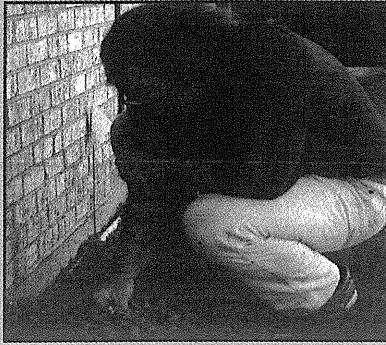


THIS ISSUE



Turf weed controls Page 2



'Friendly' herbicides ... Page 6

for termite pretreat

TRYING TO DO a better job of pretreating building sites for termites, some pest control operators have borrowed the method of adding blue colorants to their tank-mixes to see exactly where termiticides are being sprayed.

The practice of using "spray pattern indicators" to improve pesticide applications has long been employed by golf course superintendents and other turf professionals. But it's a relatively new phenomenon outside the turf industry.

According to Miller McClintock, senior technical account manager for Milliken Chemical, Spartanburg, S.C., the idea of using the technique for other applications was the brainstorm of an Atlanta pest control company that does termite pretreatments.

"At first, they were looking for a way to differentiate themselves as a company, so they came up with the idea as a marketing tool. But then, they tried it out and found it also was a very useful application tool," he says.



McClintock's firm, which manufactures polymeric colorants for a wide range of industrial uses, took note of the company's marketing-gimmick-turned-practical-concept and has since been expanding the market for its' product Blazon R Spray Pattern Indicator.

Historically, Blazon has been used by turf professionals to track treated grass areas during pesticide applications. "By adding a liquid blue colorant to the spray tank, the applicator can visually see which turf areas have been sprayed. So he gets a more uniform, accurate application," McClintock explains. "This also helps him see if he sprays off-target sites. Or, if he is exposed to the material, he will have blue colorant on himself and he can wash it off immediately.

"So basically there are two advantages — cost and safety," he observes. "You save money because you do the job right the first time and don't have to retreat. Applications are also safer because you can monitor personal exposure and see immediately if you are spraying off-target areas or vegetation."

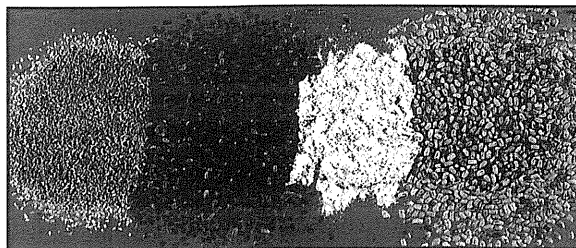
These same advantages are applicable to termite pretreatments. Plus

Wood-boring beetle concern climbs with damage level

AFTER FOUR YEARS of drought in California, awareness of wood-boring beetles, and the damage they cause, is increasing.

There are more than 800 species of wood-infesting beetles known to exist in California. These beetles can be classified into two major groups: (1) those that infest both recently killed, injured, or cut trees with the bark intact, and recently milled lumber prior to kiln drying, and (2) those that infest and reinfest only seasoned wood. Most species are associated with dead and dying trees; the beetles that have a significant impact on our wooden structures, the wood-destroying beetles, are in the second category.

The most economically important wood-destroying beetles comprise three (See Powderpost, Page 5)



WOOD-DESTROYING insect frass. From left to right, anobiid, drywood termite, lyctid, and drywood termite.

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Powderpost beetle

(Continued from Page 1)

closely related families: Lyctidae or true powderpost beetles, Bostrichidae or false powderpost beetles, and Anobiidae or deathwatch beetles. These insects usually make their presence known by their exit holes which are sometimes so numerous that the surface of the wood looks as if it had been riddled by a charge of buckshot. All wood-destroying beetles are strong fliers and are attracted to light, they are often discovered at or near windows.

The larvae of wood-destroying beetles are capable of reducing wood to a mass of powdery or pelted frass. With most species, several generations can reinfest the same piece of wood until only the outer shell remains, riddled with exit holes. Beneath the surface of the infested wood are frass-filled galleries or tunnels, usually coursing along the grain of the wood.

The damage caused by these three families of beetles differs. Damage is likely to be first noticed when the round emergence holes of the adults are found on the infested wood or when boring dust collects on horizontal surfaces beneath the infested wood. Anobiids infesting substructural timbers often escape the attention of homeowners for many years and are not discovered until a termite inspection is made. The true powderpost beetles loosely fill their galleries with very fine powder. The false powderpost beetles tightly pack their galleries with a coarser boring dust, often containing small wood fragments. The deathwatch or anobiid beetles fill their galleries with small pellets. Although all three families are sometimes collectively referred to as "powderpost beetles," the term should be applied only to the lyctids. Lyctid larvae are the only ones that produce a fine, powderlike dust in their galleries. The frass in bostrichid and anobiid galleries is coarser than that of the lyctids and tends to stick together.

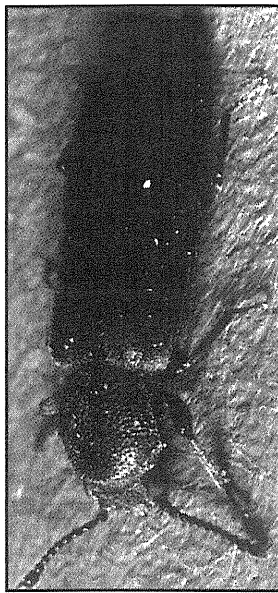
each antenna, and distinct tibial spurs.

Adult lyctid activity is greatest during late winter or spring. Hardwoods are preferred over softwoods. The reason for this preference is the requirement of large pores in wood for egg laying; such pores are found only in hardwood species. Adult lyctids mate soon after they emerge from infested wood. The female has a long, flexible ovipositor that she inserts deeply into the pores of hardwoods, laying one or more eggs in each pore.

Of the 20 species of bostrichids reported to occur in California, only two are considered to be of economic importance to structures: the black polycaon, *Polycaon stoutii*, and the leadcable borer, *Scobicia declivis*.

Adult bostrichids vary considerably in size from 7 to 52 mm in length. Unlike lyctids, most bostrichid have a hood-like prothorax concealing the head when viewed from above. The black polycaon is, of course, an exception to this. Other characteristics used in differentiating bostrichids from other beetles include reddish-brown color, cylindrical shape, thorax noticeably roughened, and the presence of tibial spurs.

The bostrichids differ from the other two families of wood-destroying beetles in that the adults bore into the wood, preparing "egg tunnels" instead of ovipositing in surface cracks or pores of the wood. Bostrichid females are most active from July to



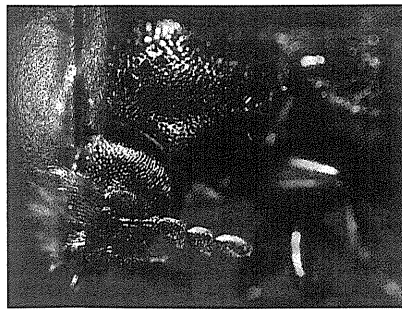
SOUTHERN LYCTUS Beetle-adult.

three years or more.

The California deathwatch beetle, *Hemicolus gibbicollis*, is considered to be the most serious pest infesting structural timbers in areas where it occurs, especially the San Francisco Bay Area. This species is reddish brown to blackish brown and is about 3.4 to 6.8 mm long. It has 11-segmented antennae, and the pronotum is distinctly narrower than the base of the wing covers. This beetle breeds in old, well-seasoned Douglas-fir studs, joists, and supporting timbers.

Pest control operators should be very careful that they do not misinterpret the presence of stored-product beetles or beetles that do not reinfest seasoned wood as a reason for treatment of a structure.

The information above is provided by Dr. Vernard R. Lewis, Department of Environmental Science, Policy and Management, Entomology Program, University of California at Berkeley, and Dr. Michael I. Haverty, Pacific Southwest Research Station, U.S. Department of Agriculture, Forest Service, Berkeley, Calif. Photos by Jack Kelly Clark. Visual Media, University of California, Davis. Dr. Lewis will be a speaker at the Target Specialty Products' seminar scheduled Feb. 9-10 in Anaheim, Calif. He will speak on the topic "Characteristics of Wood Boring Beetles." ©



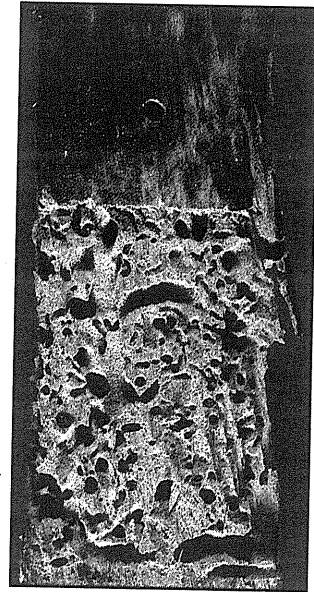
LEAD CABLE BORER. Adult.

Africanized bees

leries with very fine powder. The false powderpost beetles tightly pack their galleries with a coarser boring dust, often containing small wood fragments. The deathwatch or anobiid beetles fill their galleries with small pellets. Although all three families are sometimes collectively referred to as "powderpost beetles," the term should be applied only to the lyctids. Lyctid larvae are the only ones that produce a fine, powderlike dust in their galleries. The frass in bostrichid and anobiid galleries is coarser than that of the lyctids and tends to stick together.

Most parts of the world are inhabited by well-established species of lyctids. In the United States six species are common pests and are second only to termites in their destructiveness to wood and wood products. They confine their attacks to large-pored hardwoods such as oak, ash, hickory, mahogany, and bamboo. They are especially common in new cabinetry manufactured from ash and Philippine mahogany. Lyctids are generally brought into buildings in wood that contains eggs or larvae.

Identification of adults or larvae of wood-destroying beetles requires a dissecting microscope or a very powerful hand lens. Beetles in the family Lyctidae are small reddish-brown beetles ranging from 2 to 7.5 mm in length. Adult lyctids can be distinguished from other small wood-boring beetles by their cylindrical body shape, prominent head not covered by the prothorax, two-segmented club at the end of



FALSE POWDERPOST BEETLE damage.

LEAD CABLE BORER.

Adult.

bostrichids from other beetles include reddish-brown color, cylindrical shape, thorax noticeably roughened, and the presence of tibial spurs.

The bostrichids differ from the other two families of wood-destroying beetles in that the adults bore into the wood, preparing "egg tunnels" instead of ovipositing in surface cracks or pores of the wood. Bostrichid females are most active from July to August. The female oviposits in pores leading from the tunnels. The larvae also bore tunnels, thus bostrichid tunnels vary greatly in size and shape. Bostrichids attack the sapwood of partially seasoned hardwoods which have high water and starch content. Larval development takes about one year.

Approximately 75 species of anobiids occur in California. The name deathwatch comes from medieval folklore and refers to the sound made by adults by tapping their head on wood. The adults are reddish-brown to black in color and they range in size from 1.1 to 8 mm in length. Like bostrichids, anobiids also have a hood-like prothorax concealing their head.

There are two economically important species of wood-destroying anobiids in California, however, misidentifications can occur since stored product anobiids also are common in households. The truncated prothorax of wood-destroying anobiids is used to differentiate them from the stored products species. Larval anobiids are white in color and C-shaped. Spines all over its body and 5-segmented legs aid in differentiating them from lyctid and bostrichid larvae.

The adult anobiids are most active during the spring and summer months. Females lay relatively few eggs of the surface of wood under splinters, in cracks, under debris, or in old exit holes. The larvae then bore into the wood. Seasoned sapwood is preferred especially in coastal areas with high relative humidity. Larval development may require

Program, University of California at Berkeley, and Dr. Michael I. Haverty, Pacific Southwest Research Station, U.S. Department of Agriculture, Forest Service, Berkeley, Calif. Photos by Jack Kelly Clark. Visual Media, University of California, Davis. Dr. Lewis will be a speaker at the Target Specialty Products' seminar scheduled Feb. 9-10 in Anaheim, Calif. He will speak on the topic "Characteristics of Wood Boring Beetles." ©

Africanized bees

(Continued from Page 3)

ples as Africanized honey bees. The queen was not recovered but is assumed dead at the bottom of the pipe.

The swarm is presumed to have crossed the desert on its own and was probably seeking water and shelter when it arrived at this very isolated location.

Since its release in Brazil in 1957, the AHB has gradually migrated north through South and Central America. It arrived in Texas in 1990, and in Arizona in 1993. Last October, an AHB swarm was identified outside of Yuma, Ariz., near the Colorado River. The river is the border between Arizona and California.

Residents in the Southeast corner of California should be aware of the presence of the bee in their area. The bee is very defensive when humans or animals approach its hives or nests and will attack with little provocation.

While the sting of an Africanized honey bee is no more venomous than that of a European honey bee, it attacks in greater numbers and will follow its target for longer distances resulting in a larger number of stings.

Away from the hive, foraging AHB, like the European honey bee, are not inclined to sting unless they are physically disturbed. The movie myth that AHB swarms search for victims to attack is incorrect. ©