

Powder Post Beetles & Furniture Beetles

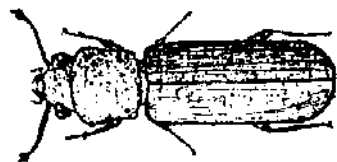
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Powder post beetles are second only to termites in the damage they do to seasoned wood. There are many species and their presence can be detected by the existence of tiny holes in the wood and piles of frass (sawdust mixed with excrement) which they push out of these holes.

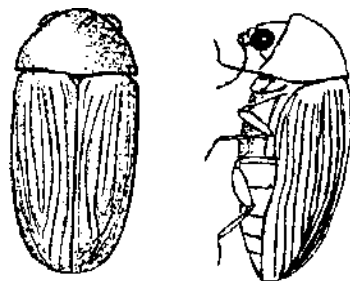
Identification

At least eight families of beetles bore into wood but the most common are lyctids (powder post beetles) and anobiids (furniture beetles). Both can cause serious damage to wood. The frass piles and small holes in the wood, are usually the first sign of their presence. The adults are rarely seen except when they leave the wood which occurs from late winter to early summer, to search for new wood to infest.

The exit holes of anobiids are round and $\frac{1}{16}$ – $\frac{1}{8}$ inch in diameter and those



Lyctid Beetle



Anobiid Beetle

of lyctids are $\frac{1}{32}$ – $\frac{1}{8}$ inch in diameter. Anobiids rarely attack heartwood but will attack new and old hardwoods and softwoods. Lyctids attack new sapwood in hardwoods. The round tunnels of anobiids are loosely packed with fine frass and numerous lemon-shaped pellets which give the frass a gritty feeling.

In some hardwoods the pellets of anobiids may be lacking and the holes are packed with frass. The frass of lyctids lack the pellets and has the consistency of talcum powder. Anobiids will not infest wood if the moisture content is below 13 percent but lyctids can infest at levels above 6 percent.

If the adults can be obtained for identification, it will be seen that the head of the anobiids is hardly visible from above, while that of a lyctid is plainly visible.

Damage

Wood heavily infested with powder post beetles contains many small “shot” holes about the diameter of the lead in a pencil. The insects push a very fine frass out of these holes and this material is often the first indication that they are present.

Infestation can occur in almost any wood though most often it occurs in hardwoods. Anobiids attack new and old softwoods and lyctids attack hardwoods and bamboo. The beetles attack hardwood that are air-seasoned or kiln-dried or unfinished surfaces of finished wood. In Kansas we see them very often in ash wood. They can infest structural timbers, furniture, molding, etc.

Since these insects require exposed pores of wood in which to lay their eggs, painting, varnishing or staining will reduce these sites. However, an infestation already in the wood at the time of painting, varnishing, and staining will be able to chew through the finish and

expose the wood to further egg laying in the resulting exit holes.

Powder post beetle infestations can start anywhere but most infestations probably occurs at the mill, the product manufacturer or the distribution center where large quantities of wood are stored.

Legal suits may arise when a fairly new house is found to be infested with powder post beetles. Proving that the infestation occurred at the sawmill or elsewhere can be very difficult. This is further complicated by the fact that the larvae may be in the wood for several years before the infestation is evident.

Life Cycle

Eggs are laid in the pores of the wood and hatch into a tiny grub that bores into the wood. These eventually pupate and ultimately become adults. The egg, pupa and adult stage last about one month each. In the case of the lyctids, the larvae last from four months to as much as 12 years, depending on the species, starch and moisture content of the wood. For anobiids the life cycle under optimum condition can be one to two years.

Control in Houses

Wood that has holes in it caused by wood boring insects are not necessarily still infested with the insects. The holes may have been made in the living tree or in the unseasoned lumber. If the lumber was properly kiln-dried, the holes remain but the insects are killed. In concealed areas such as crawl spaces, frass may be found which is not light and fluffy. This is old frass. Unless fresh frass can be found the infestation may be over and no control measures needed.

The most common method of treatment is to spray or paint infested

wood with an insecticide. Fumigation may also be effective. Spraying is done by applying the insecticide directly to the wood surface and it is essential that all the wood surface be covered. In a home, a brush may be used to get into areas next to paint or wallpaper. One gallon will cover about 250 square feet of rough surface and about 450 square feet of finished surface. Spraying kills the insects by contact when they emerge from the holes or contact it when they lay eggs. It will not be as quick as fumigation.

Insecticides or their carrier may stain or damage some materials so a small area should be tested to see if damage will occur. Some of the chemicals, such as the boron compounds or injected compounds can move as much as two inches in the wood and thus complete control is possible in thinner pieces, such as molding.

If the wood used in a product has been properly kiln-dried, it should contain no living insects. That which is found to be infested probably was infested after drying, in the lumberyard or in storage. Infestations in relatively new structures are usually the result of improper drying.

Often, only one board or a few pieces of molding may be infested. Removing these or chemically treating them will often solve the problem. Once treatment is done, the holes can be puttied. If new holes appear after this, infestation can be assumed to still be active.

General use insecticides for use in

structures include surface sprays of chlorpyrifos (Dursban TC or WT) (as a ready-to-use oil-based formulation) and several others. Some of these are aerosols and have a wick that can be inserted into the holes. The chemical is then injected into the wood under pressure. Some can be used legally only by licensed pest control operators. These include fumigants such as methyl bromide or sulfuryl fluoride (Vikane) gas. If fumigation is properly done, it can assure killing the insects quickly while surface treatment will be much slower. Some chemicals can also be injected into the wood.

Control in Lumber

It is particularly difficult to keep a residual insecticide on a finished product when the only treatment is to unseasoned wood such as may occur at the mill or lumberyard. This is because almost any chemical applied to the surface will penetrate very little and will be removed in processing the wood.

Much of the treatment of lumber for resistance to decay and insects is done by pressure treating seasoned lumber with chromated copper arsenate (CCA). This gives the lumber a greenish color. This method is not very effective on unseasoned lumber. Much safer chemicals are the borax containing chemicals that are deadly to insects (including carpenter ants and termites) and common decay fungi, but are minimally toxic and even beneficial to mammals. Its toxicity to humans is about the same as table salt.

Borates compounds such as Tim-Bor are carried into the wood by the moisture in the wood itself. The borate is applied to the surface of the wood and then the wood is slowly dried. As it dries, the chemical diffuses into the wood from the higher moisture at the surface to the lower moisture inside the wood.

Borates can be applied by immersion for various periods of time, using pressure, spraying or brushing on a slurry or paste and more. For partially seasoned or dry wood, pressure treatment is recommended.

It is quite possible in the near future that all structural lumber in homes may be treated with borates.

Borates used for wood preservation contain borax or boric acid or a combination of the two. Some trade names include Safbor, TIM-BOR, AM-OR-S and Boracane.

Fumigating Furniture & Other Small Objects

Small objects such as furniture and baskets can be fumigated to control powder post beetles. One commercial product is methyl bromide but this is a very hazardous material and must be used by licensed pest control operators. Care needs to be taken since methyl bromide will harm textiles. Powder post beetles may be killed by freezing at 10° to 15° for 72 hours. Some exterminators claim better control if the object is warmed up after freezing and then frozen again.

