

SUBTERRANEAN TERMITES

Subterranean Termites are social insects - every colony observing a strict caste system. This social community, where every effort of each individual seems directed toward the common welfare and survival of the colony, is among the most sophisticated in the insect world. Each caste has its own defined function - building, defending, propagating or feeding - and continues to carry this out for the whole of its life.

The Reproductive Caste (Alates)

Due to hormonal changes within the colony, some nymphs eventually develop into mature winged Reproductives (Alates). The Alates are sexually mature and usually swarm in the warmer, more humid months. Their colour varies from brown to black and they have a longer and flatter body (11-15mm in length) than the Worker termite and possess four long, narrow wings. Usually after the first summer rains the Alates take to the air in their millions to establish new colonies. During the flight, a heavy toll is taken by natural predators such as birds and spiders. Only a very small number, perhaps 1 to 2% survive. Following the hazardous flight, the survivors drop to the ground, shed their wings, locate a food source, and then mate. Soon the female (or Queen) becomes little more than an egg laying machine. Her body becomes grossly enlarged, sometimes up to 5cm in length. In some species, the Queen can live more than 25 years producing upwards of 2,000 eggs a day.

The eggs develop into either Workers, Soldiers, Reproductives or Supplementary Reproductives. Should the original Queen die, a Supplementary Queen is then available to carry on the egg laying thus ensuring the survival of the colony.

The Worker Caste

This is by far the largest caste in any termite colony and the one that does the actual damage. The Workers undertake all the labour - constructing tunnels, excavating chambers, obtaining food, feeding their young and other castes of the colony. Approximately 3-4mm long, they are creamy white, thin skinned and wingless - probably giving rise to the often used misnomer "white ants". The specially adapted heads of the Soldiers and the huge size of the Queen make it

impossible for them to feed normally. The Queen, King and Soldiers are fed by the Workers who forage in and around the nest and workings, bringing back partially digested food for the other to eat.

The Soldier Caste

The Soldiers of some species have a fearsome, armoured head. It is usually brown or orange and equipped with two large mandibles to protect the colony against its natural predators such as ants. Other species have a long snout-like head through which a sticky substance can be ejected in a fine stream. The sole purpose of the soldier caste is that of defence. If a termite tunnel or chamber is breached they quickly form a guard around the hole while the workers repair the damage.

The food of termites

Termites feed primarily on wood or wood related products. Termites, being blind, find their source of food through smell. Some species of timber are definitely more attractive than others but few are immune from attack. The cellulose content of the wood is the actual food material and so many other items containing cellulose - paper, cotton and agricultural crops and other materials such as carpets and leather, etc. can also be attacked.

Protein is another important ingredient in the termite diet. One readily available source is the bodies of dead termites. In some parts of the world, protein is also obtained from the unique fungus gardens often found in termite nests. Inside these galleries, combs are constructed of the termite faecal matter (droppings). The relatively high humidity and temperature in these enclosed areas are ideal for fungal spores to develop.

After swarming, the Alates pair off and search for a suitable place to commence a new nest. A warm, moist area, such as a buried fence post or the base of an old tree are likely locations. A totally controlled environment is required so they will burrow down and seal the entry point. The nest is expanded with countless tunnels and chambers - the Queen's chamber being deeper and central. In times of drought the nest may be developed deeper into the ground to preserve humidity and temperature. These runways are enclosed to preserve the atmosphere of the nest, shield the termites from light and protect them from

natural predators. They are built of a mud-like substance which is in fact faeces and saliva of the termites and soil particles tightly compacted and moulded by the Workers.

Termites will follow minute cracks and flaws in concrete slabs or piers and it is known that they will penetrate a surprising variety of materials in order to reach wood. Sometimes the Workers generate a corrosive secretion which can actually eat through metal and capping thus allowing them better access to the wood beyond. Once new wood is located the colony virtually excavates the whole of the inside leaving only a honeycomb of tunnel walls and the outer layer which preserves the controlled atmosphere. The destruction is devastating and can be remarkably quick.

A word about new buildings

The most effective way to protect new buildings from Subterranean Termite infestation is for a chemical barrier to be placed in the soil of the sub-floor area during the early stages of construction. For a concrete slab floor the barrier is applied just prior to pouring the slab and, in the case of suspended timber floors, after the foundations have been completed and the bearers and joists fixed in place but before flooring timbers are laid down. The chemical barrier is an insecticide which is applied to the whole sub-floor area.

Information provided by Pest Control.