Drywoood Termites

Introduction

Termites are the most destructive insect pest of wood, causing billions of dollars in damage and control costs each year in the United States. In their natural habitat termites function as decomposers which breakdown dead wood that accumulates in and on the soil. The beneficial products of this breakdown process are returned to the soil as humus. Unfortunately they also attack wooden structures, and if left uncontrolled, will cause weakening of the structure due to their feeding habits.

Termites have survived for over 55 million years. They are social insects which contributed to their successful existence. Termites live in colonies which makes them different to non-social insects like beetles, spider or cockroaches.

Each termite in the colony performs a specific job that benefits the colony as a whole. In the termite colony, an entire group or caste of termites is responsible for feeding their parents and siblings, while another caste is responsible for reproduction. Because of this division of labor, the colony of individuals functions as a single animal.

Establishment of Colonies

Swarming of drywood termites in the San Francisco Bay Area occurs typically in late summer to fall. Each colony consists of offspring from an original pair, the parental king and queen.

When a parental pair lands, they shed or pull off their wings and immediately attempt to enter wood. Swarmers usually enter wood through cracks, natural checks, overlapping or adjoining pieces, or exposed end grain. A very small nest is developed after the pair has mated. Initially the queen lays relatively few eggs. The male, or king, remains with the female, since periodic mating is required for continued egg development.

The drywood termite most commonly found in the Bay Area is the western drywood termite, Incisitermes Minor. In comparison to subterranean termites, drywood colonies are rather small, a few thousand individuals, and the colony develops relatively slowly. Most colonies remain small, but multiple colonies in the same piece of wood may contain up to 10,000 individuals.

Castes

Primary Reproductives:

The reproductives are winged alates or swarmers which become wingless males and females that produce offspring. The primary reproductives vary in body color from dark brown to light yellowish tan. Their wings may be almost clear to smoke gray, and have few distinctive veins.

Secondary Reproductives:

If the primary reproductives die, they are replaced by immatures (workers) that can become capable of reproductive activity like the parental king and queen. They are known as replacement or secondary reproductives.

Immatures Caste (Worker Caste):

In most drywood termite species there is no true worker caste, subterranean termites do have a true worker cast; this function is taken over by immatures. These immatures are wingless, white to beige in color, and make up the largest number of individuals within a colony. They gather food, enlarge the nest and feed and care for the queen, younger immatures and others in the colony.

Soldier Caste:

Soldiers resemble immatures in color and general appearance. However, they have large, brownish to yellowish-brown heads with enlarged, heavy- bodied mandibles or jaws. Soldiers defend the colony against invaders, primarily ants.

Behavior

Drywood termites enter structures through attic or foundation vents, directly through or under wood shingles, under eaves and fascia boards, and through natural cracks, checks and joints in exposed wood trims, window and door frames and sills.

Drywood termites spend their entire lives inside wood. They tend to cut across wood grain destroying both the soft spring wood and the harder summer growth, excavating large chambers which are connected by small tunnels.

They also construct round “kick holes” in infested wood, through which the fecal pellets are eliminated from the galleries or tunnels. These pellets accumulate in small piles below the kick holes, or will be scattered if the distance between the kick hole and the surface below is great.

Moisture Needs

Moisture is not as important to drywood termites as it is to subterranean termites. Drywood termites require no contact with the soil or with any other source of moisture. They extract water from the wood on which they feed, and also produce water internally during the digestive process. They require as little as 2.5 to 3 percent moisture, but prefer wood with 10 percent moisture content. Drywood termites often establish colonies in roof materials and wooden wall support located under eaves. However, despite being capable of surviving on low wood moisture they are also found in wood associated with a water source such as a leaky pipe or water heater.

Nutrition and Feeding

Drywood termites derive their nutrition from cellulose in wood. Within the termite stomach are single-celled organisms called protozoa. The protozoa produce enzymes that digest cellulose causing the break down of wood particles to simpler compounds that termites can absorb as food. The immatures consume wood and share their nourishment with the developing young, soldiers and reproductives.

Swarming Behavior

After a drywood termite colony has matured in several years, winged swarmers are produced that leave the colony to establish new colonies. Adult drywood termites swarm the months of August through November in California. A favorite place for entry is through the attic vents, subarea vents and cracks and crevices in exterior surfaces of structures. It is necessary for most termites to be able to get an access on the wood that they intend to invade. Normally, termites will not just land on wood and be able to tunnel effectively. However, if they can crawl down into cracks and crevices, their chances of successful tunneling is greatly increased.