

## Formosan subterranean termite

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**Common Name:** Formosan subterranean termite

**Scientific name:** *Coptotermes formosanus*. The Formosan subterranean termite is in the order Blattodea and in the family Rhinotermitidae.

**Identifying Characteristics:** Formosan termites are a subterranean termite with an incomplete metamorphosis. There are three distinctive castes or body forms which include workers, soldiers and reproductives (king, queen and alates). The workers are the most numerous, having a small whitish beige soft body and are not useful in identification. Alates resemble worker termites but are winged and soldiers have an orange-brown oval shaped head, curved mandibles and a whitish body. Both alates and soldiers are useful in identification.

**Host range:** Taiwan, southern China, and Japan. In the US they were discovered in Hawaii in the late 1800's and spread through the southeast from 1960 through the 1980's.

**Description of Damage:** Formosan termites have the largest colony size. One colony may contain several million termites whose tunnels can extend up to 300 ft across. Because of these two factors any structures in their path can be threatened.

**Life History:** *Coptotermes formosanus* can produce 70,000 alates. After mating, the males and females shed their wings and search for a nesting site. After finding a suitable site with wood, the female lays a small clutch of eggs. These termites become the first workers and care for the next batch. These are eusocial insects and have cooperative care for overlapping generations. As the numbers in the colony increase, soldiers are produced to defend the growing colony. It may take three to five years to produce alates, which can expand the colony and contribute to more damage or they can start new colonies. Some workers can change into secondary reproductive, which can also contribute to more damage and spread.

**Distribution:** Distribution of Formosan subterranean termite in the United States includes Alabama, Florida, Georgia, Hawaii, Louisiana, Mississippi, North and South Carolina, Tennessee, and Texas

**Sampling Techniques:** Looking for signs of damage includes tapping wood with a hard object like a screwdriver or probe. Severe infestations will hollow out the wood, leaving a thin layer of wood. Formosan termites also create a carton nest material constructed of chewed wood, soil and excrement. Carton nests can be found inside the structure in voids, attics or crawl spaces.

**Management:** Formosan termites are extremely difficult to manage. Correct conducive conditions, including fixing soil to wood contact areas, reducing moisture and removing damaged wood when found. Preventative treatment includes pre-treating wood by pressure treating wood with preservatives. Many states require this as part of the building code to construct homes. Post construction chemical treatments include soil treatments with conventional pesticides. Some of these modes of action allow for transfer between workers, soldiers and reproductives. Another option is the use of baits which contain a growth regulator that works on worker termites. This eventually starves out the colony because the workers are not available to feed soldiers and alates.

### **References:**

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