

# Termites

## Control

Subterranean termites are controlled in the following ways:

- Pre-construction: The foundation trenches, v-channels and under solid floor areas must be treated with a termiticide drenching the entire area according to label directions normally at 5 litres per square meter.
- Post –construction: The entire structure must be drilled through the outside perimeter wall to reach below the floor slab and a solution of termiticide is then injected according to label directions.
- Nests: Holes must be drilled into the nest and the nest must be flooded with a solution of termiticide according to label directions. Normally a minimum of 75 litres of solution is required depending on the size of the nest.

Control of harvester termites is normally accomplished by establishing where their shallow nests are and a solution of termiticide is then injected into the numerous nests.

The surface area around the nests must also be treated with a solution of termiticide as the harvester termites will strip the surrounding vegetation, taking these clippings down into the nests.

Control of dry-wood termites is accomplished by encasing the entire structure in gas proof plastic sheeting and then introducing a toxic gas for twenty four hours.

If this is not possible then the infested timber must be replaced with new pre-treated timber and the rest of the structural timber must be drilled at 300mm intervals and be pressure injected with a registered wood preservative.

# Large Fungus Growing Termites

(*Macrotermes natalensis*)



## Behaviour

The fungus-growing termite, *Macrotermes natalensis* (Haviland), the most common and widely distributed member of the genus in Southern Africa, produces a single brood of alates annually.

The release of these alates from the colony is under the control of workers. The latter construct crescent-shaped flight holes over the mound surface and in the surrounding grass.

On flight evenings workers open these holes. Large numbers of workers and small numbers of minor soldiers exit the mound to surround the flight holes. Alates then rapidly leave the nest by way of these flight holes. When the last alate has flown workers and soldiers move back into the mound and the flight holes are sealed.

The nests of these termites are divided into chambers with numerous fungus gardens. Below these in the centre is the royal chamber containing the king and the queen. The abdomen of the queen is enormously enlarged so that she cannot move about and is sealed up in the royal cell. There she is tended to by the workers, who feed her, remove her eggs and constantly lick her body all over to clean her and remove parasitic mites. This is called grooming.

## Caste members present in the colony are:

- The Worker Caste
- The Soldier Caste
- The Reproductive Caste
- Primary Reproductives
- Secondary Reproductives

## Habits

These termites do enormous damage to buildings in the northern part of the country as well as in KwaZulu Natal. The natural mounds are conical, up to 2 meters high and of very hard clay. The workers always attack the wood under a cover of clay (mud plaster) galleries or canopies resulting in replacing the wood.

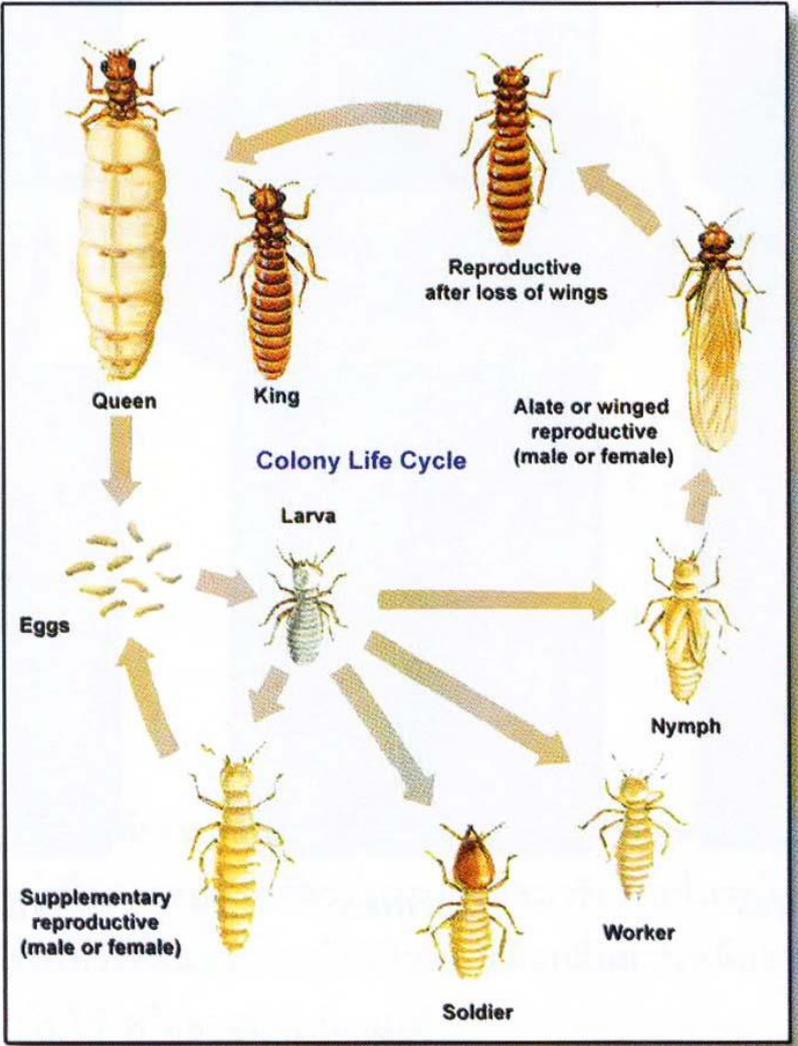
In thick beams they may hollow out the wood from the inside so that the damage is not apparent until the timber collapses. This termite usually gains access to the floors of houses by building covered runways or canopies up the inside of foundation walls or through cracks in the foundation. It may construct mounds from the ground up to the underside of suspended floors or work through cracks from the earth fill under tiled floors.

### Damage

Termites damage the untreated wooden components of buildings and if supporting structures are involved the building or floor is in danger of collapse. Wooden pallets stored outdoors can spread termites between buildings long distances. The challenging part of a termite inspection is to find all the tubes, especially those built in cracks within the foundation.

Tubes are made from bits of soil, small pieces of wood, and other debris glued together with salivary secretions. Termite colonies have no openings to the outside surface. If a gallery or tunnel is punctured, workers quickly repair it. Thousands of tiny white mushrooms growing in the soil around a house usually indicate the presence of a colony of subterranean wood-destroying termites.





# Fungus Grower Termites

(*Odontotermes badius*)



### Habits and Behaviour

The nests are concentrated and subterranean, detectable by a slight amorphous soil elevation above the nest site, or by chimneys of clay around wide air shafts that descend through the soil near the central nest cavity. However, *O. badius* has often been found under buildings and it has been stated that this termite causes more damage to timber in buildings in South Africa than all the remaining subterranean species put together.

### Caste members present in the colony are:

The Worker Caste

The Soldier Caste

The Reproductive Caste

Primary reproductives

Secondary reproductives

The distribution of *Odontotermes badius* is roughly the same as *M. natalensis* and their record as wood destroyers in buildings is as bad. Where a building is already being attacked, it must be remembered that the source of infestation is the termite nest and this must be found and destroyed.



### Location

In summer, after rains, the winged termites appear in great numbers towards evening as they emerge from their flight holes. These holes are comparatively large, sometimes 2.5 cm in diameter. They lead directly into the nests and provide good access for fumigating gases.

Where nests are made under the foundations of buildings, the flight holes are often made near them just outside the walls. Clay workings against fencing posts or trees in a garden give a clue as to where the nest might be. In damp weather the growth of mushrooms gives a definite indication.

Tapping on floors may indicate where a nest cavity is located under a solid slab floor. Suspended floors may have to be broken up in order to find the nest.



# Drywood Termites

(*Cryptotermes brevis*)



**Kalotermitidae**, from the genus *Cryptotermes*.

These insects are able to infest dry seasoned timber, and hence their name “dry-wood termites”. The species, *C. brevis*, is essentially a domestic species, infesting only timber that is sheltered from normal rainfall, and it is this one which causes most of our difficulties.

The West Indian dry-wood termite, *Cryptotermes brevis*, was introduced originally from Jamaica into Durban about 1918.

Infestations of timber by *C. brevis* are shown by the following signs:

- The emergence during the swarming season of winged reproductives from the timber, and the fluttering of large numbers of reproductives around lights in the house.
- The presence of the minute circular emergence holes in the surface of the timber through which swarming has taken place. These will be plugged up when not in use but will be revealed by careful inspection.



Worker Termite



Soldier Termite



Swarmer Termite

The presence of wings on, below or adjacent to timber; these are shed by the swarming reproductives before boring into the wood. The minute holes through which the winged reproductives have entered the timber.

These will be sealed up after entry, but are revealed by careful scrutiny. The presence in the surface of the holes through which faecal pellets are extruded to the exterior (sealed up when not in use), and the dark coloured poppy-seed-like faecal pellets on, adjacent to, or below the infested timbers. The buckling, warping and cracking of the outer protective shell of timber shows the timber is in an advanced state of destruction. Such advanced infestations can also be revealed by probing the wood with a chisel or screw-driver.

The winged reproductives of *C. brevis* colonies are found from September to mid-December. Normally November and December are the main swarming months both in Natal and Port Elizabeth. During this period each colony sends out successive batches of winged reproductives.

Swarming invariably takes place at dusk and during the early evening. Since the swarming reproductives are attracted to light before they have shed their wings, there will be a strong tendency for them to enter buildings and to spread from house to house.

The only members of a *C. brevis* colony which are ever seen outside the concealed workings in infested timber are the winged reproductives, and then only for periods of limited duration during the swarming seasons when these adult males and females are leaving their nests in successive flights, to found the new colonies of which they will be the kings and queens.

During swarming the female winged-reproductive settles after a brief period of flight and attracts her mate, where after both individuals shed their wings and bore inwards into timber, sealing up the entrance hole behind them. Within a cell constructed for the purpose, mating takes place and reproduction commences. These two individuals are the king and queen of the new colony. They bear on their thoraxes the stumps to which their wings were originally attached.

All nymphs are unchitinised and white in colour.

#### Control

The infested timber has to be sealed with gas proof sheeting and a fumigant such as methyl bromide must be introduced to kill all life stages of *C. brevis*.