

630.7
Or3221
no. 417

RUS - D 1117

③ Station Circular of
Information No. 417

November
1947

THE GOLDEN BUPRESTID
(Flat-headed borer in early stages)
AS A HOUSEHOLD PEST

by

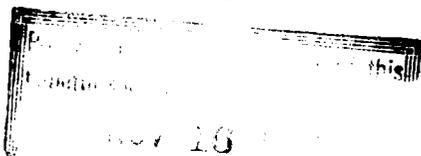
W. J. Chamberlin
Associate Entomologist

on
gra:
No.

Tra
32

DISCARD

AGRICULTURAL EXPERIMENT STATION
Oregon State College
Wm. A. Schoenfeld, Director
Corvallis



630.7
 Or32c1
 no. 417
 c.3

DOCUMENT
 COLLECTION
 OREGON
 COLLEGE

AGRICULTURAL EXPERIMENT STATION
 Oregon State College
 Wm. A. Schoenfeld, Director
 Corvallis

Circular of Information No. 417

November 1947

THE GOLDEN BUPRESTID* AS A HOUSEHOLD PEST
 by
 W. J. Chamberlin
 Associate Entomologist, Oregon State College

Because a very large number of requests have been received for information on the golden buprestid (Buprestis aurulenta L.) this circular has been written. It will answer the usual questions and make it unnecessary to write individual letters to most of those requesting information.

The Golden Buprestid—What It Is

The adult insect is a beetle about three-fourths of an inch long, somewhat oval and flattish. The upper surface is a beautiful iridescent green (occasionally blue) bordered with copper.

The immature stage is a grub (larva). Its first three segments are quite wide and flat, a characteristic which gave it the common name "Flat-headed borer." When fully grown the grubs are about $1\frac{1}{2}$ inches long. Across the wide, flat segments they have a breadth of a little more than a quarter of an inch.

What It Does

It damages wood, both in the forest and out, including wooden parts of buildings and rarely in furniture. The damage is done by the grubs (larvae) when they bore tunnels. During the development of a single grub it may eat a tunnel—often called a mine—from 3 to 15 feet long.

How and Where It Works

The damage begins in a very small way. Very tiny larvae hatch from eggs that have been laid by the beetle on wood, preferably wood that is dead or drying, or recently cut trees with the bark still on. Beetles have been observed depositing eggs in cracks of 2 by 4's and other structural materials which were at least partially dried. Evidence strongly indicates that they will deposit eggs in quite dry materials such as joists, underpinning, etc.

*Called "Flat-headed borer" when in the grub, or larval, stage.

Newly hatched grubs (larvae) bore into the wood, excavating a mine which enlarges as the larvae grow in size. The mines are oval in cross-section with a width of about three-eighths of an inch. They vary in length from 3 to 15 feet from the point where the eggs hatch to the point where the larvae reach their full growth. The tunnels are packed full of borings and frass (refuse and excrement left by larvae).

The larvae may be working in various wood products, including furniture, and in houses. There are authentic records of the beetles emerging from such material where the eggs from which they came must have been deposited at least 15 to 20 years earlier. Most of the mining by the larvae in houses and all of that in finished products is due to infestations prior to manufacture. Damage to underpinnings of buildings, however, may come from infestations by beetles emerging from firewood in the basement.

Douglas fir is preferred by the golden buprestid, but it has been reported found in six species of pine and two species of spruce. The writer has taken adults from Western red cedar.

The Life Cycle

The life cycle probably requires 2 to 4 years in the wood, but it is certainly influenced by the condition of the material. As indicated above, in some situations it is a decade or two.

When the boring larvae reach full size, they go into a resting stage (pupal stage) during which they change into beetles. This occurs in oval chambers known as pupal cells. They are usually quite near the surface of the wood.

After transformation to the beetle is completed, the beetles eat their way out of the wood, leaving a small oval exit hole. This is the first evidence of infested wood. Usually the emerging beetles fly away and do no further damage to the wood from which they came. Under certain conditions, however, the beetles will mate and the female will deposit eggs on the same material from which she emerged; and the cycle starts again, with further damage, of course.

Control

Because there is little or no evidence of attack prior to the emergence of the beetles there is no known means whereby the insects can be destroyed while they are working within logs, timbers, etc.

Where emergence holes of the adults are noted in flooring (a common place of infestation) liberal applications of kerosene, benzene or other light penetrating oil may be used with the hope that enough of the material will penetrate the wood and destroy the larvae which have not yet reached maturity. Applications to varnished, waxed, and polished floors would probably be a waste of time and material, since the material would not penetrate in sufficient quantity to affect the larvae.

Prevention

Preventing attack lies mainly in treating materials in such a way as to (1) make them unattractive to the adult females or (2) poison the newly hatched larvae as they attempt to penetrate the wood or (3) fill all cracks and other openings so the beetles will be unable to place their eggs.

Under number 1 it should be remembered that the beetles prefer to deposit their eggs in the irregularities of bark. The simple procedure of removing all bark from logs, limbs, etc., which are to be used in rustic work or in cabins, houses, or other building constructions will give some protection.

Care should be exercised in edging lumber to see that no particles of bark remain on the boards. Logs must be removed from the woods and converted into lumber immediately when they are cut during the flying season of the beetles. Slab-wood which will most certainly contain eggs or young larvae if the logs have been exposed even for a few days should be burned at the mill if it is not to be used for fuel.

Kiln drying will cause the death of all stages of the insect which may be in the wood, but it does not prevent reinfestation.

All wood which is placed in construction in such a manner that it will be exposed to attack should be impregnated with creosote, treated with oil, painted, varnished or otherwise treated to fill the cracks and crevices. Such treatment makes it difficult for the beetles to find a place suitable for their eggs.

Material for log cabins, rustic work, bridges, etc., where it is desirable to leave the bark on, should be cut while the sap is down and piled under cover in such a manner as to allow for a free circulation of air. Such material will be at least partially seasoned by the time the beetles are flying and depositing eggs in the following year. Such material is less attractive for egg deposition but it may not be inferred that it will remain absolutely free from attack.

A spray of creosote oil used with kerosene oil in proportions of 1 to 1, 1 to 2, etc., up to 1 part creosote to 10 parts kerosene has served to prevent attack for a considerable period. In the case of most species of flat-heads and other wood borers, when material becomes dry it discourages female beetles from placing their eggs on it. Unfortunately, the golden buprestid is not always discouraged by such drying out; hence, even dry material may be attacked. Still, dry wood is less attractive to the beetles, so drying does give some protection.

The value of DDT has not yet been determined.

Distribution

This insect has a wide distribution in the Pacific Coast and Rocky Mountain states as well as parts of Canada. It is abundant in British Columbia, Washington, Oregon, and California, and less common in Montana, Idaho, Wyoming, Colorado, New Mexico, Utah, Arizona, and Nevada.