

Termites and Borers

The nerve-racking part about buying a house is that more often than not it is the unseen problems which cause all the heartaches.

Termites and borers are among the most feared. They conjure up vivid pictures of teams of nasty little creatures voraciously chomping up a house to a pile of rubble.

According to statistics from Archicentre, the Royal Australian Institute of Architects Home Advisory Services company, which has inspected tens of thousands of homes for Australian home owners, after rising damp and cracking, termites and borers scare people the most.

Part of this fear comes from the unknown. Most people don't understand termites and borers, but like everything, once the cause and remedy are explained, the problem doesn't seem so bad.

Termites

(Also known as "White Ants")

If it is any comfort, although Australia has its share of the horrid crawlies, they are nothing compared with their cousins in tropical Africa who can reduce a house to rubble in three months.

In northern Australia, they can grow up to 15mm long (*Mastotermes darwiniensis*) and will devour wood, cow dung, paper and corn for their cellulose content. They are known to attack lead-coated cables, make holes in plastic water pipes and even attack billiard balls.

There are over 300 species of termite in Australia, but only about 30 cause damage of any economic significance. Only Tasmania is free of "economically significant" termite attack to buildings. Other States' termites may be smaller than the species in the north of Australia but can be more numerous and just as voracious.

Termites are prevalent in moist sandy soils, like beach-side suburbs especially where underground water is present (one in ten houses or more is likely to have had termite trouble) but clay and other soils are also quite susceptible. In Melbourne, there is a pattern of termite activity along the Yarra river basin. But they can attack anywhere and no suburb is immune.

Termite behaviour

Termites are good at predicting weather changes. Even before a heavy warm-season downpour begins, swarms of the reproductive caste termites (alates) are released from the nest and fly away to form new colonies. Fortunately, of the millions which set out, only an occasional pair succeed in finding a suitable site, and many of these are taken by predators or die by desiccation. Warm humid weather conditions are favoured

for the short flights, which usually occur during the warmer months.

Once established and mature, the Queen termite can produce up to 2000 eggs a day! This represents a huge potential for ever-increasing timber destruction, if conditions are right.

Main and often subsidiary nests are excavated underground or in rotted tree stumps and wood piles, wherever humidity is high. Underground galleries are dug to search for wood. The galleries preserve the moist atmosphere of the nest, shield the termites from light and protect them from predators (largely ants). Their network of galleries can stretch for a hundred metres from the nest in search of food.

Where their galleries leave the ground (for example to feed on a house's floor framing) the termites construct shelter tubes with the same properties as galleries. They are usually about 20mm wide and look like piled-up mud trails, being constructed of soil and fecal material, bound together with termite saliva. These mud shelter tubes are the best way of identifying termite activity. The tubes may be seen climbing up the walls between the ground and floor-boards, or if your house has stumps, snaking over ant caps between stump and bearer.

Once new food is found, the colony can virtually excavate the whole of the inside of the timber, leaving only a honeycomb of tunnel walls and a thin outer layer which preserves the controlled atmosphere. The destruction can be devastating and may be remarkably quick.

How to get rid of termites

The annoying part is that termites are hard to find even for experts and it is usually only after a chair leg goes through a weakened floor, or the vacuum cleaner head crushes a hollowed-out skirting board, that people notice their unwelcome visitors for the first time. Termites typically leave the thinnest of barriers between themselves and the atmosphere: sometimes the mere thickness of a coat of paint, which is a way of identifying them.

They are normally first noticed in low density woods like skirtings, architraves, floorboards and pine houseframing timbers, but can extend into denser hardwood timbers if not eradicated.

Termites can be eradicated. This usually involves puffing one or two grams of toxic dust into their galleries and covering over the entry point after puffing. Termites clean or "groom" each other and so pass on the toxic dust which has adhered to their soft moist bodies.

They also cannibalise dead members of the colony and eventually the toxin is passed through the entire colony.

The eradication treatment should be performed by an expert, so make sure you contact only currently licensed members of your State's pest control association. These

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people will also set up a chemical barrier around the walls, foundations and footings, to discourage the termites from returning.

Before commencement of the service, ask the expert for a written statement describing the number and location of the termite-damaged timbers. Also ask them to list any inaccessible areas of the house possibly affected; details of treatment proposed; any guarantees on the service provided and a list of timbers requiring replacement or support.

A full statement may not be possible until after the termite treatment has taken place (for fear of disturbing their active workings and making treatment ineffective) but the expert should be prepared to make out a statement soon after the treatment has had its effect.

Other experts such as the Archicentre Inspection Service may be needed to assess the structural repair needed for the house.

Maintenance items

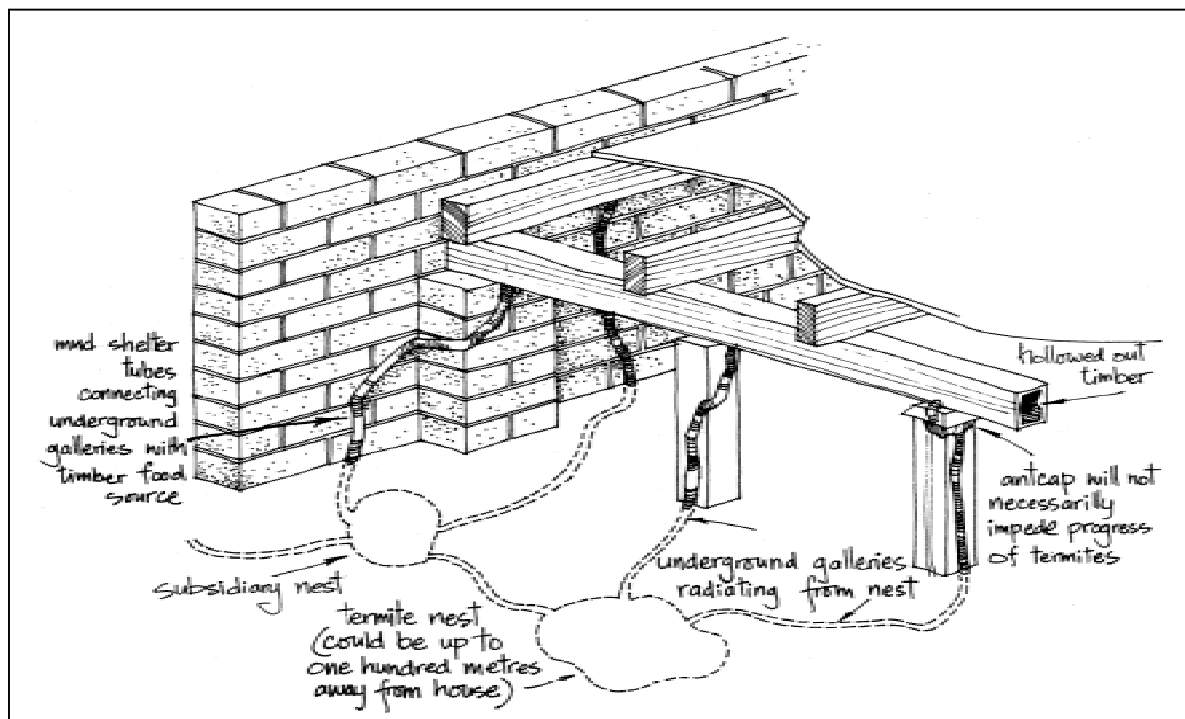
To guard against termite attack, there are several precautions that should be taken:

- Remove all timber debris from under the house, since its presence encourages foraging termites. Move piles of timber or firewood (potential food source for a new colony) away from the house, and store the timber in a dry, well-ventilated location. Old decayed tree stumps should be removed to below ground level. If you notice what you think is termite activity, take some live specimens and have them identified immediately.

- Provide good ventilation under all suspended floors. The reduced humidity and moisture makes the subfloor area vastly less attractive to termites. Leaking water pipes or bad drainage encourages termite presence so these faults should be remedied.
- Never disturb what you think may be termite activity. This prompts the termites to move elsewhere which makes future detection and eradication more difficult. It may also result in the damage being increased elsewhere.
- Examine new constructions: for example, verandahs and timber decking, if built on stumps, may not have ant caps. These constructions, and concrete additions to the house, may also bridge previously laid chemical barriers, permitting unobserved termite entry. The underside of a concrete slab is a popular place for termite nests. If you have concrete laid next to the timber frame of your house damp conditions may be promoted and termite entry would be extremely difficult to detect. You should consider this when renovating: if concrete-next-to-timber is part of the design, have an expert lay a chemical barrier down first.

Prevention is better than cure

If your neighbours have had termite problems, or you suspect you are in a termite-prone area it may be wise to obtain a pest inspection. The cost of such an inspection compares favourably with the cost of eradication and replacement of affected timbers.



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Footnote – (Queensland only) West Indian Drywood Termites

These destructive termites were first recorded in Maryborough in 1964. They do not need access to water or earth, so do not leave the normal termite mud tunnels, thus are harder to find. Colonies have since been found in Maryborough, Bundaberg, Childers and Brisbane.

They have been declared a “notifiable disease” and eradication treatment is performed without cost to the householder. You can minimise the chance of infestation by thoroughly examining second-hand timber and furniture before introducing it to your house. West Indian termites leave very small oval shaped pellets, brown, black or reddish in colour, near the site of attack.

If you suspect you have them, send samples of the pellets (or “frass”) to the Queensland Department of Forestry. The Department urges the public to be vigilant and hopes to eradicate this pest completely.

BORERS

There are several types of timber borers in Australia, some serious and some not, so it is important to identify them if you think you have a problem.

Borers are actually all different families of beetles. Some of the relatively harmless ones not needing any special eradication treatment are pinhole borers, longicorn borers and auger beetles.

Pinhole borers cannot survive in timber once it has dried out, so they normally leave before, or soon after, the timber is used for construction. You can identify them by examining their “flight holes” (the holes made when leaving the timber). These holes will rarely have borer dust (or frass) around them, since in most cases the insect is long gone or dead. They leave relatively few holes unlike the more destructive species shortly to be mentioned.

Longicorns leave oval-shaped holes 6–10mm in size as they emerge from framing timbers or wall linings. They are not a serious structural problem because, unlike the more destructive species, they cannot breed in the timber and therefore cannot proliferate. The size and shape of their flight holes makes this borer easy to identify.

Auger beetles, again fairly harmless, are harder to distinguish from the more destructive lyctid borers mentioned below. One way of telling them apart is that auger beetles leave far fewer flight holes since they cannot proliferate in the timbers, so are far fewer in number. However, differentiating them from lyctids is not normally important, since if conditions are right for auger beetles, they are even better for lyctid borers, so if one species is present, you will normally find the other.

Lyctid borers

Lyctids are very common in Australia and attack the sapwood of certain hardwood trees. Sapwood is the living band of wood around the outside of the tree. Each State has its own regulations limiting the amount of sapwood to be cut from felled trees, some States try to eliminate its use altogether, or require susceptible sapwood to be treated.

In the southern States, lyctid attack to the sapwood of framing timbers is common. But the amount of sapwood in a framing timber is usually small, so borer attack will not seriously affect the timber’s strength. And being out of sight, the borers will rarely be noticed. However, within three to five years of the house being built, lyctids could be found in skirting boards and architraves and these are highly noticeable timbers.

Because timbers like skirting boards are thin, they could in some cases be cut almost exclusively from the outside of the tree and be largely made of sapwood, food for lyctids. So these timbers could be riddled with lyctids.

Lyctids can be recognised by their 2mm holes and large quantities of flour-like dust. Although not a problem structurally, they are certainly unsightly and have probably put the wind up more home owners than any other single cause. If lyctid attack is visible, you could replace the affected timbers. Otherwise, they do not need any special treatment.

Anobiid borers

Anobiid borers are more serious and attack softwoods, especially varieties of pine (although very rarely do they attack the common *Pinus radiata*). Like lyctids, anobiids are widespread throughout Australia. The *Anobium punctatum* species especially loves Baltic pine, commonly used 40 to 140 years ago but still occasionally used for floorboards and weatherboards. The “Queensland pine” anobiid *Calymnaderus incisus* located from northern NSW and farther north has a similar love for Hoop pine.

Anobiids tend to channel along the grain of the wood, making the odd 2mm pinhole and leaving large quantities of loose gritty dust with a texture of fine table salt.

They are capable of eating for years and will happily chomp away anonymously under the carpet. Be suspicious if your floorboards get spongy as this is a common area for them to attack.

You will probably first notice the floor feeling spongy at one end of a large room (like the living room) because a big floor area will deflect more noticeably.

Also be aware that second hand or antique furniture, or old floorboards may contain borers, so examine such articles well before introducing them into the house.

Anobiid damage must always be attended to. Home owners have sometimes stopped infestation by removing



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all significant borer-infested timbers and replacing them with non-susceptible timbers, then monitoring the results.

Such treatment is only worthwhile if sub-floor humidity is simultaneously reduced, because borers thrive in damp conditions. Humidity can be reduced by removal of debris, increasing sub-floor ventilation (cleaning out vents and possibly adding more) and draining damp soil where necessary.

In some cases Anobiid-infested timbers need chemical treatment. As with termite eradication, it is recommended that only currently licensed members of your State's pest control association be contracted and that they should provide a written description of proposed treatment as previously outlined.

One of the worst cases seen by Archicentre's Inspection Service was in a house in Bentleigh, Victoria, where the architraves, skirtings, doors, windows and cupboards were all infested with termites. The house had been superficially renovated to cover up tens of thousands of dollars damage.

Remember that the best way of avoiding expensive problems is to be aware of them before you purchase your house. Archicentre has carried out thousands of home inspections for home owners and prospective buyers to help them make a realistic appraisal of the property before buying, repairing or renovating.



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