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### Pests of Trees and Shrubs: Stem, Branch and Trunk Insects

Cooperative Extension South Dakota State University

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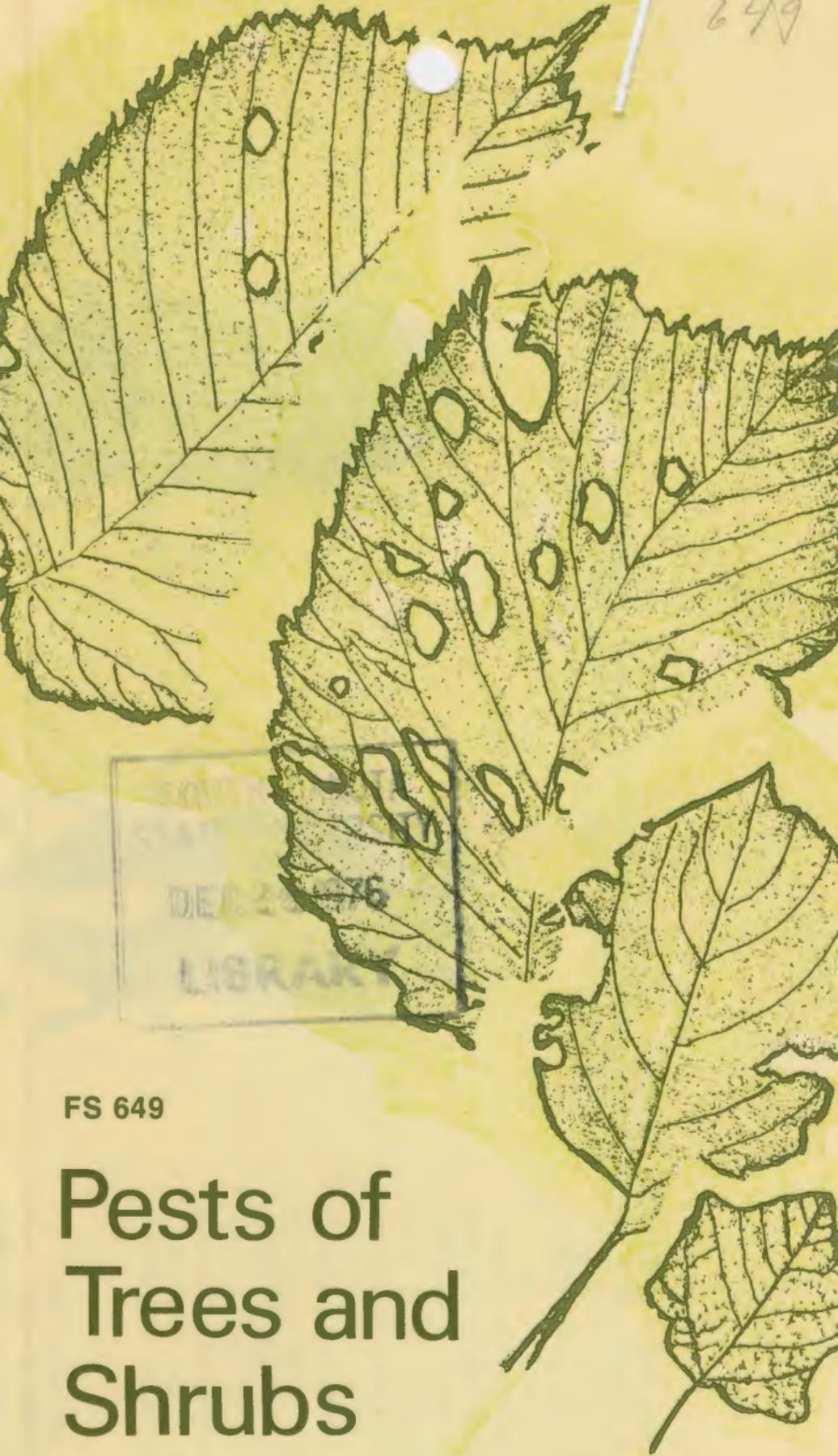
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FS 649

# Pests of Trees and Shrubs

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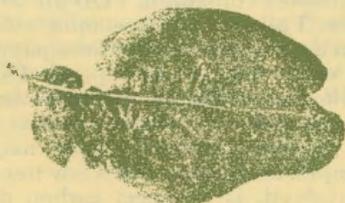
## Stem, Branch and Trunk Insects

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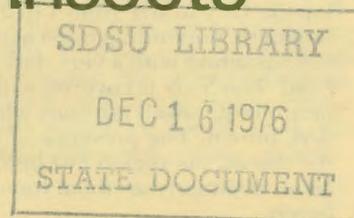
Cooperative Extension Service  
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South Dakota State University



# Stem, Branch and Trunk Insects



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Some of the insects listed in this fact sheet are among the worst enemies of some South Dakota trees and shrubs. Yet trees and shrubs add value and beauty to the landscape, and should be protected from such damage.

This fact sheet describes the more common insects that attack trunks, branches, and stems. A companion fact sheet (FS 647) covers insects that suck plant juices and gall formers. Another (FS 648) treats leaf chewers.

If you can't find your particular insect pest in these fact sheets, consult your county Extension agent or contact the authors at SDSU for identification and control recommendations.

## Insects Attacking Stems, Branches, and Trunks

### Midwestern Pine Tip Moth

**Appearance.** Pine trees infested by this pest show damaged terminal growths. The terminal buds turn brown and show evidence of tunneling by the larvae, which feed on buds and new shoots. The larvae are yellowish with a brown head and smooth body and average nearly 1/2 inch long.

**Type of damage.** Terminal buds turn brown and show larval tunnels.

**Plants attacked.** Nearly all of the two- and three-needle pines.

### Pitch Moth

**Appearance.** Full-grown larvae range in size from 3/4 to 1 inch in length. They are light brown with darker-colored heads and a series of black dots along the sides of the body.

**Type of damage.** Trees that are infested show large, irregular patches of pitch which oozes from the borer holes.

**Plants attacked.** Scotch, Austrian, Ponderosa, Red, and Jack pines that are 2 inches in diameter or larger.

### Cottonwood Borer

**Appearance.** Full-grown larvae (the borer stage) attain a length of nearly 2 inches, and are white or yellowish with brown heads. The bodies have distinct segments. Adults are black-

and-white mottled beetles from 1 1/8 to 1 1/2 inches in length. The antennae or "feelers" are as long as the body.

**Type of damage.** Larvae attack the tree mainly at the base or just below the ground level. Borers often weaken the tree so that it breaks over in a strong wind. This insect can cause considerable damage in shelterbelt plantings.

**Plants attacked.** Cottonwoods, poplars, and willows.

### Elm Borer

**Appearance.** Adult beetles are approximately 1/2 inch in length and are grayish-brown, marked with brick-red bands and dark spots. Mature larvae are 1 to 1 1/8 inches long and white. The thorax is quite wide and the abdomen tapers toward the posterior end.

**Type of damage.** This borer attacks trees that are in a weakened condition. Symptoms of attack are the thinning of foliage at the top and dead limbs scattered throughout the tree.

**Plant attacked.** Elm.

### Poplar and Willow Borer

**Appearance.** The adults are snout beetles, having the long snout characteristic of weevils. The beetles are approximately 1/3 inch long and are dark brown, mottled with gray. Mature larvae are white, footless grubs about 1/2 inch long.

**Type of damage.** Trees infested with this borer show irregular swellings on the branches or trunks. Branches often become so weakened that they die or are blown down by storms. Dark-brown frass (insect excrement and debris) mixed with small splinters often extrudes from the borer holes where it was pushed by the larvae.

**Plants attacked.** Poplars, willows, alders, and red birch.

### Bronze Birch Borer

**Appearance.** Adult beetles are black with an olive-bronze luster. They are approximately 7/16 to 1/2 inch in length, slender and somewhat cylindrical in shape. The full-grown larva is cream-white, flattened, without legs, and 3/4 inch long. A large, flattened segment can be found immediately behind the head.

**Type of damage.** The larvae seem to prefer feeding in the sapwood just under the bark. Often the bark becomes loosened by their feeding. Small, rounded exit holes in the bark where adults have emerged are often a good sign of infestation.

Infested trees may die, a branch at a time, or the entire top of the tree may become dead. This borer is a serious pest of birch. Borers—plus drought—have killed the majority of birch trees in eastern South Dakota.

**Plant attacked.** Birch.



Fig. 1. Adult tree borers (left to right): poplar borer, bronze birch borer, cottonwood borer, and elm borer.

## Carpenterworm

**Appearance.** The adult is a very large moth, with a wing span up to 3 inches across. The moths are a mottled gray with some darker markings. Larvae vary in size from 1 to 2 inches in length, depending upon age. Their color is white with a very dark-brown head. The body is covered with many prominent, raised portions which are dark brown. The presence of legs on the thorax, the region just behind the head, distinguishes them from beetle borers.

**Type of damage.** Infested trees have large burrows running through the wood. Sawdust is forced through an occasional opening in the bark. These sawdust-like borings at the base of the tree or clinging to the crevices of the bark are the tell-tale signs of an infestation by this tree borer. Larvae feed mainly in the sapwood, although third-year larvae enter into the heartwood. The burrows of the insect in the trunk will sometimes reach 1 to 1 1/2 inches in diameter. Serious infestations cause much limb breakage in strong winds and may eventually kill the tree.

**Plants attacked.** American elm, soft maple, burr oak, poplar, but primarily green ash.

## Ash Tree Borer

**Appearance.** The adult is a clear-winged moth with wing span of approximately 1 inch. The caterpillar or borer is creamy white and about 3/4 inch long when fully grown.

**Type of damage.** Larvae bore into young trees near the base, weakening the trees so that they may break off in the wind. On lilacs, the borers tunnel under the bark and into the wood, weakening the stems or girdling them and causing the foliage to wilt.

**Plants attacked.** Ash and lilac.

## Bark Beetles

**Appearance.** Larvae are white and legless. They feed on the inner bark and the outside of the wood. Infested trees show galleries on the outside surface of the wood when the bark is removed. Adults are small, brown to reddish beetles, about 1/8 inch in length.

Two important bark beetles in the state are the smaller European Elm Bark Beetle and the native Elm Bark Beetle. Both are carriers of Dutch elm disease, although the European beetle seems to be more important.

**Type of damage.** Some bark beetles attack healthy trees. Others, such as the elm bark beetles, attack trees already weakened from other causes.

Several of the bark beetles that attack conifers are very destructive to mature trees. The Black Hills Beetle and the Western Pine Beetle are responsible for the loss of many conifers.

**Plants attacked.** Elm, hickory, oak, larch, and many of the conifers.

## Control of Insects Attacking Stems, Branches, and Trunks

Tree borers are among the most difficult insect pests to control. When these insects work on the inside of the tree, insecticides will not control them. Keeping trees vigorous helps to prevent borer attacks. Usually, weakened trees are most susceptible. To protect young trees, wrap the bark. This prevents injury or sunscald, which often serve as entry points for the borer.

Remove and burn severely infested trees before May 1. If only certain portions of the tree are infested, the affected limbs and branches should be cut out and destroyed.

Adult borers emerging from the trees in the spring can be controlled with three sprays using Lindane 20% E.C. applying 2 pints per 100 gallons of water. For birch and ash borers, spray trunks and branches around May 20, and follow with two more sprays 3 weeks apart.

A paint, prepared by mixing 1 pound of paradichlorobenzene (PDB) in one quart of soluble pine oil to which 2 quarts of water are added, will give some control of the borers inside the tree. Several commercial mixtures containing PDB are available. Follow label recommendations on application. Apply these paints on a warm day in early spring. Do not allow much liquid to run down the trunk and into the root zone.

Another measure, which may be impractical unless just a few trees are involved, is to inject carbon disulphide into the borer holes to kill feeding borers. The holes must be plugged with putty or caulk following treatment. Take care to keep the material away from fires or sparks as it is highly inflammable. A squirt oil can works as a gadget to apply the carbon disulphide.

Pine tip moths are rather difficult to control with insecticides. Timing of applications is critical, and coverage of all terminals and buds must be complete. Several sprays are usually necessary, starting when the new needles of the pine are about 1/2 the length of the old needles, and again 2 weeks later. Cygon can be used to control this insect. Use this material as directed by the label.

Pitch moths repeatedly infest the same trees. Thus, it is suggested that "brood" trees be removed. If orna-



Fig. 2. Elm bark beetles: European elm bark beetle (left), native elm bark beetle (right)—Courtesy Michigan State University.

mental trees are infested, the larvae can be removed and the wounds treated with a wound dressing. The insecticide spray used for controlling borers will also be effective against pitch moth.

Bark beetle control depends on both sanitation and spraying. Sanitation includes removal of all dead trees and bark, pruning, and removal of all dead branches and fallen logs. Burn the removed wood.

Dormant sprays of methoxychlor have been used successfully in bark beetle control programs. This insecticide may cause undesirable side effects, especially when used at the heavier dosages required for dormant sprays to be effective.

Fertilize and water ornamental plants when necessary to maintain them in a healthy and vigorous condition.

### Attention

All insecticides are poisonous and should be handled accordingly. Do not smoke or eat while spraying. Follow any precautions that are listed on the labels. Wash exposed areas of the skin with soap and water following application of the insecticide. Spray materials should be stored out of the way of children and plainly marked.

In case of accidental poisoning, contact: Poison Control Center, McKennan Hospital, Sioux Falls, S.D., Telephone 605-336-3894.

The use of tradenames does not imply endorsement of one product over another.



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# Pests of Trees and Shrubs

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