Powderpost Beetles

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Powderpost beetles are the most destructive *beetle* pests of seasoned wood. Other important wood-destroying insects are carpenter ants and termites.

The common name "powderpost" reflects the fact that over time these beetles can reduce sound wood to very fine powder or pellets. Adult beetles are small (1/8"- 1/4"), dark brown to black and cylindrical (Fig. 1). Most of their life, however, is spent as larvae (grubs) tunneling in wood. When development is complete, the mature adult beetle chews its way out of the wood, leaving behind a small, circular hole (Fig. 2).

Figure 1. Lyctid powderpost beetle (1/8"). Original photo by Ken Gray.

Larvae feed on the starch packed inside wood cells, unlike termites that feed on the wood itself and carpenter ants that only excavate in wood. In the process of mining for starch, larvae destroy the wood's structure making it weak.

Powderpost beetles infest both softwoods like pine and fir, and hardwoods like oak and maple. Hardwood flooring and cabinets can be damaged as well as structural beams and moldings made of softwood.

Infestations often begin after wood is cut into lumber, especially if it is not stored properly. In hardwoods the damage generally only affects the finished wood's appearance while damage to softwoods can be more extensive and result in structural weakness or even complete loss.

Figure 2. Anobiid powderpost beetle emergence holes in softwood.

Life Cycle. The complete life cycle (egg - adult - egg) may be as short as several months or as long as many years. It depends on the species, the nutritional quality of the infested wood and overall temperature and moisture conditions. One family of powderpost beetles, the anobiids, prefer damp wood and is more common in coastal areas or in situations where wood is allowed to remain damp. Another group, the lyctids, prefers seasoned hardwood (like furniture) and may require many years to complete development. Emergence holes can appear suddenly on old furniture. However, more commonly, emergence holes begin

showing up in trim wood around cabinets and along baseboards one to several years after manufacture. Male and female beetles mate soon after emergence and eggs are laid on wood surfaces. Hatching larvae chew into the wood to start the cycle over.

Figure 3. Lyctid powderpost beetle emergence hole in oak.

Control Options. Kiln drying kills all stages of powderpost beetles. However, kiln drying alone will not prevent wood from becoming infested if it is exposed to an active infestation. Once wood becomes infested control options are limited to treating the larvae inside burrows (difficult) or preventing new infestions by emerging adults (easier but slower).

Treatment of larvae inside burrows is best done with boric acid. Tim-bor and Bora-Care (Nisus Corporation, www.nisuscorp.com) contain this active ingredient. Both penetrate unsealed surfaces (or can be injected) and can be painted or otherwise finished when dry. These products can also be used to prevent infestations of powderpost beetles, termites, carpenter ants and other wood-infesting insects, and rot fungi.

New infestations can be prevented by painting or sealing all wood surfaces including surfaces that are not visible. Various highly toxic wood preservatives are available for outdoor wood or wood that must be in contact with soil. While not generally recommended for homeowner application, wood preservatives may be necessary in some situations. The USDA Forest Products Laboratory (www.fpl.fs.fed.us) maintains an excellent site dedicated to wood preservation technology.

You may be tempted to "tent and fumigate". While effective, if done correctly, at eliminating active infestations, I don't recommend fumigation for residential houses. Fumigation is very expensive and provides no long-term residual control.

New and existing wood can be treated with a residual insecticide like boric acid. Residual treatments will prevent new infestation by emerging beetles. Also, you must solve any existing moisture problems before attempting any other treatment. Finally, I strongly recommend yearly inspections for powderpost beetles, carpenter ants and termites. See our article about inspections.


Figure 4. Anobiid powderpost beetle damage in softwood. Note that damage is absent in heartwood.

Additional information can be found at www.LivingWithBugs.com.

