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SURVEY BULLETIN

AUTHOR FILE

1971

GREAT LAKES FOREST RESEARCH CENTRE
DEPARTMENT OF THE ENVIRONMENT - BOX 490 -

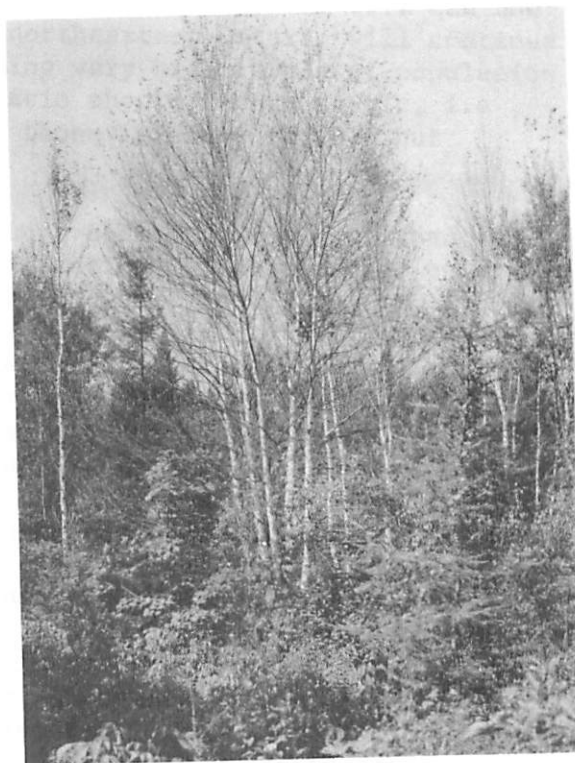
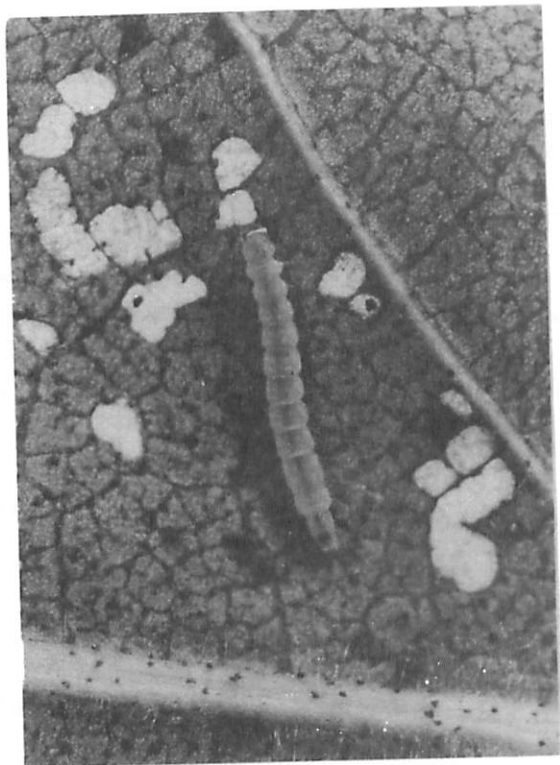
CANADIAN FORESTRY SERVICE
SAULT STE. MARIE, ONTARIO

FOREST INSECT AND DISEASE CONDITIONS IN ONTARIO

SEPTEMBER - OCTOBER 1971

(The third in a series of three bulletins issued annually)

FOREST INSECTS



The larva of the birch skeletonizer *Buccalatrix canadensisella* Cham. is shown above (left) and the kind of defoliation this pest causes in late summer.

located along the International Border from Namakan Lake to Bayley Bay in Fort Frances District and around Gunflint, Granite, Northern Light and Mountain lakes in Thunder Bay District. Much of the area sprayed in 1971 has been reinfested but egg-mass counts are lower and no significant spread outward from infestations in 1971 is evident. Egg-mass counts from the highly susceptible Burchell Lake and Lac des Mille Lacs region show that populations remain low and no noticeable damage is expected in 1972. However, new infestations to the west and north of Burchell Lake, at Atikokan and Upsala, respectively, have been reported.

Birch skeletonizer, *Bucculatrix canadensisella* Chem.

Extensive infestations and the resulting skeletonizing of white birch foliage, caused by the feeding of this pest, became evident in August across the entire breadth of northern Ontario and in most natural stands of birch south to Lake Ontario and Lake Erie. Skeletonized leaves turned brown in late August and fell prematurely in September. Birch trees in the most heavily infested stands were void of foliage by mid-September.

At one time entomologists played down this kind of defoliation because it occurred late in the growing season and therefore was thought to be of little consequence. More recently, however, it has been determined that stands of white birch under attack by the skeletonizer for several consecutive years show first a dying back of branch tips and eventually more serious forms of decline.

Damage was heavy through the Fort Frances and Kenora districts and in the southern half of the Sioux Lookout District. Light to moderate skeletonizing was general over most of the Thunder Bay District. Drought conditions also caused early discoloration of the foliage and leaf-drop in northwestern Ontario and the determination of damage by the insect separate from drought was not possible.

Skeletonizing was severe in numerous stands in the Geraldton and Kapuskasing districts and in the northwestern part of the White River District. In the Cochrane District, infestations were mainly light. Farther south, moderate to heavy infestations extended from Laird Township in Sault Ste. Marie District, east along the North Channel into southern parts of the Sudbury District. A heavy infestation in the southernmost part of the North Bay District persisted in 1971 and increased in size. Skeletonizing was severe in the southern half of the district and light to moderate as far north as Temagami. A sharp upswing of populations and area infested was recorded in the Pembroke District where defoliation ranged from moderate to severe over most of the western half of the district. The northwest corner of the Parry Sound District was similarly affected. In southern Ontario, moderate to heavy infestations occurred on white birch throughout the Lake Simcoe District, on Bruce Peninsula in the Lake Huron District, and in several scattered areas in the Lake Erie District.

Green-striped maple worm, *Anisota rubicunda* Fabr.

A marked upswing in numbers was determined in central Ontario in 1971. Moderate to severe defoliation of sugar maple occurred in the central part of Cockburn Island and in the Tyson Lake area of the Sudbury District. Population levels also increased in the North Bay District where light defoliation interspersed with pockets of severe was found over a sizeable area in the eastern and central portions. Moderate to severe defoliation of maple throughout several townships was caused in the northwest corner of the Pembroke District. Light populations were noted at several locations in the Sault Ste. Marie District.

Introduced pine sawfly, *Diprion similis* (Htg.)

This introduced pest, which showed up for the first time in north-western Ontario in 1970, again caused appreciable defoliation of white pine in an area from the town of Fort Frances eastward to 10 miles beyond Bear Pass and north to Macdonald Inlet. This represents an extension in its eastern and northern limits over 1970. Meanwhile the sawfly remains low in parts of the Lake Huron and Lake Simcoe districts where it has occurred for many years.

White pine weevil, *Pissodes strobi* (Peck)

In addition to reports summarized in the second bulletin, relatively high damage was again recorded in the Sault Ste. Marie District where the incidence of weevilling ranged upwards to 45% in white pine stands in several townships east of Sault Ste. Marie. Weevilling of white and jack pine increased in intensity in the Sudbury District but was much lower on Scots pine than in 1970. Weevil damage was light on white and black spruce at several points in the Geraldton, Kapuskasing and Cochrane districts and heavy in lodgepole pine and white spruce plantations in the Kimberly-Clark limits and Spruce Falls Nursery, respectively.

Redheaded pine sawfly, *Neodiprion lecontei* (Fitch)

Light infestations were again recorded in the vicinity of North Bay and the adjacent township of East Ferris. In the Sudbury District, defoliation was generally light except for a new infestation of medium intensity on the north side of Cockburn Island in Lake Huron. Pockets of moderate to severe defoliation continued for the fourth consecutive year in a 150-acre red pine plantation in Vespra Township in the Lake Simcoe District. A nuclear polyhedrosis virus of the redheaded pine sawfly was introduced into these populations in 1971. Elsewhere, populations remained low and little or no defoliation was recorded. In some districts where the pest has proved to be a persistent problem in the past, not a single colony of larvae could be found.

Birch leaf miner, *Femusa pusilla* (Lepeletier)

Browning of white birch foliage caused by the mining of this insect ranged from light to severe in a number of areas in the southwestern part of the Geraldton District. Damage was severe too on roadside birch at several points in the Sault Ste. Marie District and the gradual but persistent increase in population levels evident in past years continued in the Pembroke and Parry Sound districts. Moderate to severe mining caused birches to appear scorched in several townships in the Lindsay District and in scattered stands in the southeastern part of the Kemptville District.

Saddled prominent, *Heterocampa guttivitta* (Walker)

This pest, which over the past 4 years created some anxiety owing to the amount of defoliation it caused in valuable stands of hardwood, was difficult to find throughout southern Ontario in 1971.

European elm bark beetle, *Scolytus multistriatus* Marsh.

A collection of this introduced vector of Dutch elm disease made in Fenelon Township in the Lindsay District represents a 15-mile northward extension of its distribution in southeastern Ontario. The beetle has also been found at another two locations within the city of Sault Ste. Marie where it was discovered in 1970. The beetle may be surviving the winters in this northern climate by overwintering in brood material on the ground where it is protected against severe cold.

Swaine jack pine sawfly, *Neodiprion swainei* Middleton

Heavy infestations of this sawfly persisted in several areas along the North Bay-Swastika District border although the intensity of attack appeared to be less severe than in 1970. Approximately 3,500 acres have been seriously damaged in three areas, namely, near Makobe and Banks lakes (Wallis and Banks townships) and at Big Boot Lake in Klock Township. A large proportion of the pole-sized jack pine trees under attack have been killed. Severe defoliation of jack pine was also noted on islands and along shorelines in the vicinity of Lady Evelyn, Willow Island and Chris Willis lakes.

In the Sudbury District, heavy infestations persisted on islands in Shakwa Lake and pockets of light defoliation were recorded in Bigwood, Jennings and Hutton townships.

Maple trumpet skeletonizer, *Epinotia aceriella* Clem.

Population increases continued in the Lake Huron District where pockets of moderate to heavy infestations were found in sugar maple stands on Bruce Peninsula and through the central portion of the district. Moderate infestations were also present in the central and northern parts of the Lake Simcoe District, but elsewhere numbers were low.

This insect has not created a major problem in Ontario over the past 20 years; nevertheless, the situation in the areas mentioned earlier will be watched carefully and evaluations made to ascertain impact if defoliation becomes more widespread or more serious in 1972.

Walnut caterpillar, *Datana integerrima* G. & R.

Moderate to severe defoliation of walnut and hickory recurred at several locations in the Kemptville and Tweed districts and some tree mortality resulting from several years of attack was noted in the Smiths Falls area. Except for an occasional tree showing moderate to severe defoliation, populations in the Lake Simcoe District remained low and continued to decline in the Lake Huron and Lake Erie districts.

Larch sawfly, *Pristiphora erichsonii* (Htg.)

Persistently high populations of this sawfly caused moderate to severe defoliation in numerous tamarack stands in northern and central Ontario. The most notable defoliation occurred in the Fort Frances, Kenora, Sioux Lookout, Thunder Bay, Geraldton, Swastika and North Bay districts. In southern Ontario, this pest caused unsightly defoliation in some prized European larch plantations in each of the Lake Simcoe, Lake Huron and Lake Erie districts.

Other noteworthy insects

A general increase in populations of the fall webworm, *Hyphantria cunea* (Drury), was reported in several districts, the most notable being located in southern Ontario.

High numbers of the mountain ash sawfly, *Pristiphora geniculata* (Htg.), were evident in a number of districts not mentioned in the second bulletin, namely, in the southeastern portion of the Geraldton District, the northwestern area of the White River District including Lake Superior Park, and in a number of areas in the Sault Ste. Marie District. Most mountain ash trees within this area showed some evidence of sawfly damage.

Light infestations of the eastern pineshoot borer, *Eucosma gloriola* Heinr., were common through the Lake Huron and Lake Erie districts and

moderate infestations persisted in two areas in the Kemptville District.

The cherry scallop shell moth, *Hydria prunivorata* Ferg., caused severe defoliation to black cherry over a large area in the Durham County Forest in the Lindsay District.

TREE DISEASES

Dutch elm disease, *Ceratocystis ulmi* (Buism.) C. Moreau

The incidence of tree mortality attributed to Dutch elm disease continued to increase in southern and parts of central Ontario. Trees in some areas of southern Ontario which were thought to show signs of resistance to this disease in the past became infected in 1971.

Elm deterioration

Notable deterioration and mortality of elm was observed in the Fort Frances-Rainy River area. Affected trees showed the symptoms of vascular wilt diseases, and some concern has been expressed by interested parties. Samples were submitted to the laboratory for culturing, and a number of fungi were isolated, none of which are known to be phytopathogenic.

Mortality of red oak

Additional tree mortality and top-dying of red oak was noted in the Pembroke District in 1971. A large area in McKay Township adjacent to the area where damage was reported in 1970 registered approximately 45% mortality. This mortality has been attributed mainly to the aftermath of severe infestations of the forest tent caterpillar in the years 1962 to 1967.

Drought and winter drying of pines

In the Fort Frances District, stands of red and white pine or jack pine in a large area stretching from Bear Pass northwesterly to Nestor Falls were heavily damaged. Evaluations carried out at several points within this area showed that pine mortality ranged from 5 to 45%.

Armillaria root rot, *Armillaria mellea* (Vahl ex Fr.) Kummer

Extensive root surveys were conducted in 1971 and this disease was reported in many districts. Tree mortality was thought to have resulted in several districts, namely, Kenora, Sioux Lookout, Geraldton, Sudbury and Lake Simcoe. Tree species infected included white and black spruce, Scots, jack, red and lodgepole pines, as well as cedar.

Exotic tree diseases

Special surveys conducted in southern Ontario for the presence of oak wilt and beech bark disease failed to locate the presence of either disease.

Ink spot of poplar, *Ciborinia whetzellii* (Seaver) Seaver

This disease occurred in a number of districts in 1971; and although in most instances the incidence was relatively high, the majority of areas report a decline in the level of infection.

November 26, 1971

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