electrical lines, and exterior structural lines, to travel along the outside of, as well as to gain access into, a home. Getting an overall impression of the outside of a home using this "lines perspective," Bryan can see any number of potential ways in which ants may be entering the structure.

INTERVIEWING THE CUSTOMER.

In his interview with the customer, Bryan asks where the ants have been spotted and whether the ants are concentrated in any particular area. Has the customer seen any frass or any ants with wings? Bryan also asks whether or not there has been ant activity during the winter — a sure indication of a nest located inside the home. He also asks if the homeowner has had any water leaks, which may also indicate a potential nest site. Does the customer store firewood inside? This would transplant ants into the home. During this conversation, Bryan gives the customer a bulletin on carpenter ants, which describes their habits and control procedures, and provides illustrations of the different kinds of ants within a colony. This is a valuable educational tool because it informs the customer of the biology of carpenter ants, as well as what to expect in the upcoming control program.

ANT IDENTIFICATION. The interview with the customer is vital in giving Bryan the chance to determine whether or not the problem is actually being caused by carpenter ants. If the customer has collected a sample of the ants to view, or if the customer describes "big, black ants," Bryan can be almost certain that they are carpenter ants. Other physical characteristics of carpenter ants are also



important, mainly because size is not always a definitive characteristic. Worker ants can range from very small to very large, and some other kinds of carpenter ants, as well as other species of ants with different characteristics, may co-exist in the same area.

Two other key characteristics for carpenter ants which can be viewed with a hand lens are 1) the smooth, rounded, upper surface of the thorax, and 2) a petiole, or waistline, which has one node or bump. In the Midwest, as well as the Eastern United States, the major carpenter ant pest is *Camponotus pennsylvanicus*, the black carpenter ant. The biology and control of this species is similar to the biology and control of other kinds of carpenter ants. Therefore, what we describe here can be generally applied to all carpenter ants.

INTERIOR INSPECTION. Once the customer has identified where carpenter ants have been seen, Bryan can begin his visual inspection of that area. However, the inspection should not be limited to that site, and should in-

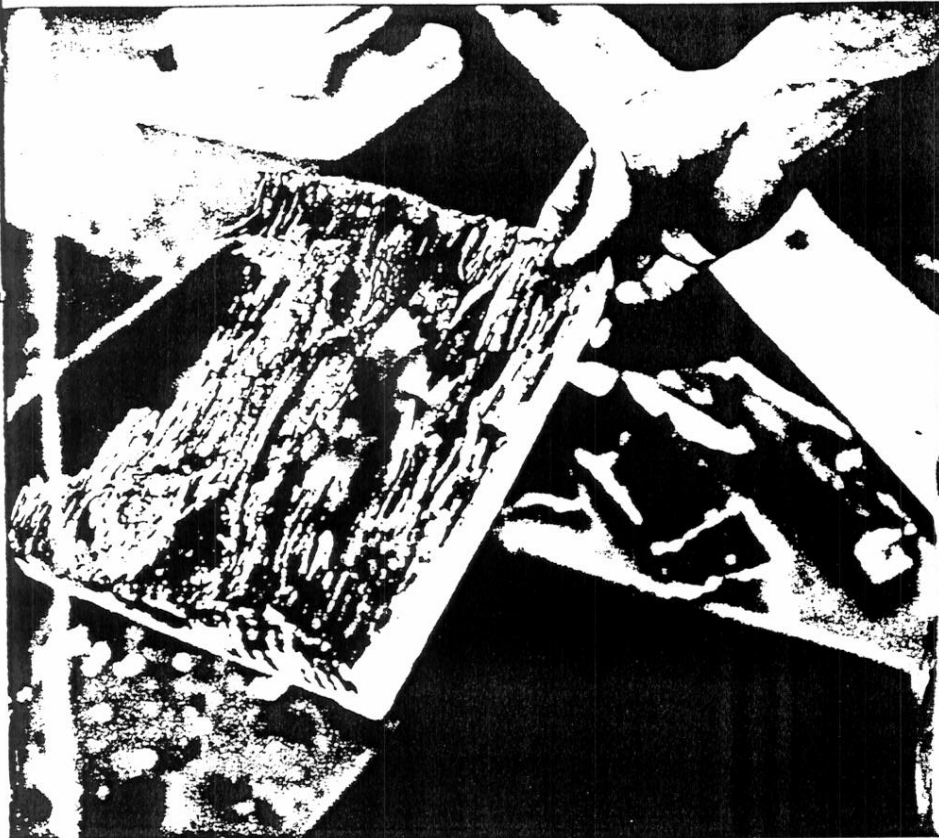
Where to Find Infestations



- Firewood
- Landscape timbers
- Tree stumps
- Dead tree limbs
- Hollow porch columns
- Under hot tubs
- Decking material
- Voids under porches
- Voids above bay windows
- Under attic insulation
- Roofing boards
- Wall voids
- Tree holes
- Hollow wooden doors
- Hollow curtain rods
- Hollow ceiling beams
- Under bathtubs
- Sill plates and floor joists
- Styrofoam sheeting
- The eaves of attics

(Source: PCT Field Guide)

*Accompany a service technician
from Reliable Exterminators and learn how to properly
treat a structure for carpenter ants.*



(Left) An example of carpenter ant damage to the base of a wood column, a fairly common infestation site. (Above) Carpenter ants on a piece of wood. (Photos courtesy of Stoy Hedges)

clude the entire home. The minimal amount of equipment for an effective carpenter ant inspection includes a strong flashlight, standard screwdriver with a long shank, and pyrethrum flushing agent with a crack and crevice tip. In addition, a stethoscope is recommended for cases where the customer actually complains of rustling noises in the walls, or it can be an additional inspection tool to be used regularly when the inspector feels he or she has located the nest. Tapping gently with the screwdriver in suspected nest areas alarms nesting ants, which causes them to create their own tapping and rustling noises, which can then be heard with the stethoscope.

The flushing agent should be applied to all potential nest locations; not only in the area where the customer has seen ant activity, but also throughout the rest of the home in those areas where any evidence of carpenter ants are found (i.e. dead ants, frass or swarms which are usually released in the spring). The flushing agent is sometimes slow to penetrate areas where ants may be

hiding, so Bryan works in a progressive manner through the home, ending up where he first started the inspection, and then re-checking the areas he flushed.

Bryan's trained eye and knowledge of carpenter ant nesting habits enables him to frequently determine (or at least to make an educated guess) as to where the nest is located. Being aware of the conditions conducive to infestation, Bryan focuses his attention on various "weak links" which may exist in the household, thus making it vulnerable to an infestation. Homes with multiple roof lines, if not sealed properly and adequately ventilated, often lead to moisture problems in the attic area. If there is a chimney present and the flashing is improperly fitted, moisture problems may exist. Other conditions which contribute to infestation include: holes and cracks where utility lines enter the house; earth-to-wood contacts; tree branches in contact with the building; and inadequate ventilation. Knowing that carpenter ants like moist conditions, Bryan first inquires and then inspects for moisture problems arising from

leaky pipes or roofs. Often, moisture problems, especially in a void space, are open invitations for carpenter ant infestations. Here's a list of some of the more common locations where Bryan has found nests: bay windows, fascia boards, hollow doors, wall voids, roof overhangs, under insulation in attics and crawl spaces, bath traps, curtain rods and hollow porch columns.

The inspection should also include locating ant entryways into the home, which would allow the ants to go back and forth to forage for food or to establish satellite colonies. Bryan inspects all of these potential lines of entry, keeping in mind all of the vertical as well as horizontal lines. He also inspects those areas and objects where the various lines may terminate, such as in junction boxes, electrical switch panels and outlets. Gaps around electrical or water lines entering the house should be caulked.

EXTERIOR INSPECTION. The outside inspection must include potential sources of infestation. Vegetation against the house may also provide

runways onto the roof or sides of the home, and overhanging tree branches touching the roof or sides of the house should be trimmed back. Bryan advises that stacks of firewood, which may contain carpenter ants, should be moved away from the house and covered with plastic to keep the wood dry. Railroad tie retaining walls or landscape logging will frequently harbor carpenter ants. As is the case with termites, buried wood during construction offers nest sites equally suitable for carpenter ants. Frequently, it is a colony living in a tree somewhere in the yard that is the source of infestation within the house. Locating the parent colonies is critical for Bryan to achieve long-term control, because parent colonies can persistently produce satellite colonies within the home. This satellite behavior makes controlling carpenter ants difficult because a large outdoor colony can quickly give rise to an indoor satellite colony.

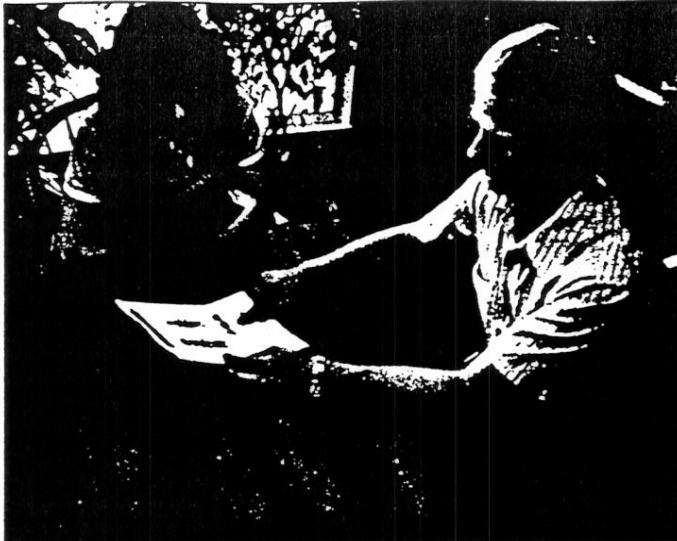
Like a termite inspection, Bryan keeps an accurately written record, in the form of an inspection diagram, of all areas of ant activity and nest locations both inside and outside of the house. Bryan's inspection is the single most important step in gaining control of a carpenter ant problem. It represents a major aspect of his labor and professional know-how. Thus, the inspection should be sold as a diagnostic service. Periodic reinspections are necessary to monitor ant activity, as well as the conditions conducive to reinfestations.

CHEMICAL TREATMENT. After a thorough inspection, Bryan is now ready to begin his treatment. His chemical treatment is directed at nests and areas of activity which have been located during the inspection. For

nests found in structural voids, Bryan drills and removes wall and switch plates to enable him to dust back into these spaces with bendiocarb. There are several advantages to dusts including:

- 1) Dusts "float" into areas, such as voids, where sprays cannot effectively penetrate.
- 2) Active dust particles remain available on surfaces and are not absorbed. Also, the static electricity of the tiny dust particles makes them stick to vertical surfaces, resulting in good coverage.
- 3) Dusts provide long residual life (as long as they stay dry). Some of the inorganics, such as boric acid, may remain effective for the entire lifetime of the house.
- 4) Dusts are easily picked-up by ants; this is partly due to the many hair bristles on an ant's body, and also due to the electrical charge of the dust particles causing them to stick to the ant.
- 5) Dusts eliminate the risk of electrical shorting that may occur with liquid sprays.

These advantages are realized only if dusts are applied properly. The most commonly made mistake is overapplication. Dusts should be applied in very light, thin layers because they become repellent — especially to ants — when applied heavily. This means that if Bryan is using a hand duster or bulb duster, he holds it upright with the nozzle on top. Power dusters with a micro-application system are ideal because of their very light output and excellent coverage. But keep in mind that dusts aren't the perfect formulation. They have their drawbacks as well. Probably the biggest drawback to using dusts is that they take longer to apply than sprays. However, the additional effort should be offset by charging the customer for the time it takes to dust and perform a thorough treatment.



Customer education is absolutely essential for a successful carpenter ant service. Customer bulletins are one effective way of educating clients about the destructive nature of carpenter ants.

PERIMETER TREATMENT. In conjunction with the foregoing treatment, Bryan also sprays a band of insecticide around the outside perimeter of the home to act as a barrier to any ants attempting to cross over. Bryan uses a compressed air sprayer rather than a power sprayer because it allows a much more careful and judicious application of chemical, as opposed to a drenching and over-application of insecticide which he finds to be wasteful and unnecessary. The spray should be applied in the spring, when carpenter ants become active.

The choice of insecticide and formulation is an important consideration. It is best to choose one with a long residual, so that it will persist over as much of the active season of the carpenter ants as possible. Additionally, the insecticide should be readily picked-up by the ants. Wettable powders provide good protection in this regard. In heavily-infested areas, a perimeter spray should be applied biannually, or at least in the spring, when carpenter ants become active. These same perimeter sprays can be used to treat around tree trunks harboring carpenter ants, as well as

any nests which may be found located inside a tree.

THE INTEGRATED APPROACH. What we are emphasizing here is a holistic approach to carpenter ant control; in other words, we use all the tools of our trade to gain control:

1) HABITAT MODIFICATION —

Providing good ventilation to reduce humidity and temperature, making it less likely for carpenter ant infestation. If more soffit or attic vents are needed to provide good air circulation, then the customer needs to be advised of this. If there are indications of water leaks around skylights, then corrections must be made to eliminate a moisture problem which may be attracting ants.

2) MECHANICAL METHODS —

Removing vegetation from the building exterior or caulking entryways into the home.

3) CHEMICAL METHODS —

Dusting interior void spaces and performing a perimeter treatment around the outside.

In addition to these methods, we also need to provide thorough inspections and effective customer education. This last factor, education, cannot be overemphasized. The customer needs to be educated and motivated toward a pest-prevention mentality. The technician should thoroughly review the inspection diagram and written report of conditions favoring ants with the customer. The homeowner should also be educated as to the biology and detection of carpenter ants and the signs of infestation, as mentioned previously in our inspection, so that he/she has an early warning of impending problems. This allows for correcting the problem before the situation gets out of hand. The homeowner needs to know what measures are necessary in the form of repairs and physical alterations to eliminate probable sources of infestation. Provide them with both a verbal and written description of what to do. Long-term success of a control program depends on the customer being adequately instructed on key points — conditions conducive to infestation, biology and detection.

For Bryan, and for all technicians, each and every one of these factors should play a significant role in carpenter ant control. All are critical components to effective management, and therefore should be a part of the service contract. PCOs should sell a complete service which takes into account not only their services rendered, but also their knowledge of biology and control.
— John Klotz and Bryan Warder **ST**

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