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John C. Schread

Pests of ORNAMENTALS
Reports on control experiments

Figure 1. Borer infestation caused this serious injury to the dogwood tree.

Dogwood Borer

Thamnosphecia scitula (Harr.)

The dogwood borer is a serious pest of flowering dogwood (*Cornus florida* L.). Very young trees frequently are killed by the pest and older ones are left reduced in vitality and with dead and dying branches.

Borer-infested trees begin to show swollen, knotty, calloused, or gall-like areas on the trunk, frequently just at or immediately below the surface of the ground, or between the level of the soil and the branches above. Injury may also occur at the union of the trunk and the principal branches or smaller twigs and branches. Young dogwood trees are attacked mostly at the crown.

Adult is a Clear-Wing Moth

The adult dogwood borer (*Thamnosphecia scitula* (Harr.), is a clear-wing moth. It has narrow transparent wings and is blue-black in color with some yellow markings. There is only one generation a year. The adults begin to emerge late in May (in 1961 none had emerged by the 20th) and continue to do so throughout the remainder of the spring and summer months. Adults may appear as late as the end of September. Wallace (2) has reported that the appearance of the first moths will coincide with the beginning of weigela flowering and that they reach their greatest abundance in late June and early July.

Notice

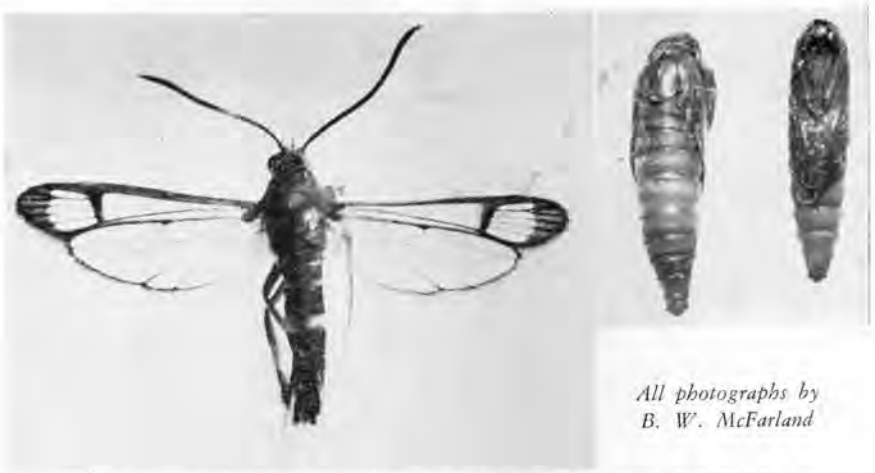
The accompanying publication, printed some years ago, contains descriptions and biological information, and suggestions for control by spraying. It suggests the use of DDT.

Present regulations of the State Board of Pesticide Control restrict use of DDT by custom spray operators for this purpose.

Carbaryl (Sevin®) or lindane may be used to control these pests.

May 1, 1967

THE CONNECTICUT AGRICULTURAL EXPERIMENT STATION



All photographs by B. W. McFarland

Figure 2. Adult is a clear-winged moth; at right, pupal stage of dogwood borer.

Eggs are deposited on both smooth and rough bark, frequently near an injury. The larvae wander around aimlessly until an opening in the bark is reached. They then tunnel in. The free-moving larvae are unable to chew their way through smooth or roughened bark, so they seek an opening of some sort to admit them to the cambium (2). Borers may be found in various stages of development feeding in the bark and cambium throughout most of the year, according to Underhill (1). They do not feed in the sapwood. Winter hibernation occurs in the larval stage with pupation taking place in the spring. Most of the larvae pupate in the tunnels just below the surface of the outer bark. Occasionally, however, one may emerge and drop to the litter or soil around the base of the tree where transformation to the adult stage takes place.

Trees planted 300 yards or more from established infestations were never seriously affected by borers, according to Wallace (2). An infested tree 4 inches in diameter may be killed by a single borer in the course of a season. Under most conditions several borers would be required to kill a large dogwood.

Earlier Control Measures

Control measures used against cambium bark borers have been varied and not always successful. Wrapping the trunk of newly transplanted trees with kraft crepe paper has given some good results in preventing infestation. Wallace (2) prevented entrance by borers into injured bark by painting wounds with shellac or asphalt paint. A report on the control of pear borer in apple trees by Woodside (3), using organic insecticides as bark sprays, indicated that good results were obtained in control of the moths during flight period in new infestations and fair control in established infestations. This suggested use of the materials on dogwood trees.

The experiments were intended to provide information concerning the quickest, simplest, and least expensive method of preventing injury to dogwood trees by borers.

Recent Tests

In tests made between 1952 and 1955 (4), lindane emulsion (4 teaspoonsful to 1 gallon of water) applied to the bark by May 5, killed most of the overwintered larvae. DDT emulsion (2 teaspoonsful to 1 gallon of water) applied to the bark about June 1, July 1, August 1, and September 1, killed all of the larvae hatching during the summer.

In 1961 to 1963, tests were made on 8-year-old pink dogwood trees. In order to insure an infestation, the trees were injured by removal of a piece of bark near the base of each tree. The results of the tests can be summarized as follows.

1. DDT and dimethoate emulsions (2 teaspoonsful to 1 gallon of water) sprayed thoroughly on the bark on May 19, June 7, and June 26, prevented early infestation, but the trees were infested again the following season.

2. Endosulfan emulsion (2 teaspoonsful to 1 gallon of water) applied July 26, killed most of the borers present at the time. It will also kill eggs.

Discussion

The general prevalence of dogwood borers and the ease with which they penetrate injured bark makes control difficult. It is obvious that care should be taken to avoid injuring the bark of dogwood trees to prevent entry of the borers.

Application of lindane emulsion to the bark early in May should kill most of the overwinter larvae. However, at this time many of the borers present have done all the damage they will do.

Spraying the trunk and large branches with DDT once a month from June 1 to September 1, inclusive, has prevented serious injury. Either dimethoate or endosulfan may be used instead of DDT.

Literature Cited

1. UNDERHILL, G. W. 1935. The pecan borer in dogwood. Jour. Econ. Ent. 28: 393-396.
2. WALLACE, P. P. 1945. Biology in control of the dogwood borer, *Thamnosphecia (Synanthedon) scitula* Harris. In Conn. Agr. Expt. Sta. Bull. 488: 373-395.
3. WOODSIDE, A. M. 1952 Pear borer in apple trees. Jour. Econ. Ent. 45: 98-101.
4. SCHREAD, J. C. 1956. Dogwood borer. Conn. Agr. Expt. Sta. Circ. 199.