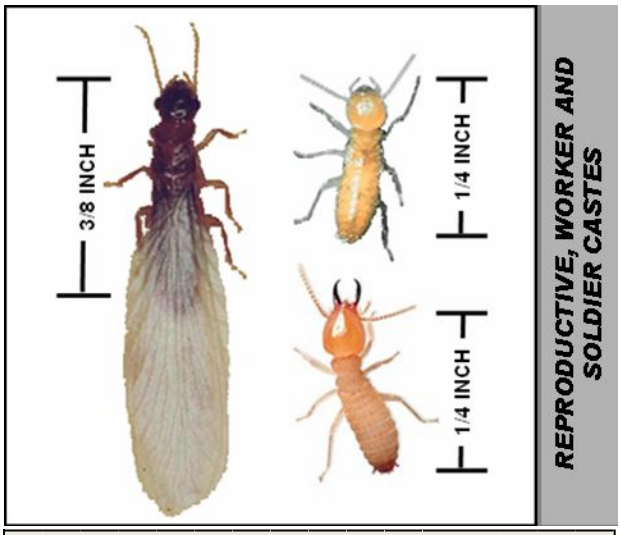
Formosan Subterranean Termites

FACT SHEET 18-035-0317

Just the Facts... *Formosan subterranean termites, a species native to East Asia, have been introduced into Hawaii and the southeastern region of the United States. This species is spreading through many southern states. They have the potential to become the most destructive insect pest of wood and wood-based (cellulose) products in the United States. Formosan subterranean termites often form very large colonies which consume wood at a rapid rate, and can cause major property damage in a very short period of time. These termites may establish aerial colonies that do not require a ground connection. Human movement of infested landscape timbers, railroad ties, wooden crates, pallets, architectural elements and even living trees has aided the spread of this termite.*



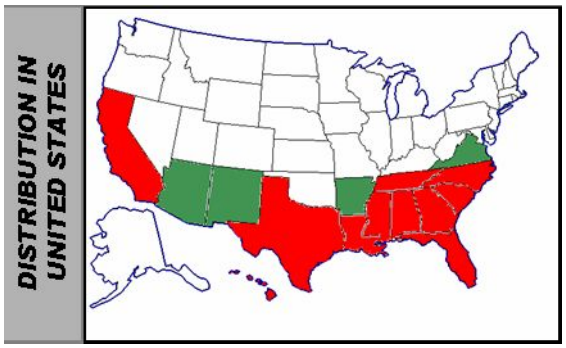
There are 3 basic Formosan subterranean termite castes: reproductives (left), workers (top, right), and soldiers (bottom, right). The bodies of reproductives are almost ½ inch in length, and their pale wings are covered with tiny hairs. Workers and soldiers are about ¼ inch long and pale yellowish in color. Soldiers have a distinctive oval-shaped head and large jaws.

What are Formosan subterranean termites and how did they get into the United States?

Formosan subterranean termites *(Coptotermes formosanus* Shiraki*)* are insects that belong to the order Isoptera. Like other termites, this species eats wood and cellulose products. Their role in nature is to recycle wood, an important job in the natural environment. However, these termites become destructive pests when they try to recycle homes, buildings or living trees. The Formosan subterranean termite is native to China. Over a century ago, this species was introduced into Japan, Guam, Sri Lanka, South Africa, and Hawaii in the soil of potted plants or in wood as ship's cargo. These termites arrived in the continental United States on military ships returning from World War II, carrying cargo in/on wooden crates and pallets from the Pacific theatre.

What do they look like?

Like all termites, Formosan subterranean termites live in colonies that contain distinct types of individuals called castes. The three basic castes differ in form and function and consist of reproductives, soldiers, and workers. The caste most people encounter first is the "swarmer" (reproductive). These winged reproductives emerge from the colony on warm, humid evenings to mate and establish new colonies. Swarmers have pale yellowish-brown bodies that are about 3/8 inch long; their pale wings (two pairs of equal length) are densely covered with tiny hairs. Soldiers are about ¼ inch long, and have orange-brown, oval-shaped heads. Soldiers are equipped with a pair of black, sickle-shaped jaws (mandibles) that they use to defend the colony from ants and other enemies. Workers have creamy yellowish bodies and are about ¼ inch in length. Workers use their hardened mouthparts to chew through wood and cellulose products.



Formosan subterranean termites have become established in AL, CA, FL, GA, HI, LA, MS, NC, SC, TN, and TX (red-colored states). Isolated colonies have been detected in AZ, AR, NM, and VA (green-colored states).

Where are these termites found in the United States?

Since their introduction into the United States, Formosan subterranean termites have spread throughout the southeastern states. The termites are common in Alabama, California, Florida, Georgia, Hawaii, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, and Texas. Coastal areas of these states generally have the highest number of infestations. In inland areas, infestations have occurred sporadically in the past, but numbers of reported infestations far inland continue to increase each year. Isolated colonies have also been detected in Arizona, Arkansas, New Mexico, and Virginia. Entomologists (people who study insects) are debating whether cold winter temperatures will limit the northward spread of these termites. It is possible that with the construction of centrally-heated buildings, Formosan subterranean termites may be able to extend their range into states farther north.

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(From Top) Formosan subterranean termites typically feed on softer "spring" wood, hollowing out the wood between the growth rings, and leaving the outside shell of wood intact. These termites will attack living trees including oak, cypress, pine, and maple. They are a serious pest of creosoted utility poles and railroad ties (Middle). Formosan subterranean termites will often construct aerial nests inside walls and under roofs, using a material called "carton" made from soil, chewed wood, their saliva and excrement. These termites typically enter structures on/through the foundation, and construct mud shelter tubes over foundations to reach wood in structures (Bottom).

Why are U.S. entomologists so concerned about Formosan subterranean termites?

Formosan subterranean termites have the potential to become the most destructive termite species in the United States. Although they feed mainly on wood (often hollowing out the wood between growth rings), they will also eat wood products such as cardboard and paper, and they will also attack living trees. A Formosan subterranean termite colony can consume wood at a rapid rate, resulting in major property damage in a very short period of time. A mature colony has up to 10 million termites or more and may extend passageways 10 feet deep underground and over ½ acre in area. To reach cellulose materials or a water source, Formosan subterranean termites will chew through and destroy other materials such as thin sheets of soft metal, electric lines, plastics, mortar, plaster, rubber insulation, stucco, neoprene, and seals on water lines. They build mud tubes to reach wood above the ground. These termites are more likely than native subterranean termites to survive in a structure without ground contact. The only requirement is that moisture be available. Like their underground nests, these above ground nests are constructed of a material called "carton", a hard material the workers make from soil, chewed wood, and their own saliva and excrement. Formosan subterranean termites disperse over short distances naturally through the foraging movements of workers and the flights of swarmers. Man has aided the longer distance dispersal of these termites through the transport and reuse of infested landscape timbers, railroad ties, wooden crates, pallets, architectural elements (window sills, fireplace mantels, etc.) and even living trees.

What can I do to protect my home or quarters from Formosan subterranean termites?

Formosan subterranean termites are difficult to control once they have invaded a structure. For that reason, prevention should be the first line of defense. Outside, remove any scrap lumber, wood products or tree stumps around your residence. Never leave untreated wooden items in direct contact with the ground. Avoid using recycled wood products when landscaping or remodeling. Maintain an area of at least one foot around the outside of the foundation; don't place mulch or wood chips next to the foundation and keep it clear of plants and other landscaping materials. Store firewood off the ground and as far from buildings as possible. Repair any leaking rain gutters or downspouts. Keep all drains, faucets and plumbing fixtures in good repair.

What can I do if I suspect that termites are attacking the wood in and around my home or quarters?

What to Look For. Large numbers of swarmers inside a structure, and the presence of carton nests in trees, attics and wall voids are obvious signs of an infestation. Keep in mind that swarmers are attracted to lights and any found outside a building could be emerging and flying in from somewhere else. Damage caused by Formosan subterranean termites may not always be obvious. The presence of termites may be indicated by: a sagging door or floor, leaks in the roof, a warped wall, a hollow sounding beam, discolored or blistered paint, depressions in wood, moisture collecting in unusual places, springy floors or steps, mud tubes on interior or exterior walls, interruptions in power or communications, or wood rot. Consult with Preventive Medicine Activity personnel at your supporting clinic to identify any termites found in a structure or around the property.

Control Options. Contact the Installation Pest Control Office if you suspect that you have a termite infestation. Do not attempt to treat your home or quarters for termites yourself. Effective and safe treatments will vary according to the termite species, degree of damage, building construction, and environmental conditions. Proper treatment may include the use of specialized equipment and application techniques, large quantities of diluted insecticides, as well as repairs using preservative-treated lumber.

References:

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