

Drywood Termite Biology, Identification, and Control

Drywood termites are primitive termites whose damage often goes unnoticed by homeowners. They are similar to the familiar subterranean termites¹. Drywood termites belong to the family Kalotermitidae. Their ecology and behavior are distinctly different from the subterranean termites, a fact which alters their monitoring and control procedures from those methods used for standard subterranean termites.

Biology

Drywood termites form colonies in a similar manner to other termites. They have flying forms, known as alates, which fly out in great numbers from mature colonies at certain times of the year. This process is known as swarming. Alates in a swarm will find mates and then flutter in search of dead wood in which to start a colony. Unlike the subterranean termites, the drywood termites form colonies within the wood itself rather than in the soil below.

Since drywood termites form colonies within sound dead wood, they have no access to free water. This is the reason for their common name, drywood termites. Instead, they must either acquire water through me-

tabolism (of wood) or through moisture in their environments. Some drywood termites make colonies in hot, dry areas such as southern California, where the high temperatures and low humidity reduce the available water from the environment. Since these termites live within their food, they must find ways to remove waste from their colonies. Drywood termites make small holes in the wood they infest and occasionally kick out fecal pellets or frass. Piles of the pellets usually accumulate under these openings. These dry, smooth, and often powdery-looking pellets are very characteristic of the presence of drywood termites.

While most drywood termites only infest dead trees, others are economically important pests because they nest in wooden framing and studs of homes or in commodities such as wooden furniture. These termites are widely distributed by people who unknowingly transport infested furniture. As a result, many pest termites have very wide distributions. Drywood termites are not currently considered to be established in Alabama. Recent collections, however, of alate Southeastern drywood termites, *Incisitermes snyderi* (Light), in Extension samples suggest that southern Alabama counties may be infested with this drywood termite.

Identification

Identifying drywood termites is a rather difficult process. As with all termite species, the majority of the nest is composed of worker individuals. It is a common misconception that size of the worker will indicate whether the termite is a drywood or subterranean. While many drywood species have larger workers than do subterranean termites, such as *Incisitermes* spp., other drywood species have much smaller workers (ex. *Cryptotermes* spp.). There is no identification key available for worker termites. Soldier termites and alates are the only types of termites that can be accurately identified. Unfortunately, drywood termites do not maintain large numbers of soldiers in their colonies. If available, the soldiers will be larger than the workers, with brownish heads and, in most species, large, toothed mandibles (Figure 1). For alates, collection of the entire termite is best. If necessary, some level of identification can be made from only the wings. In all cases, termites should be collected into a vial or jar of rubbing alcohol before being sent for identification.

Identification of termites must be done with care, as the alate castes of some drywood species found in Alabama closely resemble those of the Formosan subterranean termite. Alates of both species are similar in size and color, and, on first glance, the wing venation may be confused (Table 1 and

¹For more information on subterranean termites, please see Extension publications ANR-1022, "IPM Tactics for Subterranean Termite Control," and ANR-1035, "Formosan Subterranean Termites."

Figures 2 and 5). Careful examination of the wings using the characteristics found in Table 1 and Figure 2 will help differentiate between these species.

Control

Control of drywood termites is straightforward. Since these species form small colonies, the biggest problem is finding the nest location. The location can be in furniture or inside of wall studs or framing, but not in wall voids. Wood surfaces can give some clue to nest locations (Figure 3). Drywood termites can chew away wood until only a thin sheet remains separating them from the environment. These thin areas can sometimes be seen, but usually can be easily felt on the wood surface. Piles of frass are great indicators of an infestation (Figure 4). Frass should be swept away and the spot examined daily for new frass. If no new frass appears in a week or two, then the infestation may have either moved or died out at that location. If new

frass is found, look on wood surfaces (furniture, cabinets, even the ceiling) above the pile for a small hole (~ 1/16th inch in diameter), which will probably be discolored and sealed by the termites inside. This is a kick out hole and is a location of drywood termite activity. Often, when a piece of furniture is suspected of having a drywood infestation, it pays to tap the wood soundly and look for falling frass. It should be fairly easy to find the kick out holes using this method.

Once found, drywood termites can either be spot-treated by injecting insecticides into the nest or, for large infestations where multiple colonies are in the same structure, fumigated. Inspection and treatment should only be done by a licensed pest control operator². These termites do not form long tunnels or forage great distances so there is no need to worry about their finding a refuge from the injection or fumigation treatment.

Other nonchemical treatments, such as heat treatments, are coming onto the market for drywood termite control. This treatment is similar to fumigation except that hot air instead of a fumigant is pumped into the structure. The air raises the temperature of the wood in the structure. The temperature in the wood is maintained long enough to kill the termites.

Overall, drywood termites are less economically important than are their subterranean cousins. This is mainly due to their small colony size and relatively slow rate of feeding. Control of drywood termites is easier than control for subterranean termites because a drywood termite colony is limited to a single piece of wood or wooden item. This makes it easier to treat or remove the entire population. However, this does not mean that an infestation should be ignored. Given time, a drywood colony can seriously damage furniture or the structural integrity of a wall or roof.

²For more information on choosing a pest control operator, please see Extension publication ANR-1101, "How To Choose a Pest Control Company."

Table 1. Comparison of Drywood vs. Subterranean Termite Biologies, Identification, and Control Methods

Biology:						
Termite Type	Colony Size	Nest Location	Fecal pellets	Water	Mud Tubes	Damage
Subterranean	Large	Soil	No	Required	Yes	Sheets
Drywood	Small	Wood	Yes	Not needed	No	Holes
Identification:						
Termite Type	Hairy Wings	Body Color	Wing Veins (Forward Margin)		Body Size	
Formosan subterranean	Yes	Light brown	Two major veins, few cross veins		Large	
Drywood	Sparse hairs	Light brown	Three major veins, many cross veins		Large	
Native subterranean	No	Black	Two major veins, few cross veins		Small	
Control:						
Termite Type	Soil Termiticide	Fumigation		Baiting	Spot Treatment	
Subterranean	Yes	No		Yes	No	
Drywood	No	Yes		No	Yes	



Figure 1. Drywood termite individuals including workers, a soldier, and young individuals

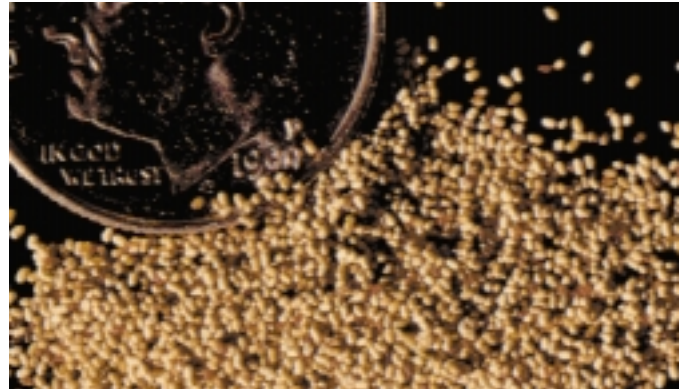


Figure 4. Drywood termite frass

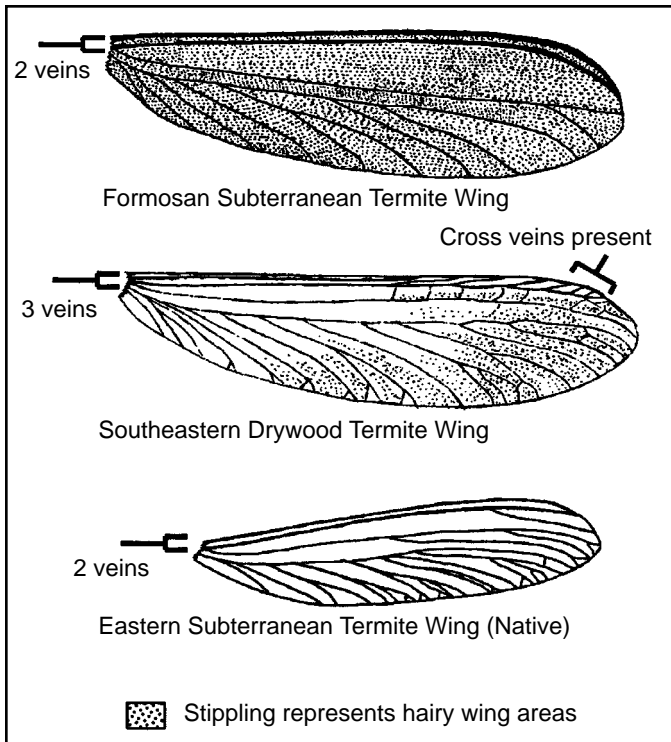


Figure 2. Diagrams of the wings of Formosan and Native subterranean termites compared with drywood termite wings



Figure 3. Drywood termite wood damage (left) compared to subterranean termite wood damage (right)

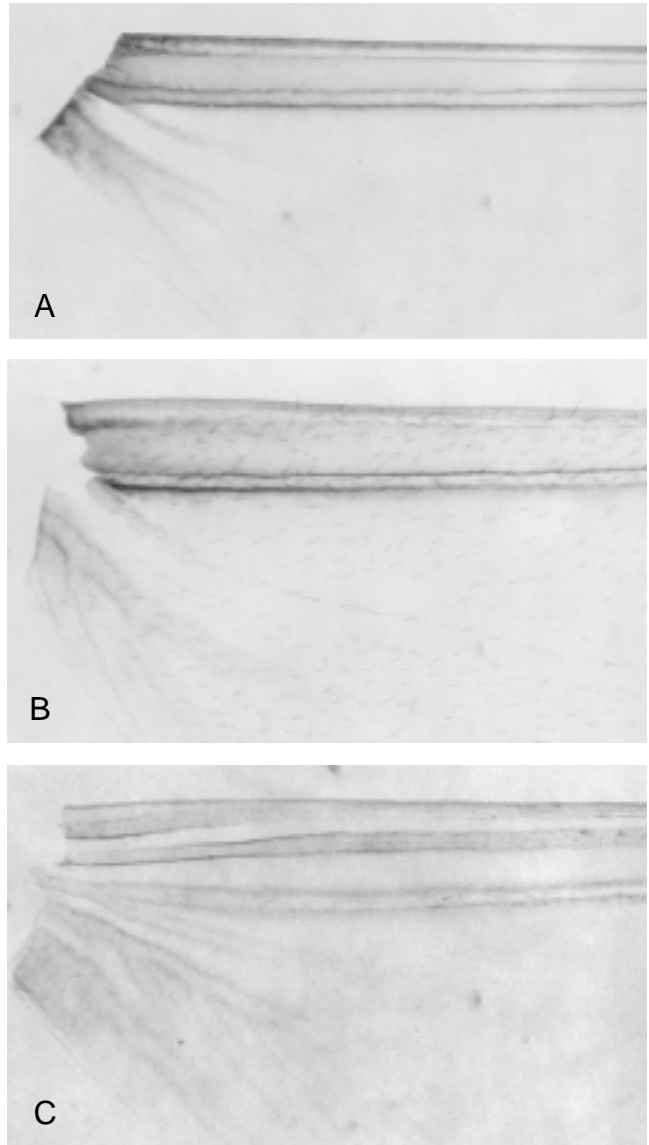


Figure 5. Front edges of termite wings where they meet the body of (A) Native subterranean termite; (B) Formosan subterranean termite; (C) drywood termite



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