

Property Guarantee Administration



Assessment, Identification and Control of Woodworm

Part 1: Woodworm, their life cycle and ascertaining if an infestation is active.

Section 1.0: What are woodworm?

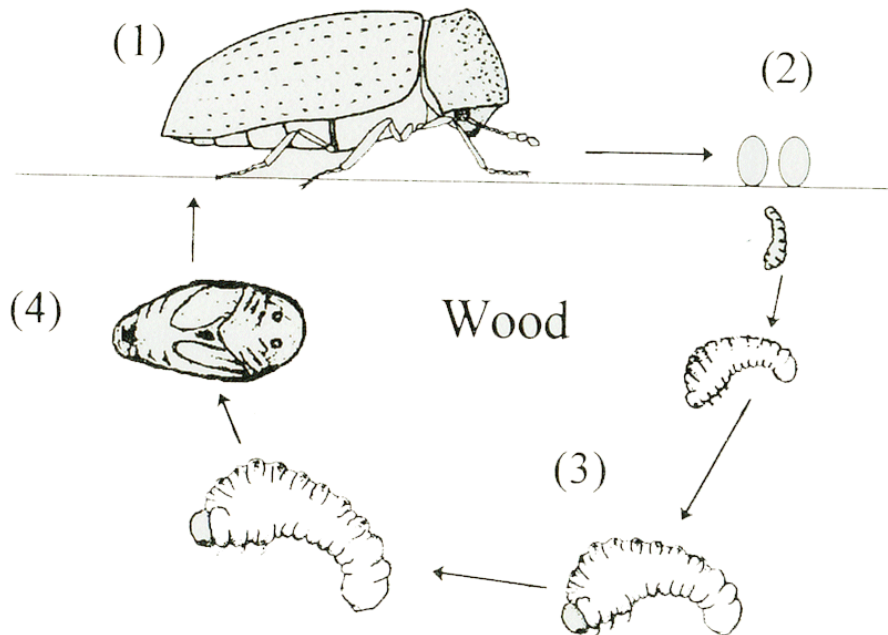
In the UK 'Woodworm' is a generic name given to a group of wood boring beetles that spend part of their life cycle within timber. In most cases the adult stage eventually emerges from the timber and in so doing forms the characteristic 'exit hole' which is visible evidence that a 'woodworm infestation' is, or has been, present. The shape and size of the exit hole is an indication of the type of wood boring beetle that infested the timber but there are other investigative techniques that enable an exact identification to be made.

Different wood boring beetles infest the standing tree, the freshly felled tree, hardwoods, softwoods, partially decayed or seasoned timber so correct identification is essential. It is also important to appreciate that there are many other beetles that are not wood borers and in some cases these bear a close resemblance to some of the wood borers. Those usually of most concern to us are the group of wood boring beetles that infest timber that is part of the fabric of a building or furniture.

It is therefore extremely important to identify the type of infestation present before considering any control measures. You may for example be seeing holes in a piece of wood that were caused by an insect that is only able to survive in unseasoned timber. To expose yourself and the environment to a pesticide by carrying out a treatment programme in these circumstances would be unnecessary and a waste of money.

It should always be appreciated that the 'tell tale' exit holes caused by a wood boring beetle will remain as a permanent feature of the wood until it is physically destroyed. The sight of exit holes will sometimes cause unnecessary alarm.

1.1 The life cycle of woodworm



Female adult beetles (1) lay their eggs (2) on or in the timber. The eggs are extremely small and barely visible to the naked eye. Naturally the larvae (3) that hatch from the egg are also minute.

The larvae bore into the wood and progressively grow utilising the wood as a food source. It is the feeding and growing stage of the larva whilst within the timber that causes the structural breakdown and damage to timber. By far the longest stage of a wood boring beetle's life cycle is spent as a larva; in some cases this may be up to 14 years.

Eventually the larva develops into a pupa (4). Within the pupa metamorphosis takes place and the grub (larval) stage changes into an adult beetle. The adult then breaks out of its pupal skin and chews its way through the surface of the timber and emerges whereupon it forms the characteristic 'exit hole'. It will then seek out a mate and the whole cycle starts again.

Section 2.0: How do you know if a piece of timber has woodworm?

The usual way to identify if a piece of timber contains a woodworm infestation is to see the characteristic holes in the surface of the timber. These holes are formed by the adult stage of the wood boring beetle emerging from within the timber through the surface.

A common misunderstanding is that these holes are formed by a beetle boring into the wood to start an infestation which is not the case.

The presence of what are termed 'exit' or 'flight' holes in the surface of a piece of timber means that the wood has contained an infestation for several years prior to the creation of the exit hole. It should be appreciated however that the length of time different wood boring beetles' life cycles take to complete varies. Dependant upon the type of infestation present, the eggs that started the infestation are likely to have been laid on the timber between three to fourteen years prior to the adult emerging and forming the exit hole.

Therefore until a generation has emerged through the surface of timber it is, in most cases, virtually impossible by visual examination alone to say whether or not wood is infested.

Section 3.0: How do you know if a woodworm infestation is active?

Being able to recognise the visible signs of an infestation is relatively simple but being able to categorically state the type of infestation and whether or not it is still active is sometimes difficult.

The holes formed in the surface of the wood by the adult emerging will be a permanent feature of the wood until it is physically destroyed. For this reason a visual examination alone may not be sufficient to determine whether or not the infestation has been successfully treated, died out naturally or was a pest of the forest or unseasoned timber. There are a number of signs to look for or tests that may be conducted to help identify the type of infestation and to decide whether or not it is active. These are listed below:

3.1: Bore Dust (Frass)

Bore Dust (sometimes referred to as Frass) is a name used to describe the 'wood shavings' and waste generated by the activities of the larval stage of wood boring insects and the emerging adult. Evidence of bore dust surrounding an exit hole or trailing down the side of a piece of timber beneath an exit hole is an indication of possible recent activity. The larval stage of different wood boring beetles each produce bore dust that contains distinctly shaped pellets. The shape of the pellet is a very good indication of the type of woodworm responsible for the infestation and is an important aid to correct identification.

The bore dust of many wood boring beetles will permanently remain in the disused tunnels/chambers within the timber. Be aware however that tapping, vibration or heavy foot traffic such as that experienced on stairs may dislodge it and give the appearance of recent activity but the infestation may be historic. Gouging a

piece of infested timber with a sharp instrument will also release considerable amounts of bore dust from within the tunnels and chambers that will look dramatic and often cause alarm but it does not necessarily mean that the infestation is active.

It is also important to point out that the tunnels/chambers of some wood boring beetles are devoid of bore dust which is a further aid to eventual identification.

3.2: Live larvae

To detect live larvae it is necessary to break open a piece of infested timber and with the aid of a magnifying glass look for live larvae which are usually small white grubs. The larvae of the different wood boring beetles each have their own individual identification features thus if one is located positive identification is possible. If no larvae are found in a heavily infested piece of wood then it is likely, but not certain, that the infestation is historic. Several sample examinations are advised in these circumstances.

3.3: Emerging adult beetles

The period when adult beetles tend to emerge from the wood is generally between May and September. Though rare, it is possible to see an adult beetle emerging from a piece of wood but because most wood boring beetles are small and the infestation is often in an inaccessible place, this event is seldom witnessed.

To witness a live adult emerging from a piece of wood is confirmation of an active infestation. Adult wood boring beetles each have their own individual identification features thus if one is located positive identification is possible.

3.4: Live adult beetles

Between May and September it is not unusual to find adult wood boring beetles within a property. Because these insects are able to fly it is not unusual to find them on window ledges as some are attracted by light.

The presence of live wood boring beetles within a property does not necessarily mean that they have emerged from timber that is part of the building fabric. They could for example have emerged from an infested piece of furniture, flown in a window or have been carried in on clothing or washing hung out to dry. Live wood boring beetles within a property should serve to warn a householder that unless timbers of the property have been suitably treated then the risk of an infestation exists.

3.5: Paper monitoring test

Very often the decision whether or not to apply treatment or the assessment of previous treatment is based upon a visual examination of exit holes in the surface of a piece of wood. Such an inspection is often inconclusive and the outcome is commonly dictated by the circumstances of the inspection. There is the

temptation to err on the side of caution and apply treatment or in the case of a potential guarantee claim, especially if you are the client, expect further treatment to be applied.

One should always bear in mind that the treatment of timber makes use of a pesticide. Therefore before deciding whether or not to use a pesticide a simple and inexpensive monitoring procedure, such as the one suggested below may be a less hazardous route to take:

Glue strips of lining paper directly over the surface of the piece of timber where an active infestation is suspected. The pieces of paper should be dated. After twelve months the paper should be inspected and if any 'woodworm' holes are present in the paper it will prove adults have emerged from the underlying wood since the paper was applied and the infestation is active. If no holes appear then further annual inspections should take place. If no holes appear over three or four years then, subject to the type of woodworm, it is likely that no active infestation is present in the timber being monitored. An informed judgement may then be made with regard to the need for treatment.

3.6: Timber Analysis

If it is known or suspected that treatment may have been applied at some time in the past then it is possible to analyse timber for the presence of previously applied preservative. By using gas-liquid chromatography it is possible to identify the type of insecticide that may have been applied previously as well as the quantity present in parts per million or grams per cubic metre.

There are established lethal dose requirements for insecticides commonly used in timber preservatives over the last thirty/forty years in the UK. If an analysis result indicates the presence of an insecticide above the lethal dose level then activity is unlikely and there is no need for further treatment. If the result indicates no insecticide at all or a level beneath the lethal dose requirement for the insecticide detected, then the wood is vulnerable to further infestation but it does not necessarily indicate on going activity.

Property Guarantee Administration has the facility to undertake this type of analysis to enable an informed judgement to be made on the need for further treatment.

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