BOHART Museum of Entomology University of California, Davis

INFORMATION

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Termites

Termites are social insects that live in colonies that have a distinct caste system. Termite castes consist of both sexes, unlike ants and honeybees, two other kinds of social insects, where the castes are all female. Winged termites are reproductive males and females. They shed their wings after pairing and begin new colonies. Termites feed on wood. Because wood is a poor food source termites have microorganisms that live in their digestive tract that help them digest cellulose in wood very much like cows do.

Four types of termites cause structural damage in California. However, the ones that cause most of the damage to buildings in California are subterranean termites (*Reticulotermes*) and Drywood Termites (*Kalotermes)*. Two other termites, the giant Pacific dampwood termite (*Zootermopsis*) and the Formosan termite (*Coptotermes*), can cause structural damage in the state, but are less of a problem. Pacific dampwood termites occasionally damages wooden structures in areas along the northern coast or in high elevations, but the wood must be damp. The Formosan termite was introduced into southern California and may become a serious pest in the warmer parts of the state.

Subterranean termites build their nests in the soil, often deep underground. They feed on wood in the soil, such as buried tree stumps or wood debris, as well as on wood structures above the ground such as homes, piled firewood, wood debris from construction, fence posts and dead parts of trees. To do so they require a connection between the wood and the soil. These termites construct an earthen tube that provides a protected pathway between the two. This tube is often one of the first indications of termite infestation in a building. They require moist conditions, and are never found in dry wood. The galleries of subterranean termites can often be recognized because they are cut along with the grain of the wood.

These termites have four castes. Reproductives, which are fertile males and females, with blackish bodies and pigmented compound eyes. Secondary reproductives which are pale with compound eyes and wing buds. Sterile workers, which are grayish white, lack eyes and wings. Sterile soldiers, resemble workers, except that they have long narrow heads and long smooth jaws. Reproductives emerge from the nests in flights in the spring or fall after a warm rain.

Damage from subterranean termites can be prevented by creating a barrier between the wood structure and the soil. In homes this would consist of concrete, stone, sand and brick foundations or footings, and timbers near the ground treated with insecticidal compounds or copper flashing. Routine inspection of foundations for these earthen tubes is essential.

Drywood termites differ from subterranean termites in a number of ways. First, they build their nests directly in wood and require no soil contact. Second, they have only two castes: reproductives and soldiers. juveniles do the equivalent work of sterile workers.

Reproductives are dark with reddish heads. Soldiers are large with powerful toothed jaws. These insects commonly attack wood structures, such as homes, piled lumber and even furniture. Unlike subterranean termites, drywood termites can feed in dry wood without difficulty. Routine inspection of walls for ventilation holes and fine granular debris is essential if these termites are suspected.

There are a variety of control measures for termites available on the market. Including microwaves, biological control using nematode worms and termite-parasitic fungi, carbon dioxide, fumigation, spot insecticide treatments, bait stations and heat. Each of these has some value, but the technique used depends on the location of the infestation and the termite species involved. Therefore correct identification of the termite species is essential.

Subterranean termites. Photo courtesy of Alexander Wild, www.alexanderwild.com.