

Status of Insects in the Gogama  
District

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Information Report                      O-X-17  
(Forest Research Laboratory, Ontario Region)

## FOREWORD

J. E. MacDonald

Outbreaks of the forest tent caterpillar have highlighted reports dealing with forest insect surveys for the past several years. In 1965, the outbreak in Western Ontario reached its peak and poplar stands within an area of about 34,000 square miles were severely defoliated. Egg surveys in the fall revealed that a marked decline in infestation intensity will occur in Sioux Lookout and Kenora districts but high larval populations will persist in Fort Frances and Port Arthur districts in 1966. Trends in infestation intensities will vary from area to area in eastern Ontario, with the most noteworthy increase in the extent of infestations occurring in the Lake Nipissing outbreak.

The development of new infestations of Bruce spanworm and the European pine sawfly were of particular interest in 1965. Infestations of the former occurred in Sault Ste. Marie, Sudbury and Pembroke districts. Severe defoliation of hardwoods that resulted in relatively large areas represented first records of extensive infestations in Ontario. A major extension in the known distribution of the European pine sawfly was recorded when the insect was found in two Scots pine plantations on Manitoulin Island. This extension places the insect much closer to major stands of jack pine in northern Ontario.

For the third consecutive year low temperatures in the spring caused considerable mortality of the current year's shoots of balsam fir and white spruce at many locations in Ontario. Continued cold weather throughout the summer delayed the development of many insects and in some instances larvae failed to reach maturity before freezing temperatures occurred in the fall.

Tree disease surveys continued to reveal serious losses of white elm resulting from Dutch elm disease in southern Ontario. In northern Ontario two centers of infection occurred on Manitoulin Island and infected elm were found at one location near Spanish on the North Shore of Lake Huron. Intensive surveys to determine the distribution and incidence of this disease will be continued in 1966.

During the early years of the Survey in Ontario Field Technicians were largely concerned with determining the distribution and abundance of forest insects and appraising losses in forest stands. As a consequence the detection aspect of survey work was of a high order. Later, added responsibility for disease surveys and the development of more elaborate sampling procedures, reduced the time available for purely detection work. To compensate for this, greater emphasis has been placed on systematic aerial reconnaissance throughout the vast forested areas of central and northern Ontario.

The Survey welcomed the addition of a Forest Research Technician to its staff in 1965. This appointment now provides one field representative for each district in the Southeastern Region where formerly three men were responsible for survey work in four districts.

In the reports that follow, insects and tree diseases that are of interest in adjoining districts are dealt with on a regional basis. Others are dealt with in detail on a district basis.



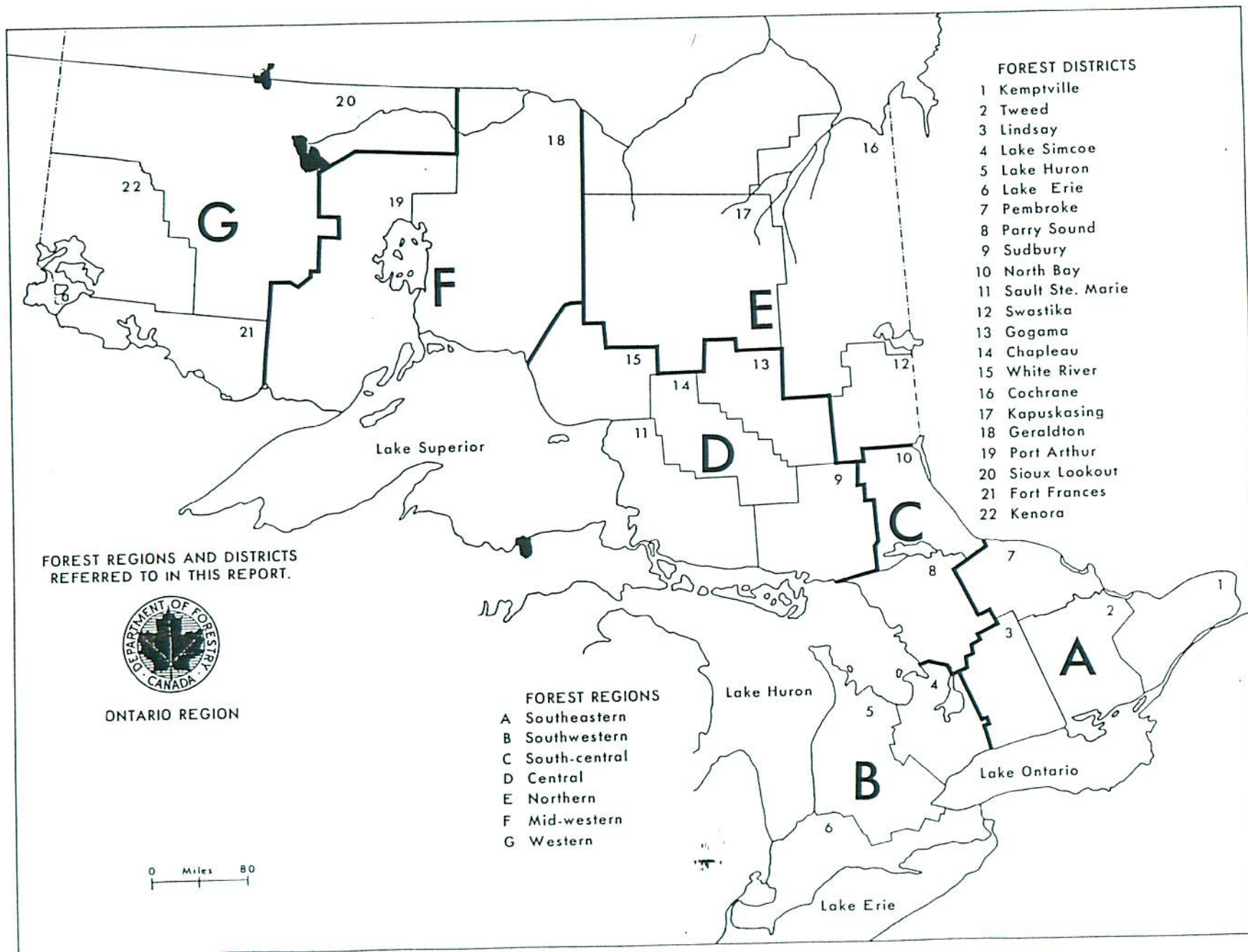


TABLE OF CONTENTS

REPORTS OF FOREST RESEARCH TECHNICIANS

Ontario	Page
Foreword, J. E. MacDonald	
A. <u>SOUTHEASTERN FOREST REGION</u>	<u>A1-50</u>
Lindsay District, W. J. Miller* .....	A 11
Tweed District, F. Livesey .....	A 22
Kemptville District, J. Hook .....	A 33
Pembroke District, H. J. Weir .....	A 41
B. <u>SOUTHWESTERN FOREST REGION</u>	<u>B1-49</u>
Lake Simcoe District, A. A. Harnden* .....	B 16
Lake Huron District, R. L. Bowser .....	B 29
Lake Erie District, J. R. Trinnell .....	B 39
C. <u>SOUTH-CENTRAL FOREST REGION</u>	<u>C1-24</u>
North Bay District, L. S. MacLeod* .....	C 5
Parry Sound District, C. A. Barnes .....	C 14
D. <u>CENTRAL FOREST REGION</u>	<u>D1-56</u>
Sault Ste. Marie District, H. G. McPhee* .....	D 13
Sudbury District, J. R. McPhee .....	D 20
Chapleau District, D. Ropke .....	D 29
Gogama District, R. A. Trieselmann .....	D 38
White River District, D. C. Constable .....	D 50
E. <u>NORTHERN FOREST REGION</u>	<u>E1-42</u>
Cochrane District, H. R. Foster* .....	E 8
Kapuskaing District, G. T. Atkinson .....	E 20
Swastika District, M. J. Applejohn .....	E 32
F. <u>MIDWESTERN FOREST REGION</u>	<u>F1-27</u>
Port Arthur District, K. C. Hall* .....	F 8
Geraldton District, V. Jansons .....	F 19
G. <u>WESTERN FOREST REGION</u>	<u>G1-40</u>
Sioux Lookout District, P. E. Buchan* .....	G 13
Kenora District, G. G. Jackson .....	G 23
Fort Frances District, M. J. Thomson .....	G 33

Photographs

\* Regional Supervisors

1965

Information Report No.	Subject	Author
O-X-5	Forest Insect & Disease Surveys	
	--Lindsay District	W. J. Miller
O-X-6	--Tweed District	F. Livesey
O-X-7	--Kemptville District	J. Hook
O-X-8	--Pembroke District	H. J. Weir
O-X-9	--Lake Simcoe District	A. A. Harnden
O-X-10	--Lake Huron District	R. L. Bowser
O-X-11	--Lake Erie District	J. R. Trinnell
O-X-12	--North Bay District	L. S. MacLeod
O-X-13	--Parry Sound District	C. A. Barnes
O-X-14	--Sault Ste. Marie District	H. G. McPhee
O-X-15	--Sudbury District	J. R. McPhee
O-X-16	--Chapleau District	D. Ropke
O-X-17	--Gogama District	R. A. Trieselmann
O-X-18	--White River District	D. C. Constable
O-X-19	--Cochrane District	H. R. Foster
O-X-20	--Kapuskasing District	G. T. Atkinson
O-X-21	--Swastika District	M. J. Applejohn
O-X-22	--Port Arthur District	K. C. Hall
O-X-23	--Geraldton District	V. Jansons
O-X-24	--Sioux Lookout District	P. E. Buchan
O-X-25	--Kenora District	G. G. Jackson
O-X-26	--Fort Francis District	M. J. Thomson



# STATUS OF INSECTS IN THE GOGAMA DISTRICT

Page

D 38	<i>Archips cerasivoranus</i> (Fitch)	Ugly-nest Caterpillar.....
D 38	<i>Arga</i> sp.	Birch Sawfly.....
D 38	<i>Bucculatrix canadensisella</i> Champ.	Birch Leaf Skeletonizer.....
D 39	<i>Cinara canatra</i> H. & B.	An Aphid on Jack-pine.....
D 39	<i>Conophthorus</i> sp.	A Bark Beetle in Jack-pine Twigs.....
D 39	<i>Diprion hercyniae</i> (Htg.)	European Spruce Sawfly.....
D 40	<i>Eucosma floridola</i> Heinr.	White Pine Shoot Borer.....
D 40	<i>Gonioctena americana</i> (Schaeff.)	American Poplar Leaf Beetle.....
D 41	<i>Gracillaria alnivorella</i> Cham.	A Leaf Folder on Alder.....
D 41	<i>Gretchena semialba</i> McD.	A Bud Miner on Alder.....
D 41	<i>Hyphantria cunea</i> Dru.	Fall Webworm.....
D 42	<i>Lithocolletis salticoides</i> Champ.	Aspen Blotch Miner.....
D 43	<i>Malacosoma pluviale</i> (Dyar)	Western Tent Caterpillar.....
D 44	<i>Neodiprion abietis</i> complex	Balsam-fir Sawfly.....
D 44	<i>Neodiprion nanulus</i> nanulus Schedl.	Red-pine Sawfly.....
D 45	<i>Neodiprion virginianus</i> complex	Red-headed Jack-pine Sawfly.....
D 45	<i>Phyllocolpa</i> spp.	Leaf-folding Sawflies on Poplars & Willows
D 46	<i>Pteronera borealis</i> Felt	Balsam-fir Shoot Sawfly.....
D 46	<i>Proctiphilus tessellatus</i> (Fitch)	Alder Woolly Aphid.....
D 46	<i>Protenusa thomsoni</i> (Konow)	Amber-marked Birch Leaf Miner.....
D 47	<i>Pseudexentera oregonana</i> Wlshnm.	A Leaf Roller on Trembling Aspen.....
D 48	.....	Summary of Miscellaneous Insects Collected.....

R. A. Triseselmann







Ugly-nest Caterpillar, Archips cerasivoranus (Fitch)

Lightly infested clumps of choke-cherry, mainly along roadsides and lakeshores, were observed at many locations in the district. Occasional colonies occurred on pin-cherry and willow at widely scattered points. Population levels increased slightly at sample locations (Table 5).

TABLE 5

Summary of Ugly-nest Caterpillar Colony Counts  
in the Gogama District from 1962 to 1965

Location (township)	Host	No. of colonies per square chain plot			
		1962	1963	1964	1965
Gouin	W	-	6	2	2
Groves	pCh	0	1	0	1
Ivanhoe	cCh	-	7	3	4
Jack	cCh	36	5	1	4
Kelvin	cCh	17	2	0	2

Birch Sawfly, Arge sp., formerly Arge pectoralis (Leach)

Population levels of this insect were lower than in 1964. Several pockets of light infestation occurred in parts of Burrows, Kelvin, Kemp, and Mond townships. Scattered groups of white birch were lightly infested at a few locations in the northeastern part of Cabot and Togo townships. Occasional colonies were observed in Ivanhoe and Pinogami townships near the shore of Ivanhoe Lake in Division 68.

Birch Skeletonizer, Bucculatrix canadensisella Chamb.

Infestations declined generally to light intensity in 1965. However, moderate to severe defoliation occurred on small pockets of white birch at numerous locations in Kenogaming, Lemoine, Montcalm, and Silk townships in Division 68, and in Groves, Natal, and Togo townships in Division 72 (see map).

Light to moderate skeletonizing of the foliage of occasional clumps of alder, hazel, and yellow birch occurred at points where white birch was heavily infested (Table 6).

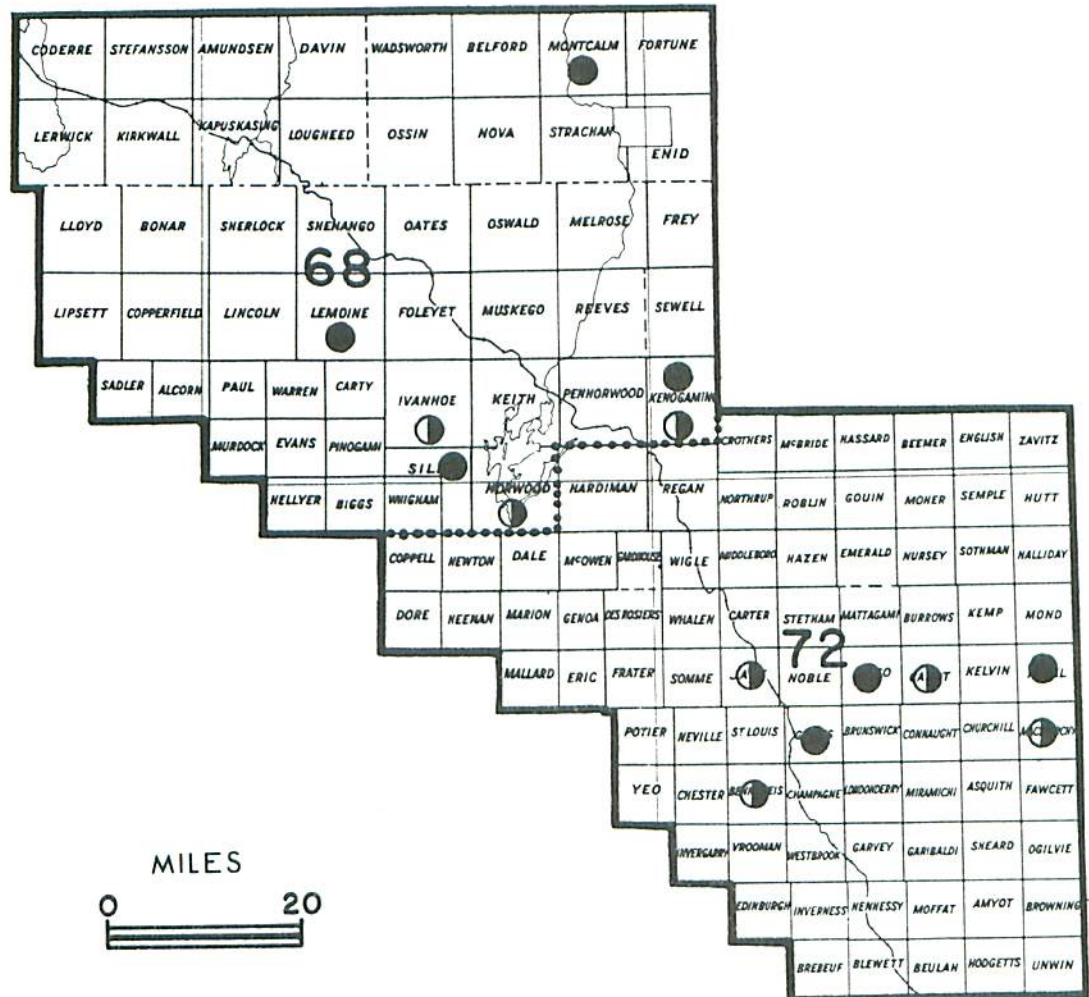
TABLE 6

Summary of Birch Skeletonizer Larval Counts at Ten Locations  
in the Gogama District in 1964 and 1965

Location (township)	Host	D.b.h. of sample trees in inches	Per cent leaves infested		Av. no. of larvae per leaf	
			1964	1965	1964	1965
Cabot	wB	2	100	71	5.9	1.9
Horwood	wB	3	98	17	2.7	1.3
Ivanhoe	wB	3	61	29	3.1	1.1
MacMurchy	wB	3	96	78	2.7	2.1
Middleboro	wB	6	94	12	1.7	1.2
Middleboro	yB	12	-	1	-	1.1
Montcalm	wB	7	100	16	3.7	1.1
Pinogami	wB	7	74	21	1.9	1.1
Silk	wB	1	84	11	2.7	1.6
Sothman	wB	1	100	27	11.2	1.4



# GOGAMA DISTRICT



## BIRCH SKELETONIZER

Townships in which pockets of medium and heavy infestation were observed in 1965

### Legend

Medium infestation..... ◐  
Heavy infestation..... ●

An Aphid on Jack-pine, Cinara canatra H. & B.

A light infestation of this aphid was observed north of Cabot Lake in Cabot Township, Division 72. Ninety-two per cent of regeneration and planted jack pine averaging three feet in height were infested in an area of nearly 100 acres. Each of the stems of the infested trees supported one large colony of approximately 150 aphids.

A Bark Beetle in Jack-pine Twigs, Conophthorus sp.

Population levels increased somewhat and damage, mainly on regeneration and small trees, was more widespread than in 1964. Areas of light infestation occurred in Benneweis, Champagne, Jack, Noble, Vrooman, and Westbrook townships in Division 72 and in Horwood Township in Division 68. Groups of lightly infested jack pine were observed at numerous points (Table 7).

TABLE 7

Summary of Jack-pine Shoot Damage by Conophthorus sp.  
in the Gogama District in 1964 and 1965

Location (township)	No. of trees examined	Av. d.b.h. in inches	Av. height in feet	No. of infested trees		No. of infested shoots		No. of infested leaders	
				1964	1965	1964	1965	1964	1965
Benneweis	100	1/2	6	2	7	6	41	0	0
Garvey	100	2	12	5	8	12	53	0	0
Horwood	50	2	11	1	5	4	29	0	0
Jack	100	4	15	7	14	21	69	1	1
Vrooman	50	2	11	2	6	3	22	0	0
Westbrook	100	3	13	19	36	64	189	1	0

European Spruce Sawfly, Diprion hercyniae (Htg.)

Population levels of the European spruce sawfly declined. Small numbers of larvae occurred on black spruce and white spruce at a few widely-scattered locations in Division 72. The decline in numbers was reflected in quantitative sampling (Table 8).

TABLE 8

Summary of European Spruce Sawfly Larval Counts in September  
in the Gogama District from 1962 to 1965

Location (township)	Host	Av. d.b.h. of sample trees in inches	Total no. of larvae per 15-tray sample			
			1962	1963	1964	1965
Benneweis	wS	10	3	1	7	0
Jack	bS	4	5	1	4	1
Jack	wS	10	12	9	14	0
Noble	wS	12	27	6	0	3
Stetham	wS	17	6	4	5	0



White-pine Shoot Borer, Eucosma gloriola Heinr.

Pockets of light to medium infestation on small jack pine trees persisted in Garvey, Vrooman, and Westbrook townships in Division 72. Fewer leaders were killed than in recent years (Table 9). No infested lateral shoots were observed.

TABLE 9

Summary of White-pine Shoot Borer Damage on Jack Pine  
in the Gogama District from 1963 to 1965

Location (township)	Av. d.b.h. of sample trees in inches	Av. height of sample trees in feet	No. of infested leaders per 100-tree sample		
			1963	1964	1965
Garvey	2-1/2	13	19	14	11
Vrooman	1	7	1	2	1
Westbrook	1-1/2	9	14	9	6

American Poplar Leaf Beetle, Gonioctena americana (Schaeff.)

Areas of light and medium infestation of this insect were observed in a large part of the Gogama District. Pockets of moderate to severe defoliation occurred at many points, particularly in the eastern parts of Divisions 68 and 72. The American poplar leaf beetle was associated with a leaf roller, Pseudexentera oregonana Wlsh., at numerous locations in Division 72 (see Table 10 and map).

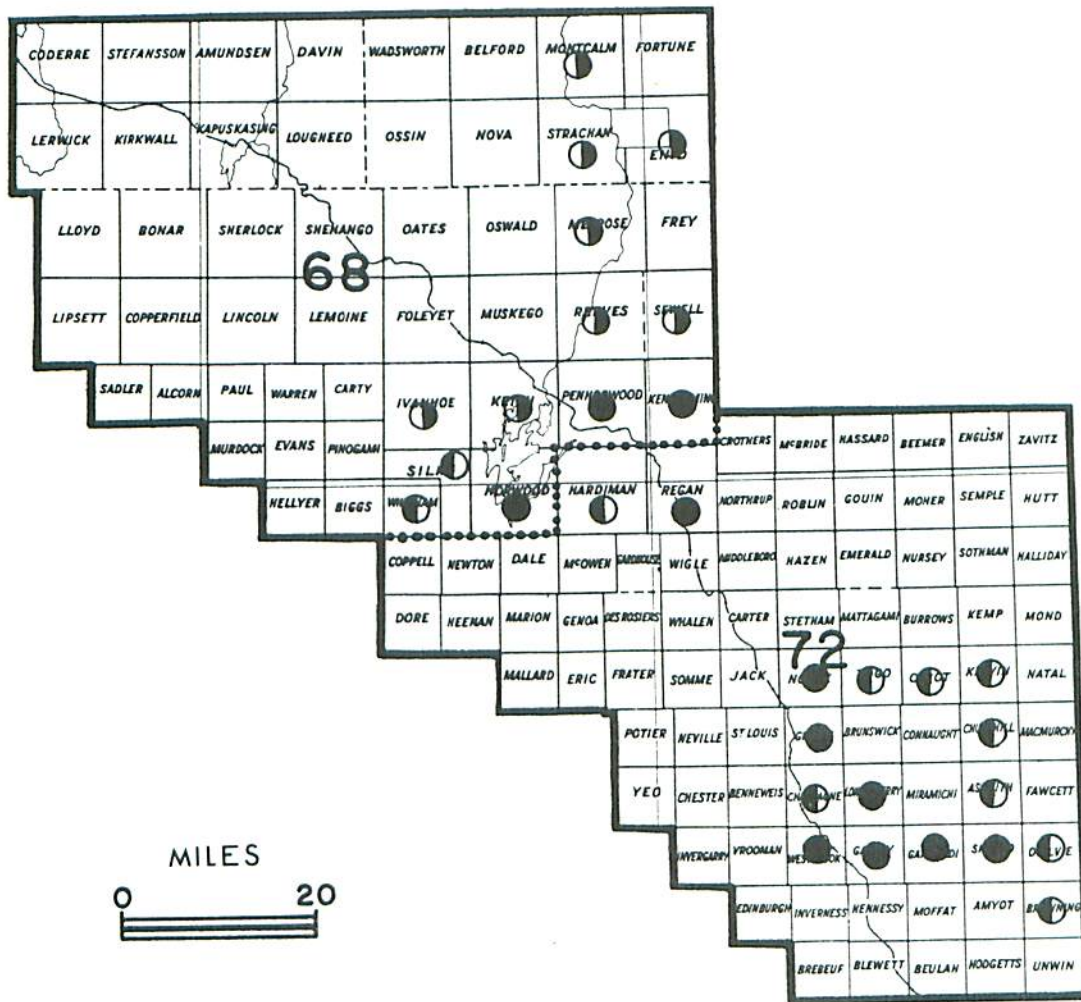
TABLE 10

Summary of Estimates of Leaf Damage on Trembling Aspen Caused  
by the American Poplar Leaf Beetle at Twelve Locations  
in the Gogama District in 1965

Location (township)	D.b.h. of sample trees in inches	Per cent defoliation	Degree of infestation	Clumps Pockets Areas
*Garvey	2	5	L	A
*Groves	1/2	15	L	P
Horwood	1/2	15	L	A
Ivanhoe	1	40	M	A
Montcalm	2	10	L	A
Noble	1	15	L	C
Noble	2	70	H	P
Penhorwood	1/2	10	L	P
*Regan	1	10	L	P
*Regan	8	20	M	P
*Westbrook	2	20	M	A

\* Gonioctena americana and Pseudexentera oregonana occurring in association at these locations.

# GOGAMA DISTRICT



TWO DEFOLIATORS ON TREMBLING ASPEN,  
Gonioctena americana (Schaeff.) and  
Pseudexentera oregonana Wlshm.

Townships in which infestations were  
observed in 1965

G. americana..... ☐  
P. oregonana..... ☐  
Both G. americana and P. oregonana..... ☒



A Leaf Roller on Alder, Gracillaria alnivorella Cham.

Small pockets of light infestation of this leaf roller on alder were observed at several locations in the central and eastern parts of Division 72. Population levels were somewhat lower than in recent years, the percentage of rolled leaves ranging from four to nine, compared with 27 to 29 per cent at two locations in 1964. Green alder, which occurs less commonly in the Gogama District than speckled alder was the preferred host plant.

A Bud-miner on Alder, Gretchena semialba McD.

A considerable increase in population levels of this bud-miner occurred on alder in 1965. Pockets of light to moderate infestation occurred in Benneweis, Mattagami, and Noble townships in Division 72, and in Carty and Silk townships in Division 68. Approximately 20 per cent of the terminal buds of green alder and speckled alder were damaged at these points. Numerous clumps of lightly infested alder were observed throughout the remainder of the district. Only small numbers of larvae were observed in 1964.

Fall Webworm, Hyphantria cunea Dru.

A further decline in population levels of this webworm occurred in 1965. Small numbers of colonies were observed in Coppell, Ivanhoe, Silk, and Whigham townships in Division 68, and in Jack and Noble townships in Division 72. Larval development was erratic, possibly due to unsettled weather conditions during the season, and newly-hatched colonies were observed from early in July to the end of August (Table 11).

TABLE 11

Summary of Fall Webworm Colony Counts in the Gogama District  
from 1963 to 1965

Location (township)	Host	Sampling unit	Number of colonies		
			1963	1964	1965
Gouin	pCh	1 mile roadside	2	0	0
Groves	Al	1 mile roadside	5	1	0
Ivanhoe	cCh	1 square chain	-	-	4
Jack	pCh, W	1 square chain	4	3	2
Jack	Al	1 mile roadside	2	0	0
Noble	pCh, wB	1 mile roadside	3	2	2
Silk	pCh, W	1 mile roadside	7	9	2
Whigham	pCh, wB	1 mile roadside	-	-	8

Aspen Blotch Miner, Lithocolletis salicifoliella Chamb.

Despite a noticeable decline in population levels, a large area of light to heavy infestation persisted in approximately 50 townships in the central part of the district. Considerable leaf damage was observed on trembling aspen regeneration and small trees on exposed sites at many locations (Table 12). Only occasional infested leaves were found in the eastern part of Division 72 (see map).

The results of foliage sampling at ten locations in 1964 and 1965 are summarized in Table 13.

TABLE 12

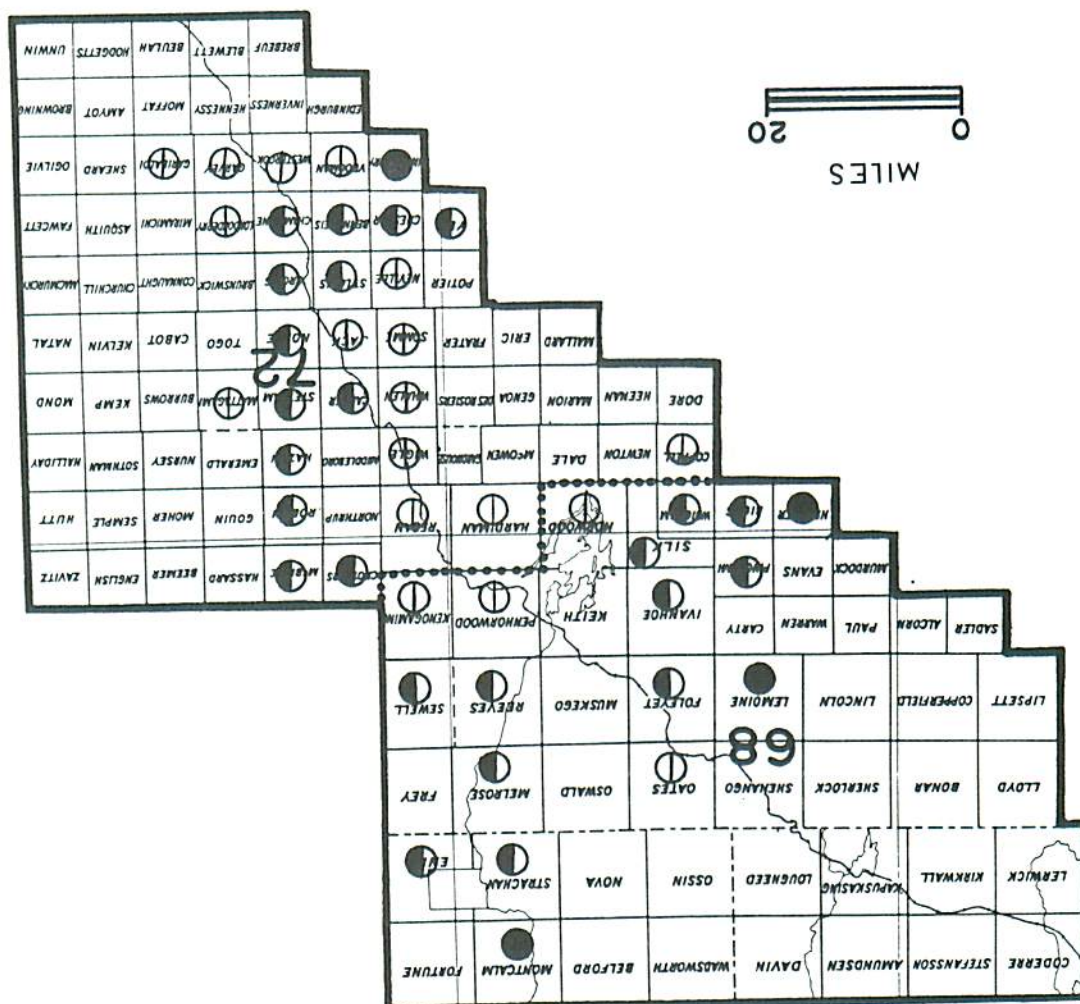
Summary of Leaf Damage Caused by the Aspen Blotch Miner  
in the Gogama District in 1964 and 1965  
Based on Samples of 100 Leaves  
at 13 Typical Locations

Location (township)	Per cent leaves infested		No. of mines per infested leaf		Av. no. of mines per leaf	
	1964	1965	1964	1965	1964	1965
Carter	58	47	3.1	1.5	1.80	.72
Champagne	22	18	1.1	1.4	.25	.31
Coppell	91	12	4.1	1.3	3.71	.16
Garibaldi*	3	1	1.0	1.0	.03	.01
Hellyer	82	73	3.9	4.2	3.20	3.05
Invergarry	57	79	1.6	2.1	.92	1.69
Lemoine	94	78	2.2	4.9	2.11	3.82
Mattagami*	6	2	1.1	1.3	.06	.03
Montcalm	49	41	1.6	1.4	.78	.57
Oates	64	16	1.5	2.3	.97	.36
Pinogami	82	48	6.0	2.1	4.90	1.03
St. Louis	43	35	1.4	1.5	.58	.54
Silk	67	67	2.0	3.5	1.36	2.32

\* Based on 1,000 leaves to insure greater accuracy.



# GOGAMA DISTRICT



ASPEN BLOTCH MINER

Townships in which infestations were observed in 1965

Legend

- ..... Heavy Installation
- ◐ ..... Medium Installation
- ⦶ ..... Light Installation

Summary of Larval Mortality and Adult Emergence of the Aspen  
Blotch Miner Based on the Examination of 100  
Infested Leaves at Each Location  
in the Gogama District  
in 1964 and 1965

Location (township)	No. of mines examined		Parasitism				Fungus		Canni- balism		Preda- tion		Emerg- ence		Un- known*	
			Early		Late											
			instar	instar	instar	instar										
	64	65	64	65	64	65	64	65	64	65	64	65	64	65	64	65
Carter	325	171	249	125	12	10	2	0	8	19	18	7	9	5	27	5
Coppell	398	133	176	62	57	44	3	5	30	8	17	5	29	3	86	6
Hellyer	388	405	105	187	152	125	3	12	11	50	24	10	27	1	66	20
Invergarry	169	214	108	163	31	20	9	2	6	12	2	2	8	6	5	9
Lemoine	234	460	43	161	116	213	6	8	16	56	25	7	26	11	2	4
Mattagami	104	118	46	54	15	20	0	0	0	7	3	5	2	18	38	14
Oates	146	178	12	113	53	21	5	2	6	25	9	1	19	9	42	7
Pinogami	603	194	98	109	243	31	12	3	54	32	13	3	181	13	2	3
St. Louis	157	142	65	69	33	37	5	0	1	9	10	1	20	16	23	10
Silk	201	319	59	105	60	132	7	8	13	53	7	11	35	7	20	3
Total	2725	2334	961	1148	772	653	52	40	145	271	128	52	356	89	311	81

\* 97 per cent of these refer to failure to complete the first instar.

Western Tent Caterpillar, Malacosoma pluviale (Dyar)

Lightly to moderately infested shrubbery along roadsides and in clearings, occurred at numerous locations in the district. The preferred host was pin-cherry, but occasional trembling aspen, white birch regeneration and willow were infested. Changes in population levels at sample stations are shown in Table 14.

TABLE 14

Summary of Western Tent Caterpillar Colony Counts  
in the Gogama District from 1962 to 1965

Location (township)	Host	No. of colonies per 1 measured mile of roadside			
		1962	1963	1964	1965
Kelvin	W	1	12	17	8
Mattagami	pCh, W	3	2	8	3
Noble	pCh	3	11	18	2
Roblin	pCh	17	19	14	11
Silk	pCh	-	11	22	18
Togo	pCh	2	5	11	4



Balsam-fir Sawfly, Neodiprion abietis complex

A decline in population levels of this sawfly occurred in 1965. Groups of pole-size white spruce were lightly infested in Jack and Zavitz townships in Division 72 and small numbers of larvae were collected from scattered trees at numerous points elsewhere in the district. Defoliation of balsam fir, black spruce, and white spruce was negligible at all locations (Table 15).

TABLE 15

Summary of Balsam Fir Sawfly Larval Counts  
in the Gogama District from 1962 to 1965

Location (township)	Host	Av. d.b.h. of sample trees in inches	Total no. of larvae per 15-tray sample			
			1962	1963	1964	1965
Benneweis	wS	11	0	4	9	0
Jack	wS	13	0	3	6	1
Jack	bF	6	-	5	12	11
St. Louis	bS	3	0	2	3	2

Red-pine Sawfly, Neodiprion nanulus nanulus Schedl.

Population levels of the red-pine sawfly declined in 1965. Groups of jack pine and red pine trees were lightly infested at several locations in the district. Defoliation was negligible at all sample points (Table 16).

TABLE 16

Summary of Red-pine Sawfly Colony Counts in the Gogama District  
from 1963 to 1965

Location (township)	Host	Av. d.b.h. of sample trees in inches	Av. no. of colonies per 10-tree sample		
			1963	1964	1965
Foleyet	rP	4	-	7.2	1.1
Hodgetts	jP	4	.3	.5	.2
Invergarry	jP	6	-	.3	.1
Ivanhoe	rP	6	-	.4	.2
Jack	jP	6	.2	.3	0
Mattagami	rP	2	-	.7	0
Noble	jP	6	4.6	2.2	.4

Red-headed Jack-pine Sawfly, Neodiprion virginianus complex

This insect occurred in larger numbers and at more locations than in recent years. Small pockets of light infestation were observed in many stands of small jack pine (see photograph). In Ivanhoe Township larvae were also collected from red pine, an exceedingly unusual host, adjacent to an infested stand of jack pine (Table 17).

TABLE 17

Summary of Red-headed Jack-pine Sawfly Colony Counts  
in the Gogama District in 1965

Location (township)	Host	Av. d.b.h. of sample trees in inches	Av. no. of colonies per each of ten trees	Degree of infestation
Benneweis	jP	2	1.1	L
Chester	jP	3	.7	L
Foleyet	jP	2	1.1	L
Groves	jP	2	4.7	L
Ivanhoe	jP	2	3.4	L
Ivanhoe	rP	2	.4	L
Jack	jP	4	1.3	L
Silk	jP	1/4	1.5	L

Leaf-folding Sawflies on Poplars and Willow, Phyllocolpa spp. formerly Nematus spp.

Greatly increased population levels of this sawfly caused light to severe leaf damage at numerous points in the district. The principal host was trembling aspen but balsam poplar and willow were also attacked. A small stand of pole-size trembling aspen in Groves Township and scattered clumps of trembling aspen regeneration in Biggs and Unwin townships were moderately to severely damaged. Small pockets of light infestation, mainly on exposed sites on rocky points, lakeshores, and small islands were observed at many other locations in the district (Table 18).

TABLE 18

Summary of Leaf-folding Sawfly Counts at Ten Locations  
in the Gogama District in 1965

Note: Counts are based on the examination of 100 leaves taken at random from each of three trees at each location.

Location (township)	Host	Av. height of sample trees in feet	Per cent of leaves folded	Av. no. of folds per leaf
Biggs	tA	8	59	1.2
Groves	tA	16	74	1.4
Ivanhoe*	bPo	8	9	1.1
Ivanhoe*	tA	12	7	1.2
Ivanhoe*	W	5	3	1.0
Pinogami	bPo	6	19	1.1
St. Louis	tA	14	19	1.2
Silk*	bPo	7	9	1.2
Silk*	tA	9	12	1.1
Unwin	tA	8	68	1.4

\* taken in the same stand.



Balsam Shoot-boring Sawfly, Pleroneura borealis Felt.

Population levels of this insect increased sharply compared with 1964 when only small numbers of larvae survived low temperatures which coincided with the opening of balsam fir buds. Small pockets of balsam fir regeneration and pole-size trees were lightly to moderately damaged at many locations in the district, principally in Division 72 (Table 19).

TABLE 19

Summary of Balsam-fir Shoot Damage Caused by the Balsam Shoot-boring Sawfly in the Gogama District in 1965

Location (township)	D.b.h. of sample trees in inches	Exposure	Percentage of shoots bored
Foleyet	2	part. shaded	32
Groves	1	part. shaded	2
Jack	6	open	5
MacBride	1	part. shaded	3
Middleboro	2	shaded	8
Noble	2	part. shaded	13

Alder Woolly Aphid, Prociphilus tessellatus (Fitch)

Large pockets of heavy infestation of this aphid recurred at numerous points in the central and north-central parts of Division 72. Clumps of lightly to heavily infested alder could be seen at many locations throughout the district. Population levels were somewhat lower than in 1964. No visible damage resulted on currently infested branches and stems but numerous alder which had been infested for several consecutive years showed severe branch and stem mortality in 1965.

Amber-marked Birch Leaf Miner, Profenusa thomsoni (Konow)

Small pockets of lightly to moderately defoliated white birch were observed at several widely-scattered locations in the district. Foliar damage occurred mainly on suppressed trees and shaded branches and rarely on open-grown trees. Lightly infested white birch were noted at numerous locations (Table 20).

TABLE 20

Summary of Damage Caused by the Amber-marked Birch Leaf Miner  
to the Foliage of White Birch in the  
Gogama District in 1965

Location (township)	Av. d.b.h. of sample trees in inches	Per cent leaves infested	Total no. of mines	Av. no. of mines per infested leaf
Biggs	1-1/2	21	23	1.2
Groves	3	6	10	1.7
Invergarry	1/4	2	3	1.3
Ivanhoe	2	1	1	1.0
Jack	4	64	166	2.6
Noble	1-1/2	2	2	1.1
Northrup	7	4	8	2.1
Togo (understory)	2	26	29	2.1
Togo (overstory)	2	1	1	1.1

A Leaf Roller on Trembling Aspen, Pseudexentera oregonana Wlsh.

Two areas of light to medium infestation of this insect occurred in the south-eastern parts of Divisions 68 and 72. Lightly infested clumps of trembling aspen were observed in many stands in the remainder of the district. This insect was closely associated with the American poplar leaf beetle at numerous locations in Division 72. Only occasional pockets of light infestation were reported in 1964 (see map following page 40 and Table 21).

TABLE 21

Summary of Estimates of Leaf Damage Caused by the Leaf Roller,  
Pseudexentera oregonana Wlsh., on Trembling Aspen  
in the Gogama District in 1965

Location (township)	D.b.h. of sample trees in inches	Per cent defoliation	Degree of infestation	Clumps Pockets Areas
Garvey*	2	15	L	A
Groves	2	10	L	P
Horwood*	1/2	5	L	A
MacMurchy	2	25	M	A
Penhorwood*	1/2	5	L	A
Regan*	8	10	L	A
Regan*	1	20	M	A
Sheard*	1	35	M	A
Westbrook*	2	20	M	A
Wingham*	4	5	L	A

\* occurred in association with the American poplar leaf beetle at these locations.



TABLE 22

Summary of Miscellaneous Insects Collected  
in the Gogama District in 1965

Insect	Host(s)	Remarks
<i>Acleris calignosana</i> Wlk.	Al	Lightly infested clumps of alder at various locations in the district.
<i>Altica ambiens alni</i> Harr.	Al	Infestations in the district collapsed, only occasional larvae observed at several points.
<i>Acleris variana</i> Fern.	wS	Very lightly infested trees in Foleyet and Mattagami twps.
<i>Adelges strobilobius</i> Kalt.	bS	Small pockets of moderately infested trees in Chester Twp.
<i>Argyresthia pygmaella</i> Hbn.	W	Clumps of severely infested willow in Groves Twp.
<i>Choristoneura fumiferana</i> Clem.	bF, wS	Small numbers of larvae found at widely scattered locations in the district.
<i>Coleophora laricella</i> Hbn.	tL	Lightly infested clumps of pole size tamarack in St. Louis Twp. (2.7 larvae per 16" branch tip).
<i>Corythucha elegans</i> Drake	Al, wB, Mo, W	Numerous clumps and small pockets of shrubs throughout the district were moderately to severely infested by lace bugs and showed conspicuous browning of foliage by late July.
<i>Croesus latitarsus</i> Nort.	Al, wB	Occasional colonies on wB in Noble Twp., moderately infested clumps of alder in Middleboro Twp.
<i>Disonychia alternata</i> Ill.	W	Lightly to severely infested clumps of willow in Foleyet, Ivanhoe, and Togo twps.
<i>Epinotia cruceana</i> Linn.	W	Low and moderate population levels in Horwood and Penhorwood, respectively.
<i>Galerucella cavicollis</i> Lec.	pCh	Large pocket of light infestation in Silk Twp.
<i>Gonioctena notmani</i> (Schaeff.)	W	Lightly infested clumps of willows in Invergarry Twp.
<i>Gracillaria invariabilis</i> Braun.	pCh	Numerous clumps of lightly infested pin-cherry at widely scattered locations.
<i>Hemichroa crocea</i> (Four.)	Al, wB	Occasional colonies in Carty and Ivanhoe twps.
<i>Monoctenus fulvus</i> (Nort.)	eC	Small numbers of cedar sawfly larvae in beating samples at various sample points.

TABLE 22 (continued)

Insect	Host(s)	Remarks
<i>Nematus ventralis</i> Say	tA	Clumps and small pockets of lightly infested regeneration and small pole size trees at many points in the district.
<i>Nycteola cinerea</i> N. & D.	bPo	Small pocket of light infestation persisted in Ivanhoe Twp.
<i>Nycteola frigidana</i> Wlk.	W	One large pocket of moderate infestation in Horwood Twp., lightly infested clumps of willow in Penhorwood Twp.
<i>Phlyctaenia tertialis</i> (Guen.)	El	Lightly to moderately infested clumps of red elderberry at several locations.
<i>Phratora purpurea purpurea</i> Brown	tA	Occasional colonies at many locations in the district.
<i>Pikonema alaskensis</i> (Roh.)	bS, wS	Small numbers of larvae in beating samples at scattered points.
<i>Pikonema dimockii</i> (Cress.)	bS, wS	Small numbers of larvae in beating samples at several points.
<i>Pineus similis</i> Gill.	wS	Severely infested scattered trees in Ivanhoe Twp.
<i>Pineus strobi</i> (Htg.)	wP	23 per cent of white pine in a plantation in Burrows Twp. lightly infested.
<i>Rhabdophaga swainei</i> Felt	bS, wS	1.2 per cent of black spruce buds and .7 per cent of white spruce buds infested in Jack Twp.
<i>Toumeyella numismaticum</i> P. & McD.	jP	Two small pockets of light to medium infestation in Invergarry and Jack twps.