

HOME

Borers are injurious to trees

Under the broad category of "borers" are some of the most injurious of all shade tree insects. Unless the average homeowner inspects his trees carefully, damage from borer attack is many times overlooked or attributed to some other cause.

As their name indicates, borers are insects which feed on tree roots, trunk, branches or twigs. The borer is usually in the grub or worm stage, although some adults beetles may also bore into the tree. Two of the most common borers are the two-lined chestnut borer, which is primarily destructive to oaks, and the bronze birch borer, a very serious pest of white birch.

"Borers prefer to feed and breed in trees which have low vitality," according to Henry W. Gilbertson, Director of Technical Services for The Davey Tree Expert Company. "Factors causing a loss of vitality may include transplanting, winter injury (many trees are still suffering from the effects of the severe weather last winter and should be checked for vitality now), repeated defoliation from insects or diseases, severe pruning, drought conditions which are

prevalent in many parts of the country, and sunscald."

Although there are well over 100 different types of borers, they may be divided into three general groups depending upon the part of the tree attacked—twig borers, wood borers and cambium (bark) borers.

Twig borers, which feed on smaller branches, seldom cause the death of larger trees. However, severe infestation may result in a substantial amount of damage. Where insects attack the larger limbs of smaller trees, death of a large part of the tree may result. Other examples of this type of borer are indicated by the common names applied to some of them such as twig pruners and twig gnawers.

Wood borers generally are distinguished by the fact that most of them keep their burrows clean by carrying the borings back and discarding them through an opening in the bark. The presence of these borings at the base of the tree and at their opening makes them more noticeable than those borers which leave no external evidence.

Many of the wood borers are comparatively large and their life cycle may extend as

long as three years. "This long development is perhaps why many of these borers do not become so numerous or such serious pests as do some of the smaller species which multiply more rapidly," Mr. Gilbertson said. "Their work

may result in such serious weakening of older wood that limbs or small trunks may break at the point of attack."

Cambium borers are the most widespread and destructive of this entire class of insects. What they lack in

size, they make up for in number of both species and individuals. Some of the smaller ones—the adults of which may be no more than 1-10 inch long—complete their life cycle in about a month and produce several broods

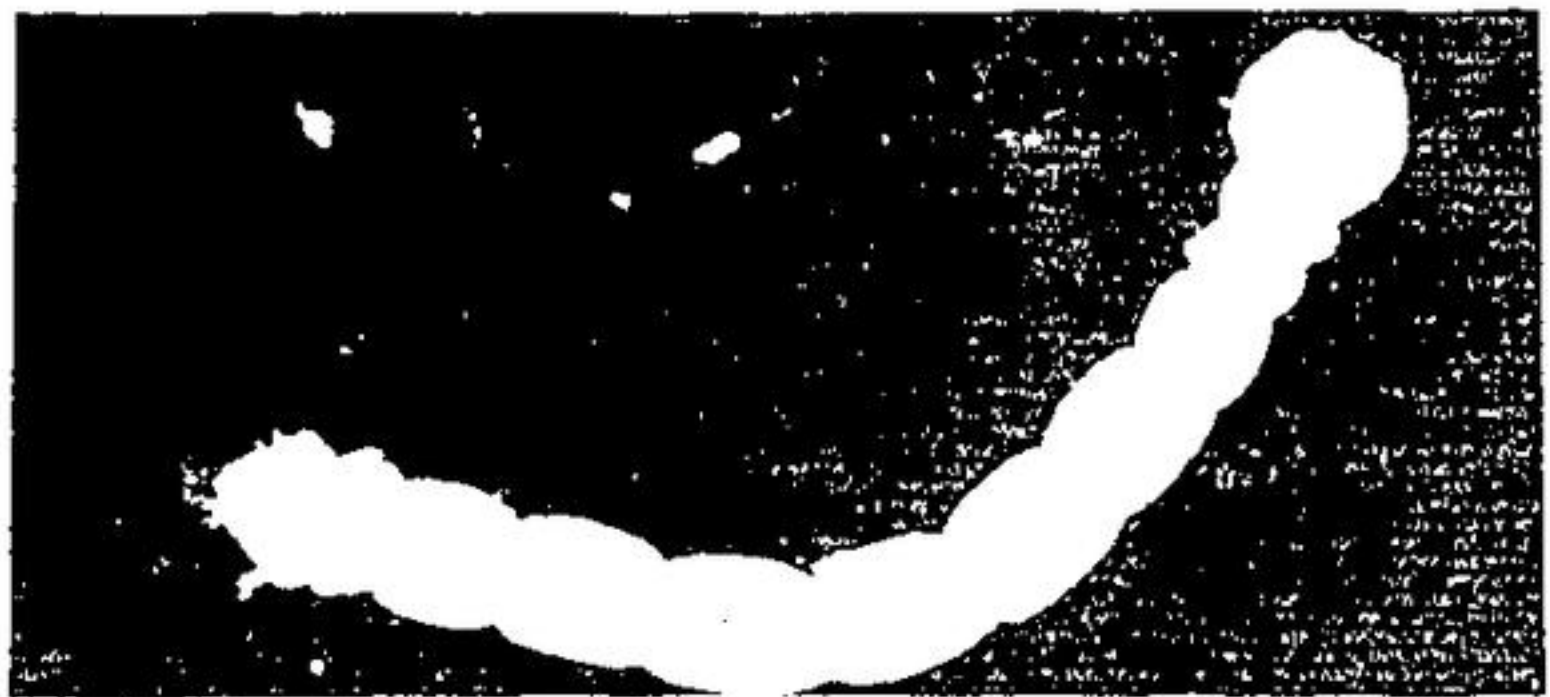
each year. Many species leave little, if any, external evidence of their presence until branches begin to die or their life cycle is complete and the exit holes are found after adults emerge.

Eggs are laid in the bark or in crevices on the bark. Later, the tiny, newly-hatched borers enter the living tissues. The channels, very small at first, become larger as the larvae develop. Some of the adults lay 100 or more eggs so that, under favorable conditions, the number of borers in a tree or in a locality increase at an astonishing rate.

In a general way, the life histories of these boring insects are similar. Adults emerge during late spring, summer or early fall. Some of them feed on foliage or twigs for a time before eggs are laid for the new brood. Young larvae may feed throughout the remainder of the summer and fall months (and possibly for a time the following spring) before pupation takes place and the adult emerges. Others may produce two or more broods during the summer, with the last brood overwintering as larvae within the trees.

Because borers are hidden and out of reach of the chemicals commonly used as contact sprays, controlling them can be a difficult problem. Where only a few borers are present, it may be possible to locate the areas in which they are feeding and cut them out.

However, preventive measures are best in preventing attack by borers," Mr. Gilbertson said. "The important thing is to keep trees in good health year-round so that they are better able to ward off borer attacks. Proper care includes wrapping newly transplanted trees and providing adequate water, and the proper fertilizing and pruning of established trees. Spraying with Lindane during the growing season will help prevent new borer invasions and help eliminate leaf-chewing insects."



There are well over 100 different types of borers. These injurious shade tree insects feed and breed in trees with low vitality. Larva of the two-lined chestnut borer (upper left and bottom) is a serious pest under dry weather conditions. The upper right photo illustrates channels caused by flat-headed apple tree borer larvae. The girdling action of an active brood of larvae disrupts a tree's vascular system and prevents flow of sap and food material. Any cause which weakens a tree may make it more susceptible to borer attack.

Voles, moles, mice and gardens

"Voles, moles, mice and men" is a mouthful to mutter which illustrates a source of the confusion some home gardeners have been experiencing recently. An exceptional amount of damage was done to grass, bushes and young trees by small mammals this year, but should the blame be placed on voles, moles or mice?

The culprits are the voles which are largely vegetarian say scientists at the University of Guelph. When hungry, they will chew the bark off any woody plant, but especially prefer fruit trees and rose bushes. They will also munch on tulip and crocus bulbs and various grasses. Mice, on the other hand, chiefly eat seeds and nuts, while moles are the gardener's best friend. Carnivorous in their food habits, these ground dwellers eat undesirable insects like white grubs and chinch bugs, plus help to aerate the soil with the tunnels they make.

and eyes, and white feet. They are nocturnal ground-dwellers.

Moles also live most of their lives beneath the surface of the ground, but they are active day and night. Low ridges pushed up when they move just under the surface, and mounds of earth which have been pushed up from below, bear witness to the presence of these insect-eaters. Somewhat larger than mice and voles, moles have broad front feet, eyes of pinhead size or smaller, external ears, and soft, thick fur.

"In order to deal with any pest, one must be familiar with its weak points," advises Prof. B.J.E. Teskey of the department of horticultural science at the University of Guelph. "Small mammals have tremendous powers of multiplication, which must be brought under control in problem areas. Mousetraps do this job well, especially when baited with a peanut butter-oatmeal mixture in cold weather and lighter food such as a piece of apple in warmer weather."

"The next point to keep in mind is that these animals are the natural prey of wolves, coyotes, foxes, hawks and owls," continues Prof. Teskey, "so they instinctively stay under cover. Keeping straw, snow and other forms of animal shelter away from the plants will reduce the amount of damage incurred, since the creatures will shy away from the open terrain."

According to Prof. F.F. Gilbert, department of zoology, University of Guelph, an effective way to prevent the stripping of bark by voles is to put guards (available in wire, metal or plastic) around the lower stem. Another method he recommends is painting the bark with thiram a chemical substance which tastes unappealing to the animals, yet does not harm them.

Gardening in limited spaces

For city dwellers who want to garden but lack space, window box gardening provides a partial solution.

Window box gardening is a compromise between indoor pot culture and outdoor gardening. Bob Fleming, horticulturist for the Ontario Ministry of Agriculture and Food says it requires skill and care to bring plants to perfection. Window boxes are available in a variety of materials, from redwood and cedar to concrete and plastics. The size and type you choose will depend on the dimensions of window sills and the architectural style of the house or apartment.

Mr. Fleming says the most important ingredient to successful window box gardening is the soil mixture. He recommends a moderately fertile, coarse-textured, well-drained soil with adequate organic matter. A good soil mix should consist of equal parts good garden loam, coarse sand or perlite and leafmold, peat or well-rotted manure.

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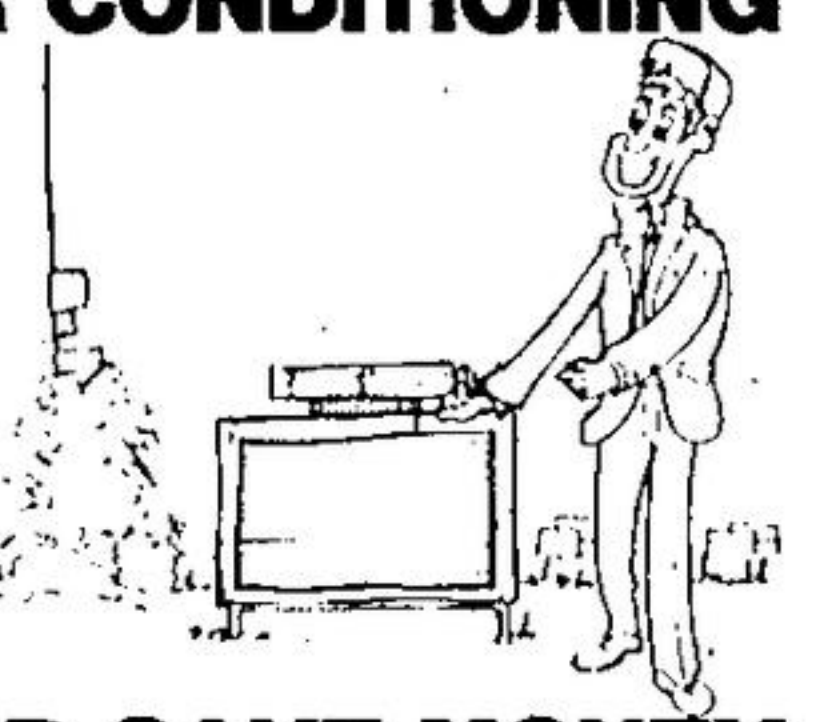
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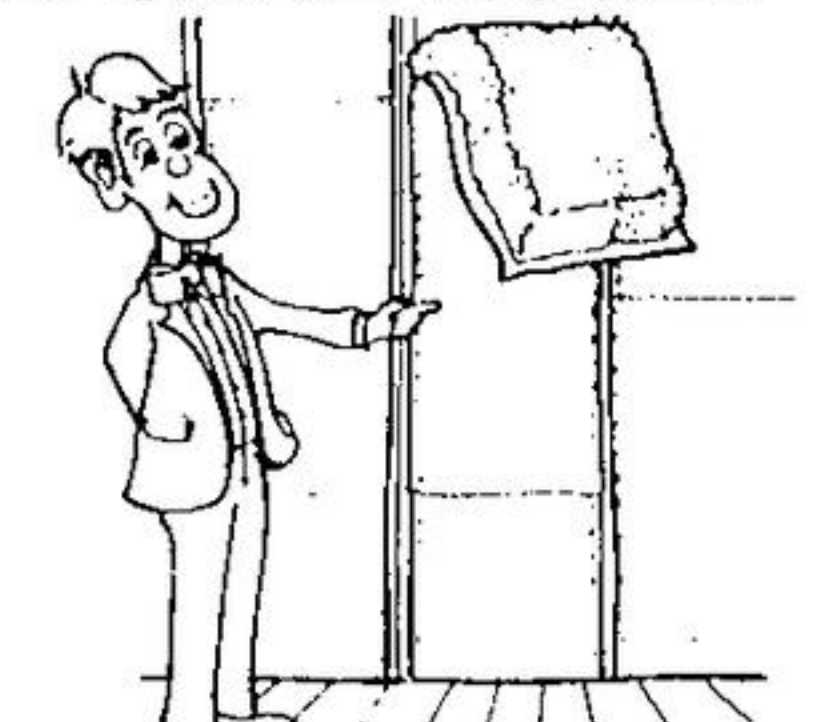
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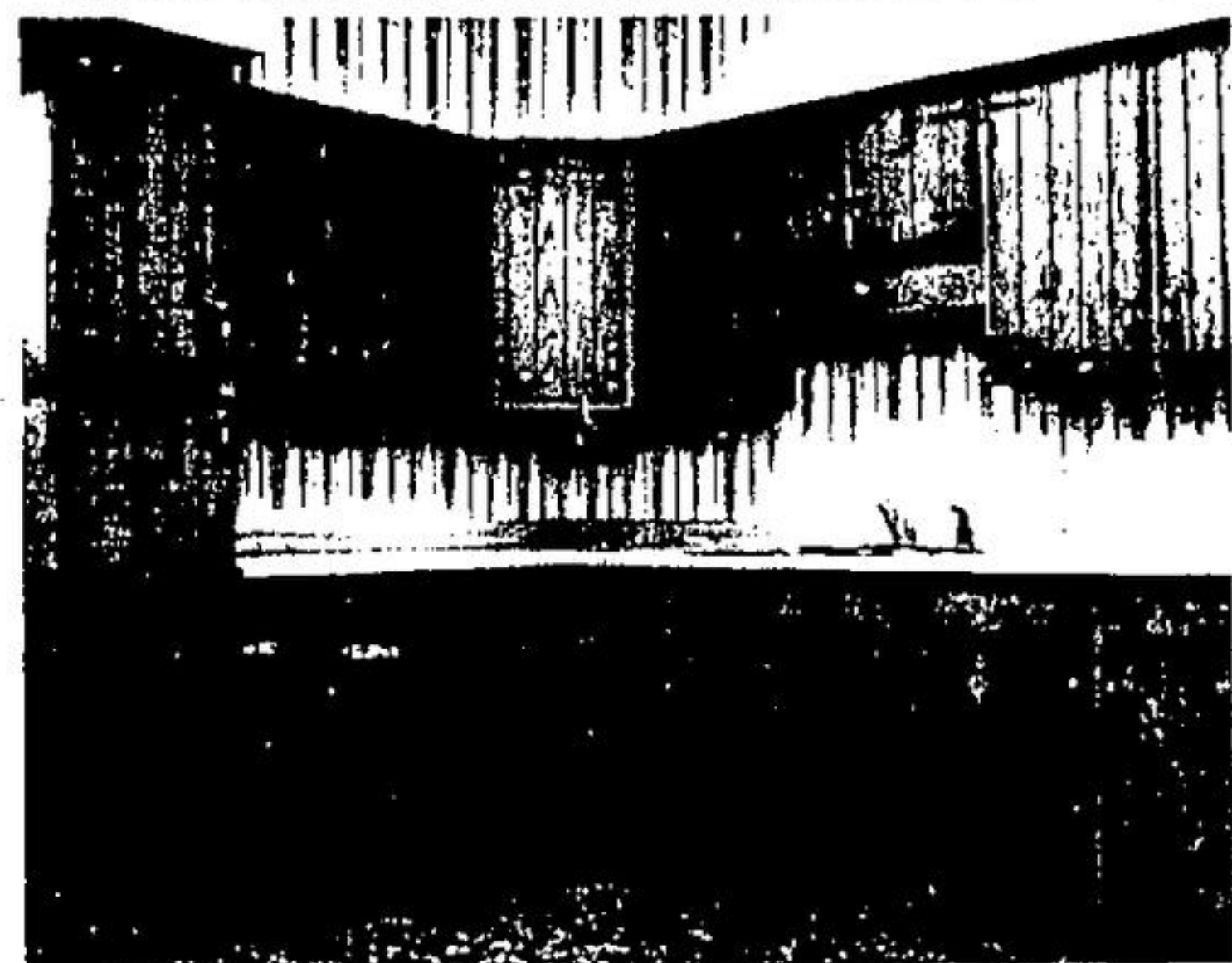
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