



## FOREST INSECT CONDITIONS

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**Spruce Budworm**, *Choristoneura fumiferana* (Clem.)—Populations of the spruce budworm are now the lowest ever recorded in the Province of Quebec. No new infestations were reported in 1963 and numbers decreased in two of the three infestation centres reported last year, i.e. the Shipshaw River and Kedgwick-Mistigougeche-Patapedia infestations.

**Swaine Jack-pine Sawfly**, *Neodiprion swainei* Midd.—No important change was reported in the status of this insect. Sampling was conducted at 60 localities through the Lake St. John, Saguenay, and North Shore of the St. Lawrence River regions. The insect was recorded at all sample points except the Chibougamau Reserve and east of the Manicouagan watershed. A severe infestation was located in Ross Township, Roberval County, and a light to moderate infestation was recorded in Tremblay Township, Chicoutimi County. In other areas the population was low.

**Larch Sawfly**, *Pristiphora erichsonii* (Htg.)—The larch sawfly was still abundant and widespread throughout the Province this year. Numbers increased in the eastern regions whereas a further decline of infestations was noticed in western Quebec. Some decrease was also evident through the central regions of the Province. In areas where tamarack has been severely defoliated in recent years varying degrees of stand decadence were evident. This was particularly

noticeable at sampling stations in the Lavérendrye and Laurentide parks. Mortality was most apparent on trees below 8 inches in diameter. A summary of infestation rating at the 35 localities visited this year is given below:

Region	Number of localities sampled	Degree of infestation			Trend 1963
		Light	Moderate	Severe	
Lavérendrye Park.....	4	4			Decrease
North of Montreal.....	5	5			Decrease
St. Maurice.....	3	2	1		Decrease
Lake St. John Area.....	12	7	3	2	Increase
Laurentide Park and Charlevoix County ..	3		2	1	No change
Quebec Area.....	4		4		Decrease
Southern Quebec.....	3	1	1	1	Decrease
Little North Shore.....	3			3	Increase

**European Spruce Sawfly, *Diprion hercyniae* (Htg.)**—This insect is widely distributed throughout the Province but its numbers again remained at low levels as indicated by larval counts at permanent sampling stations. The highest count of second generation larvae was 4.8 per tree, in a 15-year-old plantation at Ste. Agathe, Lotbinière County. Neither field collections nor insectory rearings showed evidence of the larval virus disease. *Drino bohémica* Mesn. was again the most important parasite; *Exenterus amictorius* Panz. was however recovered more often than in previous years.

**Birch Skeletonizer, *Bucculatrix canadensisella* Cham.**—This insect was reported from all regions, and caused early browning and shedding of the foliage in areas where it was abundant. All species of birch and alder were attacked but white and grey birches are apparently the preferred hosts. In some localities such as in the vicinity of Quebec city, the insect was extremely abundant and all trees showed signs of attack. Counts of cocoons on the underside of the leaves served to rate infestation at 66 localities in areas east of the St. Maurice watershed. The results are presented in the following table.

Region	Number of localities sampled	Number of moulting cocoons per 100 standing leaves	Degree of infestation
St. Maurice.....	16	331	Severe
Lake St. John and Saguenay.....	22	354	Severe
Southern Quebec.....	18	667	Severe
North Shore of St. Lawrence River.....	10	169	Moderate

**Gypsy Moth, *Porthetria dispar* (L.)**—Spraying against the gypsy moth was again carried out in southern Quebec in 1963, under the direction of the Plant Protection Division, Canada Department of Agriculture. An area of approximately 2,000 acres was treated with a water emulsifiable concentrate of Sevin 80S in Huntingdon, Châteauguay, and Missisquoi counties. Field checks revealed that very good results were obtained.

Male moths were recovered at 17 trapping points this summer and eggs were found at 12 of these locations in the fall. The numbers of egg masses ranged from one to several hundred. An aerial spray program covering 2,000 acres in Huntingdon, St-Jean, and Iberville counties is contemplated for the spring 1964.

**Basswood Looper, *Erannis tiliaria* (Harr.)**—This looper occurred on sugar maple stands sampled throughout the Province, but generally in low numbers. Few moderate to severe infestation centres still persisted in the Eastern Townships and in Quebec-Montmorency, Bellechasse, and L'Islet counties. In most of these areas a marked decline in the infestation populations was noted toward the end of the season due to the influence of both parasites and the larval virus disease which have been active in recent years. Eggs were heavily parasitized by a *Telenomus* sp., and larvae by *Phryxe pecosensis* (Tns.). Only a small proportion of the population pupated in most infestation areas and adult emergence was extremely low in the fall. On the basis of these records a further decline of the population is expected in 1964. In infestation areas where the population was reduced by the disease a few years ago the insect could hardly be found during the past summer.

**Bruce Spanworm, *Operophtera bruceata* (Hulst)**—This defoliator of maple, rarely reported in Quebec prior to 1960, occurred in several regions in 1963. In many areas populations reached outbreak proportions and at all points increases in numbers were evident. Infestation centres were located mainly in maple stands of Témiscouata, Rivière du Loup, Rimouski, Matapédia, and Bonaventure counties. Mass rearing of larval material collected in infestation areas revealed that at least in two localities part of the population was affected by a polyhedral virus disease closely related to the one found on the basswood looper. The disease was responsible for a drastic drop in populations of the spanworm at St. Fabien in Rimouski County. The disease was also found in Témiscouata County but due to an early snowfall it was impossible to assess its effectiveness on the basis of adult emergence. In other infestation areas adults emerged in high numbers and infestations are expected to continue next year.

**Fall Cankerworm, *Alsophila pometaria* Harr.**—Small numbers of the fall cankerworm could again be found in most areas where either the basswood looper or the Bruce spanworm was present. However, for the second successive year cankerworms outnumbered other species and caused severe defoliation of basswood and red maple at St. Henri, Lévis County. Prior to 1962 the basswood looper had been prevalent in this area.

**Fall Webworm, *Hyphantria cunea* (Drury)**—Roadside counts of nests of the webworm in southern Quebec were the lowest recorded for a number of years. Outside that region the insect was found in a few localities of Champlain and Berthier-Maskinonge counties and in localized areas of North Montreal and in the Abitibi and Lake St. John regions.

**Ugly-Nest Caterpillar, *Archips cerasivoranus* (Fitch)**—Nests were less abundant in all sampling plots. Occasional nests were found through southeastern Quebec with fairly high numbers at Danville, Richmond-Wolfe County, Point-du-Lac, Trois-Rivières County and St. Elie, St. Maurice-Lafleche County.

**Tent Caterpillars**—No significant change was recorded in the abundance of the forest tent caterpillar, *Malacosoma dissitria* Hbn., and the population remained at a low level. A few colonies were found in a sugarbush at St. Edouard, Berthier County. The eastern tent caterpillar, *Malacosoma americanum* F., was more common this year in localized areas particularly in St. Hyacinthe, Shefford and Brome-Missisquoi counties.

**Birch Leaf Miner, *Fenusa pusilla* (Lep.)**—This leaf miner of grey, white, and yellow birches was widely distributed throughout the Province. Grey birch was the most seriously affected tree species; the miner has three generations a year and in infestation areas up to 75% of the leaves were mined by this insect.

Varying degrees of infestation have been recorded in several regions for a number of years and numerous inquiries are received from various localities every year. Areas of higher infestation in 1963 were located in Quebec and Bellechasse counties and in the St. Maurice watershed.

**Birch Casebearer, *Coleophora salmani* Heinr.**—An infestation of this insect was reported in Témiscouata County, and it was abundant in a few localities in Montcalm County. On the basis of population counts in July and August, the infestation was light to moderate. The insect also occurred in several other regions and as far north as Chibougamau, Abitibi-East County.

## OTHER NOTEWORTHY INSECTS

Insect	Host(s)	Locality	Remarks
<i>Acrobasis betulella</i> Hlst. Birch tube maker.....	Birch, white yellow wire	Central Quebec	Quite common since 1961.
<i>Acrionicta leporina</i> Linn. A phalaenid	Birch, white	Montmorency County	First survey record.
<i>Adelges abietis</i> Linn. Eastern spruce gall aphid	Spruce, black	Aux Outardes and Manicouagan watersheds	More abundant than in previous years.
<i>Brachyrhinus ovalis</i> (L.) Strawberry root weevil	Pine, red	Harrington Farm, Argenteuil County	Moderate infestation on red pine seedlings.
<i>Caulocampus acericaulis</i> MacG. Maple petiole borer	Maple, sugar	Dorchester and Lévis counties	Quite abundant in localized areas.
<i>Cenopsis pettilana</i> (Rob.) A leaf roller	Maple, sugar Beech Basswood	Southern Quebec	Common in sugar bushes. No serious damage.
<i>Choristoneura rosaceana</i> Harr. Oblique-banded leaf roller	Several hardwoods, especially sugar maple	Southern Quebec	Common for a number of years.
<i>Cinara banksiana</i> P. and T. An aphid	Pine, jack	Laviolette County	First survey record.
<i>Cinara canadensis</i> H. & B. An aphid	Cedar	L'Islet County	First survey record.
<i>Cinara pergandei</i> (Wilson) An aphid	Pine, jack	Drummond and Lévis counties	First survey record.
<i>Corthylus punctatissimus</i> Zimm. Pitted ambrosia beetle	Maple	Rocburn, Champlain County	Moderate infestation.
<i>Epirrita autumnata henshawi</i> Sw. Green velvet looper	Maple, mountain Beech	Portneuf County	Second survey record.
<i>Eriosoma crataegi</i> Oest. Hawthorn aphid	Hawthorn	Quebec area	First survey record.
<i>Gonioclema americana</i> (Schaefer). American aspen beetle	Aspen, trembling	Berthier County	Common on this tree species year after year.
<i>Lithophane innominata</i> Sm. An owl-moth	Maple, sugar Basswood	Lévis and L'Islet counties	Relatively abundant this year. Rare in past survey records.
<i>Macrosiphum coryli</i> Davis An aphid	Hazel	Quebec area	First survey record in 1962.
<i>Matsucoccus macrocicatricis</i> Richards A scale insect	Pine, white	Montmorency County	First survey record.
<i>Morrisonia confusa</i> Hbn. A phalaenid	Maple, sugar	Bellechasse County	First survey record.
<i>Myzus cerasi</i> (L.) Black cherry aphid	Cherry, pin	Quebec area	First survey record.
<i>Neodiprion virginianus</i> complex Red-headed jack-pine sawfly	Pine, jack	Charlevoix County	Small numbers present in jack-pine stands throughout the area. No important defoliation.
<i>Pandemis lamprosa</i> Rob. A tortricid	Maple, sugar Basswood	Eastern Townships	Common again this year.

## FOREST INSECT AND DISEASE SURVEY 1963

## OTHER NOTEWORTHY INSECTS—Concluded

Insect	Host(s)	Locality	Remarks
<i>Petrova albicapitana</i> Busck Pitch nodule maker	Pine, jack	Charlevoix, Lac St-Jean, Roberval and Saguenay counties	Found occasionally throughout these areas.
<i>Physokermes piceae</i> Schr. Spruce bud scale	Spruce, black	Saguenay County	Commonly found in some wood- sheds.
<i>Pikonema dimmockii</i> (Cress.) Green-headed spruce sawfly	Spruce, white	Southern Quebec	Common in spruce stands. No important damage.
<i>Pissodes strobi</i> Peck White-pine weevil	Pine, white	Gatineau County	Severe infestation on young growing regeneration throughout this area.
<i>Pontania bosemani</i> (Cooley) Poplar leaf-folding sawfly	Aspen, trembling Poplar, balsam	Bonaventure and Brompton counties	Rare in survey records.
<i>Pristiphora geniculata</i> (Htg.) Mountain-ash sawfly	Mountain-ash	Province in general	Common for a number of years. serious defoliation in several localities.
<i>Prociphilus tessellata</i> Fitch. Wooly alder aphid	Maple, sugar Alder	St. Maurice and Stanstead counties	First record since 1943
<i>Rhabdophaga swainei</i> Felt Spruce bud midge	Fir, balsam	Joliette County	Common in this area.
<i>Rhyacionia buoliana</i> Schiff. European pine shoot moth	Pine, Mugho	Montreal and Plessisville	Population relatively low for the past few years.
<i>Schizolachnus piniradiatae</i> (Davidson) An aphid	Pine, red	Quebec area	Very abundant in some localities.
<i>Sciaphila duplex</i> Wlsh. Poplar leaf roller	Aspen, trembling	Southern Quebec	Common this year. Rare in survey record.
<i>Stilpnotia salicis</i> L. Satin moth	Poplar	Missisquoi and Rimouski counties	Infestation in localized areas.