Status of Insects in the Pembroke District

Trieselmann, R.

Information Report O-X-37
(Forest Research Laboratory, Ontario Region)

Information Report No.	Subject	Author
O-X-34	Forest Insect & Disease Surveys	
	--Lindsay District	W. J. Miller
O-X-35	--Tweed District	F. Livesey
O-X-36	--Kemptville District	J. Hook
O-X-37	--Pembroke District	R. A. Trieselmann
O-X-38	--Lake Simcoe District	A. A. Harnden
O-X-39	--Lake Huron District	R. L. Bowser
O-X-40	--Lake Erie District	J. R. Trinnell
O-X-41	--North Bay District	L. S. MacLeod
O-X-42	--Parry Sound District	C. A. Barnes
O-X-43	--Sault Ste. Marie District	H. G. McPhee
O-X-44	--Sudbury District	J. R. McPhee
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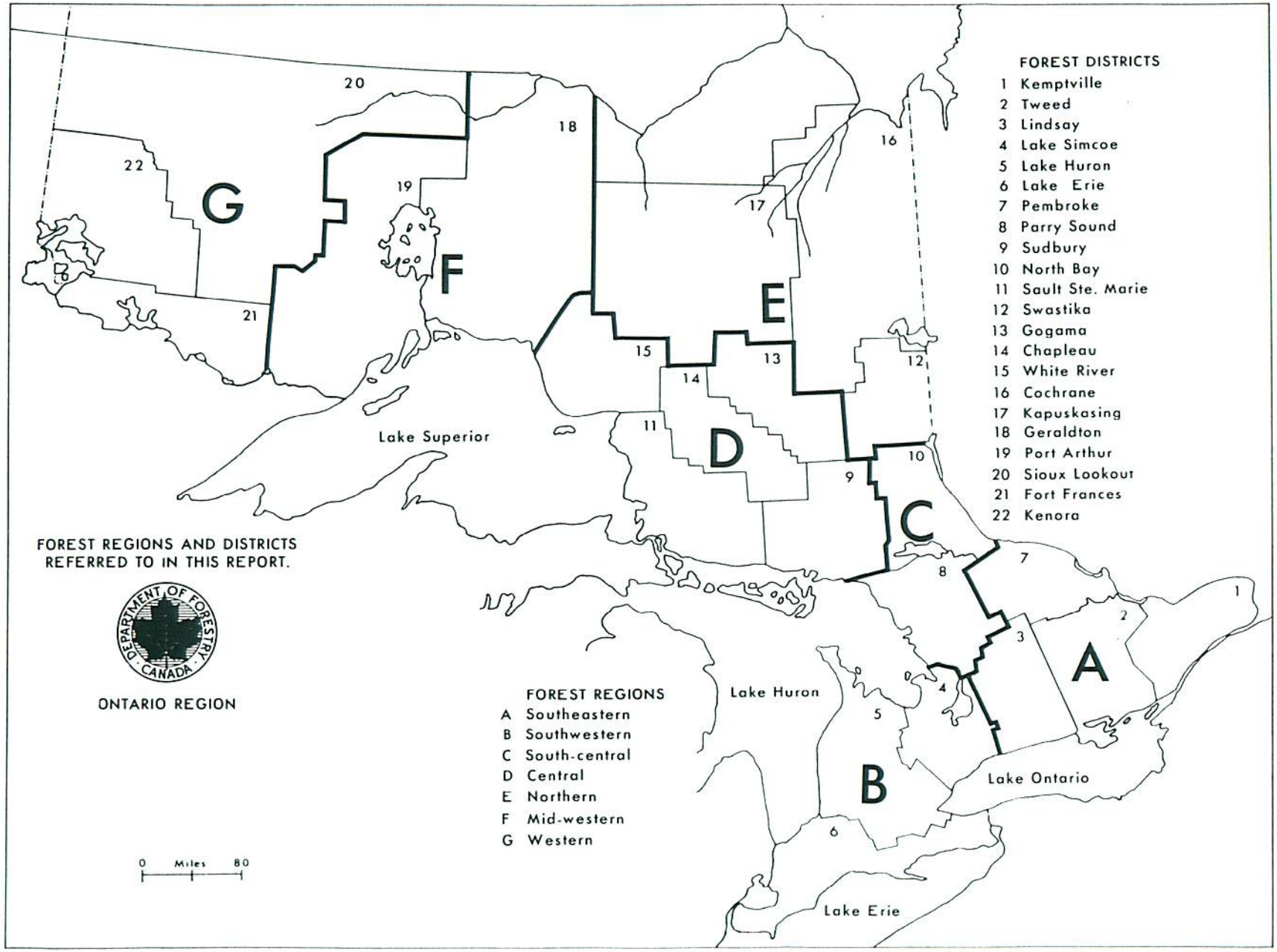

FOREST DISTRICTS
1 Kemptville
2 Tweed
3 Lindsay
4 Lake Simcoe
5 Lake Huron
6 Lake Erie
7 Pembroke
8 Parry Sound
9 Sudbury
10 North Bay
11 Sault Ste. Marie
12 Swastika
13 Gogama
14 Chapleau
15 White River
16 Cochrane
17 Kapuskasing
18 Geraldton
19 Port Arthur
20 Sioux Lookout
21 Fort Frances
22 Kenora
FOREST REGIONS AND DISTRICTS REFERRED TO IN THIS REPORT.
DEPARTMENT OF FORESTRY CANADA
ONTARIO REGION
FOREST REGIONS
A Southeastern
B Southwestern
C South-central
D Central
E Northern
F Mid-western
G Western
Lake Superior
Lake Huron
Lake Ontario
Lake Erie
0 Miles 80

FOREWORD

J. E. MacDonald

A prolonged period of drought, extending from May until August, seriously affected the growth and survival of forest stands on shallow sites and in plantations, particularly in central and southern Ontario. This was evidenced in August when hardwoods on rocky sites in many areas turned brown and shed their foliage. Serious losses of conifers planted in 1966 were reported in the Sault Ste. Marie, Lake Huron, Lake Simcoe and Lindsay districts.

Intensive surveys were carried out in 1966 to determine the distribution and incidence of Scleroderris canker of pine and of Dutch elm disease. These revealed that Scleroderris canker is widely distributed in northern Ontario. Incidence and tree mortality was highest in young red and jack pine plantations, however, significant losses of jack pine reproduction were also observed in several areas. Incidence of the disease was low in southern Ontario. Dutch elm disease is well established throughout southern Ontario and in localized areas in North Bay and Sudbury districts in northern Ontario. The incidence of infection was particularly high in the Toronto, London and Windsor areas. Over 50 per cent of the elm trees in many areas in southwestern Ontario were infected and the disease has taken a heavy toll of trees in older areas of infection.

Noteworthy changes in the extent and intensity of infestations of the forest tent caterpillar and jack pine budworm occurred in 1966. Weather conditions in the spring brought about a collapse of the forest tent caterpillar outbreak that had occurred over a vast area in Sioux Lookout, Kenora and Port Arthur districts in recent years. Heavy infestations persisted in Fort Frances District and in numerous areas in central and southeastern Ontario, but no outstanding changes in their extent and intensity occurred. Forest tent caterpillar defoliation forecasts for 1967 are contained in the district reports that follow.

Jack pine budworm infestations were reported in three widely-separated parts of Ontario. The largest of these occurred in the western part of Fort Frances and Kenora districts. Pockets of infestation occurred in the southern part of Sault Ste. Marie District and on Manitoulin Island.

The European pine sawfly continued to be a serious pest in pine plantations in southern Ontario. Since its discovery in a Scots pine plantation on Manitoulin Island in 1965, it has been found in five additional plantations on the Island. The results of control measures using virus sprays to contain the sawfly in this northern location will be followed with interest in 1967.

Expansion of the forest research program of the Department of Forestry and Rural Development in Sault Ste. Marie and the establishment of new positions in the Insect and Disease Survey Section has resulted in many changes of duties for Survey technicians. Five new district technicians will be required for the 1967 field season and numerous district re-assignments will be made. A list of technicians and their district assignments will be issued to key personnel of the Department of Lands and Forests and Industry early in the field season.

STATUS OF INSECTS IN THE PEMBROKE DISTRICT

R. Trieselmann

Ugly-nest Caterpillar, Archips cerasivorana Fitch

Although population levels were generally lower than in 1965, a heavy infestation of this insect recurred in the village of Alice (Table 5). Herbicide spraying along roadsides in Bromley, Ross, and Stafford townships killed the host plants and resulted in negative counts at sampling stations in these townships.

TABLE 5

Summary of Ugly-nest Caterpillar Colony Counts in Pembroke District from 1964 to 1966

Location by township	Host	No. of nests observed per one mile of roadside		
		1964	1965	1966
Alice	cCh	210	673	547
Airy	cCh	-	3	0
Bromley	cCh	-	19	0*
Murchison	cCh	27	27	26
Nightingale	cCh	-	2	0
Ross	cCh	-	8	0*
Sherwood	cCh	2	3	2
Stafford	cCh	-	39	0*
Wilberforce	cCh	29	28	5

* Roadsides sprayed with herbicide

A Cecidomyid Midge in Red Pine Needles

A heavy infestation of this insect occurred on pole-sized red pine in an extensive stand in Stratton Township. All trees in the stand were infested and approximately 25 per cent of the current year's needles were destroyed. The larvae feed in the needle fascicles of the current year's growth causing infested needles to turn progressively white from the tip to the needle fascicle. Infested needles eventually turn brown and drop to the ground. Similar damage was observed on occasional red pine trees in plantations in Buchanan, McKay and Wylie townships.

Larch Casebearer, Coleophora laricella Hbn.

Small numbers of the larch casebearer were observed in most tamarack stands in the district. Consistently higher larval counts at sample points reflect an increase in population levels in 1966 (Table 6).

TABLE 6

Summary of Larch Casebearer Counts in Pembroke District from 1965 to 1966

Location by township	Host	Av. d.b.h. of sample trees in inches	Av. no. of larvae per 18-inch branch tip		
			1964	1965	1966
Airy	tL	3	0.90	0.88	2.94
Bromley	tL	5	0.50	0.00	1.00
Buchanan	tL	6	1.60	1.62	2.31
Cameron	tL	6	2.40	0.88	0.75
N. Algona	tL	4	1.60	0.88	1.06
Rolph	tL	4	0.30	2.00	2.69
Sproule	tL	8	1.20	3.30	4.44
Westmeath	tL	6	0.60	0.25	0.56

European Spruce Sawfly, Diprion hercyniae (Htg.)

Although population levels declined, small numbers of larvae of this insect were collected in beating samples at many locations in the district (Table 7). Defoliation was insignificant and confined to the lower crowns of open-growing black spruce and white spruce.

TABLE 7

Summary of European Spruce Sawfly Larval Counts in the Pembroke District in 1966

Location by township	Host	Av. d.b.h. of sample trees in inches	Total no. of larvae per 15-tray sample
Buchanan	wS	7	15
Canisbay	wS	5	12
Finlayson	wS	7	19
Head	wS	5	14
Lyell	wS	6	8
Nightingale	bS	6	8
Preston	wS	4	14
S. Algona	wS	9	21
Wylie	wS	5	11

Birch Leaf Miner, Fenusa pusilla (Lep.)

Infestations of this insect increased in number and intensity in 1966. One large pocket of heavy infestation occurred along the shore of Olmstead Lake in Ross Township where white birch was almost totally defoliated. Other pockets of severe defoliation occurred in Buchanan and Pembroke townships. Ornamental European birch, wire birch and cut-leaf varieties at the Petawawa Forest Experiment Station, and in the towns of Deep River and Pembroke were heavily infested. Light to moderate damage to white birch foliage occurred at numerous points elsewhere in the district (Table 8).

TABLE 8

Summary of Damage by the Birch Leaf Miner in the Pembroke District from 1964 to 1966

Location by township	Host	Av. d.b.h. of sample trees in inches	Per cent of leaves mined			Per cent of leaf surface mined		
			1964	1965	1966	1964	1965	1966
Buchanan	wiB	1	-	-	47	-	-	60
Cameron	wB	1	-	-	19	-	-	30
McKay	wB	1	-	-	12	-	-	60
Hagarty	wB	1	-	-	29	-	-	50
Rolph	wB	3	27	21	25	25	25	35
Ross	wB	4	-	-	98	-	-	85
S. Algona	wB	1	-	-	32	-	-	50
Sproule	wB	3	31	15	32	35	10	40
Westmeath	wB	3	32	29	38	20	50	60

Pine Root-collar Weevil, Hylobius radicis Buch.

Scots pine averaging 2 inches d.b.h. were severely infested by this pine weevil in a 50-acre plantation in Westmeath Township (see photograph).

Of 900 trees tallied along three lines transecting the plantation, 148 had died prior to 1966 and 90 were killed during the current season. Many other trees in the plantation were infested. No evidence of the weevil was found in adjacent jack pine and red pine stands.

Fall Webworm, Hyphantria cunea Dru.

Slight increases in population levels of this insect occurred at all sample stations (Table 9). Small numbers of webs were observed on roadside shrubbery at many locations in the district.

TABLE 9

Summary of Fall Webworm Colony Counts in Pembroke District from 1964 to 1966

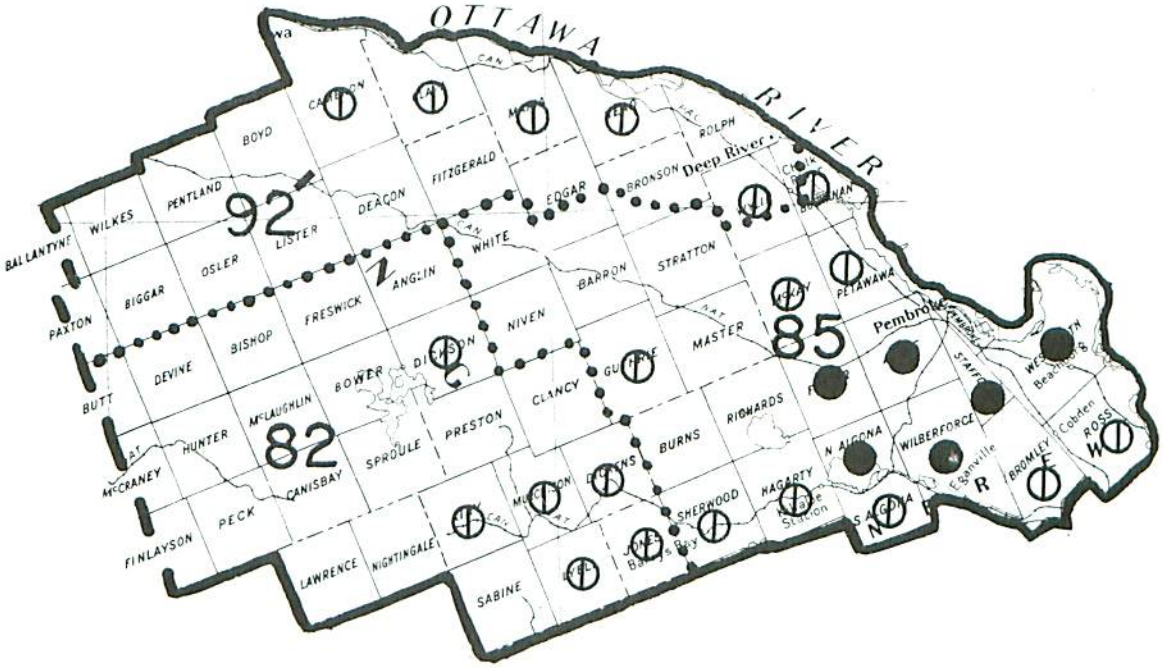
Location by township	Host	No. of webs per mile of roadside		
		1964	1965	1966
Airy	W	0	0	2
Hagarty	wE	0	0	1
Head	wB	0	0	3
Ross	wE	1	0	1
Westmeath	wB	0	0	1
Wilberforce	wE	12	0	1

Eastern Tent Caterpillar, Malacosoma americanum (F.)

Heavy infestations recurred in Alice, Hagarty, Fraser, Stafford and Wilberforce townships and light to medium infestations were observed at many locations in the district (see map). The average number of primary tents at nine sampling stations declined from 281 in 1965 to 179 in 1966 (Table 10).

The eastern tent caterpillar occurred in association with the forest tent caterpillar, the American poplar leaf beetle, and an aspen leaf roller (Pseudexentera oregonana Wlshm.) in Alice, Bromley, Fraser, Hagarty, N. Algona, Richards, S. Algona, Sherwood and Wilberforce townships.

PEMBROKE DISTRICT



EASTERN TENT CATERPILLAR

Locations where infestations
were observed in 1966

Legend

Light infestation . . . . . ①

Heavy infestation . . . . . ●

TABLE 10

Summary of Eastern Tent Caterpillar Colony Counts
in the Pembroke District from 1963 to 1966

Location by township	Host	No. of tents counted per mile of roadside			
		1963	1964	1965	1966
Alice	ec Ch	24	107	860	418
Buchanan	pCh	27	2	39	4
Fraser	ec Ch	27	149	423	624
Hagarty	ec Ch	50	176	305	103
Lyell	ec Ch	26	76	35	47
Petawawa	ec Ch	23	1	195	23
Stafford	ec Ch	22	69	352	153
Westmeath	ec Ch	24	89	115	98
Wilberforce	ec Ch	43	167	206	138

Forest Tent Caterpillar, Malacosoma disstria Hbn.

Defoliation of deciduous trees by the forest tent caterpillar was somewhat lighter in 1966 than in 1965. Heavy infestations persisted in one large area in the southwestern part of the district (see map).

One hundred cocoons from each of ten widely-separated locations were dissected to determine the degree of biological control and the number of adults that emerged. Parasitism by a flesh fly, Sarcophaga aldrichi Park., was the most common cause of pre-pupal mortality. Adult emergence was significantly lower than in recent years (Table 11).

In September, egg band counts were taken at ten locations to forecast population trends and defoliation. These indicate that defoliation in the district will be lighter in 1967 than in 1966 except in Buchanan, Fraser and Westmeath townships (Table 12).

TABLE 11

Summary of Forest Tent Caterpillar Cocoon Dissections
in the Pembroke District from 1964 to 1966

Location by township	Per cent of cocoons parasitized			Per cent other mortality			Per cent adult emergence		
	1964	1965	1966	1964	1965	1966	1964	1965	1966
Alice	62	59	77	2	3	15	36	38	8
Buchanan	58	59	69	0	16	21	42	25	10
Fraser	-	-	90	-	-	9	-	-	1
Hagarty	-	-	78	-	-	17	-	-	5
McKay	-	-	80	-	-	14	-	-	6
Petawawa	41	50	79	0	0	10	59	50	11
Westmeath	43	49	79	3	4	18	54	47	3
Westmeath	-	-	61	-	-	28	-	-	11
Wilberforce	52	49	89	8	13	7	40	38	4
Wilberforce	-	-	76	-	-	18	-	-	6

TABLE 12

Summary of Forest Tent Caterpillar Egg Band Counts in the Pembroke District from 1964 to 1966

Location by township	Av. d.b.h. of sample trees in inches	Av. no. of egg bands per tree			Defoliation forecast for 1967
		1964	1965	1966	
Anglin	5	0	0	0	nil
Buchanan	10	35.6	3.3	6.3	moderate
Burns	7	54.6	1.6	0.7	light
Dickens	6	2.6	0.6	0	nil
Fraser	7	50.3	19.0	22.7	severe
Head	4	4.3	0	0	nil
Master	3	5.0	3.0	0.3	light
Richards	8	29.6	4.3	0	nil
Stratton	4	0	0	0.3	light
Westmeath	5	10.6	3.0	11.0	severe

Cedar Sawfly, Monoctenus fulvus (Nort.)

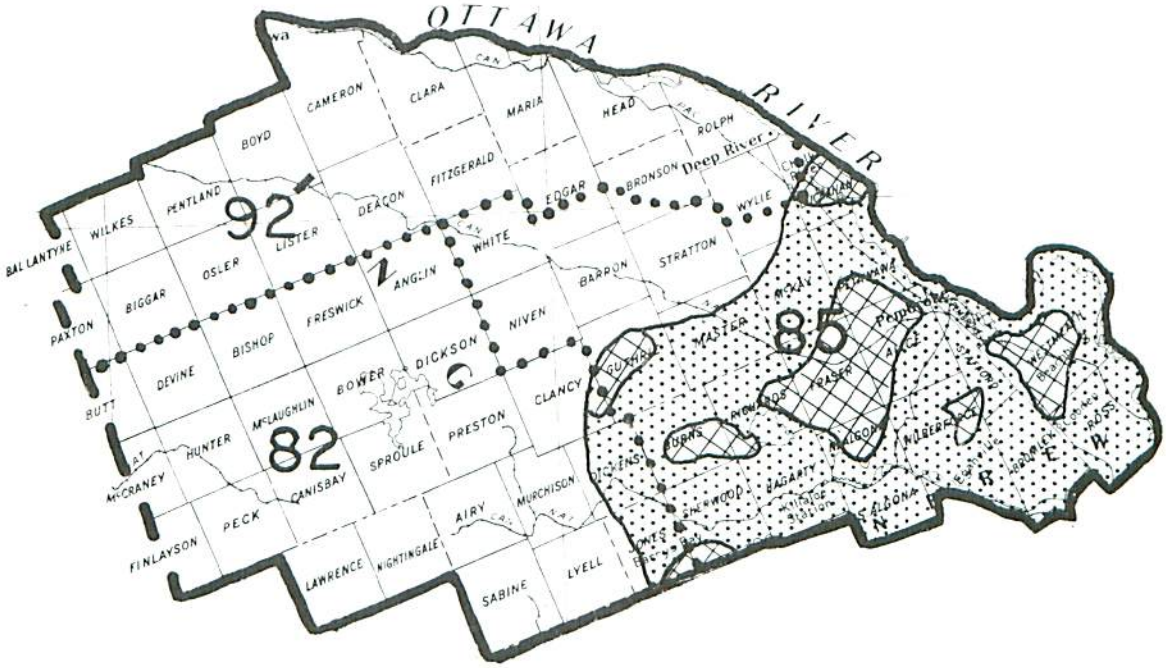
Population levels of this sawfly on white cedar and juniper declined for the fourth consecutive year in the district. The average number of larvae per beating sample was six in 1966 compared with 189 during the population peak in 1963. Larvae were generally more numerous on juniper than on white cedar (Table 13).

TABLE 13

Summary of Cedar Sawfly Larval Counts in Pembroke District from 1963 to 1966

Location by township	Host	Average d.b.h. of host in inches	Total no. of larvae per 15-tray sample			
			1963	1964	1965	1966
Bromley	eC	8	146	47	1	6
Bromley	cJ	nil	-	-	-	8
Buchanan	eC	3	-	-	-	2
Buchanan	cJ	nil	-	-	-	12
Maria	eC	6	-	-	-	2
Maria	cJ	nil	-	-	-	8
N. Algona	eC	7	180	13	7	1
Ross	eC	6	293	142	33	3
Ross	cJ	nil	-	-	-	9
S. Algona	eC	4	263	33	7	3
S. Algona	cJ	nil	-	-	-	6
Westmeath	eC	8	90	22	36	3
Wilberforce	eC	5	162	22	4	13

PEMBROKE DISTRICT



20 MILES

FOREST TENT CATERPILLAR

Areas within which defoliation occurred in 1965

Legend

Light defoliation. . . . . .

Moderate to severe defoliation . .

Red-headed Pine Sawfly, Neodiprion lecontei (Fitch)

Population levels fluctuated slightly at sample points (Table 14). Light to medium infestations occurred on small red pine trees in plantations and natural stands at many points in the district, mainly on the fringes of stands and on exposed sites (see map). Several plantations in Buchanan Township were infested and occasional trees were completely defoliated. Small patches of red pine regeneration along the Hydro service road in Bronson Township were severely defoliated (see photograph). Single infested jack pine and white pine trees were observed in Rolph Township.

TABLE 14

Summary of Red-headed Pine Sawfly Colony Counts on Red Pine Trees in the Pembroke District in 1965 and 1966

Location by township	No. of trees examined	Average height of trees in feet	Av. no. of colonies per tree	
			1965	1966
Alice	100	3	1.5	.05
Bronson	10	10	-	1.2
Buchanan	100	3	-	.3
Cameron	100	6	1.3	1.2
Clara	100	6	1.1	1.3
Maria	10	6	1.0	1.2
N. Algona	200	4	-	.2
S. Algona	100	3	-	.2
Wilberforce	50	6	1.0	1.2
Wylie	100	6	-	1.1

Red Pine Sawfly, Neodiprion nanulus nanulus Schedl.

Population levels of this sawfly increased in 1966 (Table 15). Severe defoliation occurred in a jack pine plantation in Petawawa Township and in a red pine plantation in Westmeath Township. Moderate and light defoliation was observed at many points in the district, particularly in Cameron, Hagarty, Ross, Sabine, and Sherwood townships (see map).

TABLE 15

Summary of Red Pine Sawfly Colony Counts in the Pembroke District in 1965 and 1966

Location by township	Host	Average d.b.h. of sample trees in inches	Av. no. of colonies on each of 10 trees	
			1965	1966
Cameron	rP	6	.9	1.2
Fraser	jP	6	1.6	1.8
Hagarty	rP	1	-	3.7
Petawawa	jP	3	2.5	9.4
Ross	rP	4	11.0	12.1
Sherwood	rP	2	-	3.2
Westmeath	rP	4	6.5	18.9
Westmeath	jP	3	2.2	1.4

Jack-pine Sawfly, Neodiprion pratti paradoxicus Ross

Colonies of this sawfly were less numerous than in 1965. Moderate infestations in N. Algona, Petawawa, and Westmeath townships subsided, and only light defoliation of jack pine trees was observed at sample points (Table 16).

TABLE 16

Summary of Jack-pine Sawfly Colony Counts in the Pembroke District from 1964 to 1966

Location by township	Average d.b.h. of sample trees in inches	Average no. of colonies on each of 10 trees		
		1964	1965	1966
Bronson	6	3	0	0
Buchanan	6	1	3	0
Maria	6	0	0	1.6
N. Algona	10	15	25	2.9
Petawawa	4	1	10	1.4
Richards	6	0	1	0
Westmeath	6	21	26	2.9

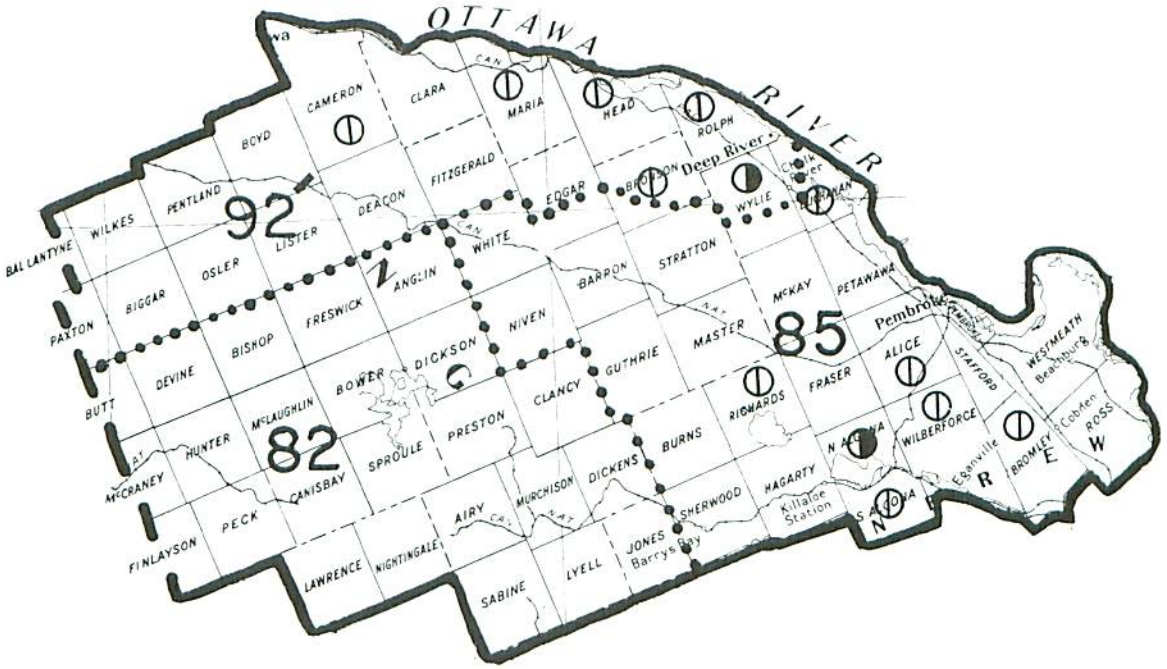
Bruce Spanworm, Operophtera bruceata Hlst.

Sugar maple and beech in the southeastern part of Finlayson Township and in the extreme southwestern tip of Peck Township were moderately to severely defoliated by this insect. Sugar maple was generally the more heavily infested of the two species. Low populations were observed on occasional other hardwoods such as yellow birch and white birch, presumably an overflow from adjacent heavily infested sugar maple and beech. About sixty per cent of the foliage of sugar maple and beech was infested and approximately 35 per cent of the tissue of infested leaves was consumed by the larvae.

A Leaf-folding Sawfly on Trembling Aspen, Phyllocolpa sp.

Population levels of this insect declined at sampling stations (Table 17). Large numbers of folded leaves were observed at many locations in the district but few of the leaf-folds were occupied by larvae.

PEMBROKE DISTRICT



20 MILES

RED-HEADED PINE SAWFLY

Locations where infestations were observed in 1966

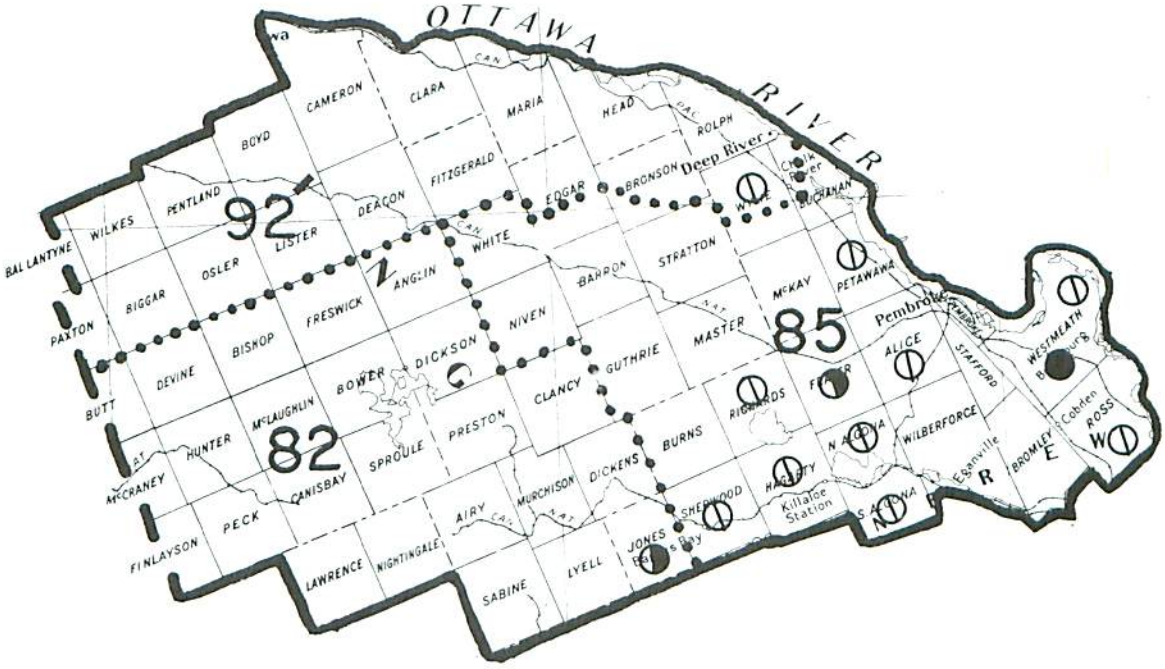
Legend

Light infestation . . . . . ◐

Medium infestation . . . . . ◑

Heavy infestation. . . . . ●

PEMBROKE DISTRICT



20 MILES

RED PINE SAWFLY

Locations where infestations were observed in 1966

Legend

Light infestation . . . . . ◐

Medium infestation . . . . . ◑

Heavy infestation . . . . . ●

TABLE 17

Summary of Counts of the Leaf-folding Sawfly in the Pembroke District from 1964 to 1966

Location by township	Average d.b.h. of sample trees in inches	Number of folds per 100 leaves 1964	1965	1966
Cameron	2	1	22	19
Finlayson	1	37	52	11
Fraser	1	67	83	20
Richards	2	61	92	65
Westmeath	1	108	112	96
Average for the year		55	72	42

White-pine Weevil, Pissodes strobi (Peck)

No significant changes in population levels of the white-pine weevil occurred in 1966 (Table 18). Open-grown trees were much more severely attacked than those growing in partial shade. Fully-shaded trees were not infested. Most plantations and natural stands of young white pine in the district suffered various degrees of damage but only a few lightly infested jack pine, black spruce, and white spruce stands were observed (see photograph).

TABLE 18

Summary of White Pine Shoot Damage by the White-pine Weevil in Pembroke District in 1965 and 1966

Location by township	Average height of trees in feet	No. of trees examined	Per cent of trees weevilled 1965	1966
Alice	10	100	-	29
Buchanan	6	100	28	26
Bronson	10	100	-	16
Cameron	11	100	31	29
Preston	20	100	3	1
Petawawa	16	100	-	9
Sproule	14	100	-	16
White	9	100	-	9
Wylie	7	100	-	2

A Leaf-roller on Aspen, Pseudexentera oregonana (Wlshm.)

Population levels of this insect declined in 1966. Areas of light and medium infestation were observed at many locations in the district, mainly in Alice, Buchanan, Cameron, Clara, Fraser, Head, Guthrie, Richards, Sproule, Sherwood, and Wilberforce townships (Table 19).

This leaf-roller occurred in association with the forest tent caterpillar, the American poplar leaf beetle, and/or other insects of the trembling aspen complex.

TABLE 19

Summary of Leaf Damage by a Leaf Roller on Aspen in the Pembroke District in 1966

Location by township	Host	Average d.b.h. of sample trees in inches	No. of rolled leaves per 100 random leaf sample
Alice	tA	2	17
Buchanan	tA	2	11
Cameron	tA	2	1
Fraser	tA	2	21
Guthrie	tA	2	4
Head	tA	1	7
Richards	tA	3	16
Sherwood	lA	1	4
Wilberforce	tA	4	24

TABLE 20

Summary of Miscellaneous Insects Collected in the Pembroke District in 1966

Insect	Host(s)	Remarks
Acleris variana Fern.	wS	Small numbers of larvae in Rolph and Sproule townships.
Acmaeops proteus Kby.	wS	Common in traplogs in Buchanan Township.
Acronicta lepusculina Gn.	tA, bPo	Occasional larvae in S. Algona and Wilberforce townships.
Adelges abietis Linn.	wS	Small pocket of medium infestation in Wilberforce Township.
Agromyza ulmi Frost	wE	Nineteen per cent leaves infested, 1.1 mines per leaf, in Wilberforce Twp.
Altica corni Woods	Do	Dogwood in Bromley Township 20 per cent defoliated.
Altica ulmi Wood	wE	Pocket of light infestation in Bromley Township.
Anacampsis innocuella Zell.	tA	Small numbers of larvae in Guthrie and Sherwood townships.
Anomoea laticlavia Forst.	cCh	Numerous adults feeding on foliage in Wilberforce Township.
Anomogyna elimata Gn.	jP, wP	Small numbers of larvae in beating samples at many locations.

TABLE 20 (continued)

Insect	Host(s)	Remarks
Archips argyrospila Wlk.	rO	Small numbers of larvae in Wilberforce Township.
Caliroa sp.	rO	Small pockets of severely infested regeneration in Head and Wylie twps., small pocket of light infestation in MacKay Township.
Caripeta angustiorata Wlk.	jP, scP, wP	Occasional larvae in beating samples at several locations.
Caripeta divisata Wlk.	bF, eH, wS	Small numbers of larvae in beating samples at widely scattered locations.
Cenopis pettitana Roh.	Ir	Occasional lightly infested trees in Wylie Township.
Cephalcia marginata Haw.	rP	Occasional trees lightly infested in Fraser Township.
Cerura multiscripta Riley	tA	Small numbers of larvae found in Algona Township.
Choristoneura fumiferana Clem.	wS	Single larvae in beating samples in Sproule and S. Algona Townships.
Compsolechia niveopulvella Chamb.	tA	Occurred in association with other foliage insects in Buchanan, Clara and Head townships.
Dasyneura serrulatae O.S.	Al	Large pocket of light infestation in Buchanan Township.
Datana ministra Dru.	wB	Occasional colonies at several widely scattered locations.
Depressaria groteella Rob.	Hazel	Small pockets of light infestation in Canisbay and Finlayson townships.
Disonycha alternata Ill.	W	Pockets of severe infestation in Wylie and Sabine townships, pocket of light infestation in Head Township.
Dryocoetes affaber Mann.	wS	Common in traplogs in Buchanan Twp.
Dryocoetes autographus Ratz.	wS	Rare in traplogs in Buchanan Township.
Epinotia solandriana Linn.	wB	Scattered small pockets of light infestation in Clara, Head, Maria and Rolph townships.
Eriophyes rhoinus Ckll.	Sumach	Pockets of severe infestation in Ross and Wilberforce townships.
Eucosma gloriola Heinr.	scP	Fifty per cent of the trees in a plantation in Westmeath Twp. were infested; in a sample of 236 infested trees, 646 lateral shoots and four leaders had been killed.

TABLE 20 (continued)

Insect	Host(s)	Remarks
Eupithecia palpata Pack.	jP, rP, wP	Small numbers of larvae collected in beating samples at many locations.
Eupithecia transcanadata McK.	bF, eH, wS	Commonly found in beating samples at various locations.
Evodinus monticola (Rand.)	wS	Numerous larvae in trap logs in Buchanan Township.
Feralia jocosa Gn.	eH, wS	Single larvae collected in beating samples at scattered locations.
Filatima demissae Wlk.	Juneberry	Pocket of light infestation in Guthrie Township.
Framinghamia helvalis Wlk.	bPo	Low population levels in Wilberforce Township.
Gonioctena americana Schaef.	tA	Light to medium infestations at many locations in the central and northern parts of the district; occurred usually in association with other insects of the trembling aspen complex.
Gracillaria alnivorella Cham.	Al	Large pocket of moderate defoliation in Buchanan Township.
Gracillaria cuculipennella Hbn.	bAs, wAs	Lightly infested regeneration at many locations in Div. 82.
Griselda radicana Wlshm.	wS	Occasional lightly infested trees in Sproule Township.
Hemicroa crocea (Four.)	Al	Small pocket of light infestation in Buchanan Township.
Hydria prunivorata Ferg.	bCh	A few black cherry in McKay and Sabine townships severely infested.
Hydriomena divisaria Wlk.	eH, wS	Found in beating samples at numerous locations.
Hypagyrtis piniata Pack.	jP, scP	Occasional larvae on plantation grown trees at various locations.
Hyposoter fugitivus fugitivus Say	Schizura concinna	Occasional colonies of the red-humped caterpillar were completely wiped out by this parasite in Buchanan Township.
Ipomorpha pleonectusa Grt.	lA	Small numbers collected in Buchanan Twp.
Ips pini Say and Ips perroti Sw.	rP	Pole-size red pine in plantation in Buchanan Township severely infested, moderate mortality.
Lambdina fiscellaria fiscellaria Gn.	bF, eH, wS	Occasional larvae in beating samples at numerous locations.

TABLE 20 (continued)

Insect	Host(s)	Remarks
Macremphytus varianus (Nort.)	Do	Light defoliation in Bromley Township.
Melaphis rhois (Fitch)	Sumach	Severe infestations in Alic and Hagarty townships.
Meroptera pravella Grt.	tA	Large numbers of larvae in empty forest tent caterpillar cocoons.
Monochamus scutellatus Grt.	wS	Larvae feeding in traplogs in Buchanan Township.
Nematus limbatus Cress.	W	Small numbers of colonies observed at many points.
Nematus salicisodoratus Dyar	W	Occasional colonies at many locations.
Nematus ventralis Say	tA	Small numbers observed at numerous locations.
Neodiprion abbotti (Leach)	rP	Numerous small colonies of 5 - 12 larvae on pole size red pine in Buchanan Township.
Neodiprion abietis complex	rS	A few lightly infested trees in S. Algona Township.
Neodiprion compar (Leach)	rP	Single larvae collected in Buchanan Twp.
Nephopterix subfuscella Rag.	Sumach	Pocket of light infestation in Westmeath Township.
Nepytia canosaria Wlk.	eC, bF, eH, rP, wS	Small numbers of larvae in beating samples at widely scattered locations.
Neurotoma inconspicua (Nort.)	pCh	Pocket of light infestation in Buchanan Township, 12 nests per square chain sample.
Nycteola cinereana N. & D.	bPo	Occasional small trees in Wilberforce Township lightly infested.
Nymphalis antiopa Linn.	tA, W	Single colonies observed at many locations.
Nymphula obliteralis (Wlkr.)	Nuphar sp.	Very common on Nuphar sp. in Corry Lake, Buchanan Township.
Orthosia revicta Morr.	wS, W	Single larvae found at scattered locations.
Palthis angulalis Hbn.	Ju, wS	Single larvae found at scattered locations.
Pareophora minuta (MacG.)	bAs	Pocket of light infestation in Wilberforce Township.

TABLE 20 (continued)

Insect	Host(s)	Remarks
Phenacaspis pinifoliae Fitch	rP	Small pocket of light to moderate infestation in Buchanan Township.
Phyllocolpa populi (Marlatt)	lA, HyPo	Roadside regeneration in Buchanan and Deacon townships lightly infested.
Phytagromyza populicola (Wlk.)	HyPo	Small pocket of heavy infestation in Buchanan Township; 100 per cent leaves infested, 3.7 mines per leaf.
Pikonema alaskensis (Roh.)	wS	Small numbers of larvae found in beating samples at many locations.
Pikonema dimmockii (Cress.)	bS, wS	Small numbers of larvae in beating samples at numerous widely scattered locations.
Pineus similis Gill.	wS	Lightly infested trees in Preston and Westmeath townships.
Pissodes approximatus Hopk.	wS	Larvae, pupae, and adults very common in trap logs in Buchanan Township.
Plagiodera versicolora Laich.	W	Large shade trees fifty per cent defoliated in Westmeath Township.
Podapion gallicola Riley	rP	Lightly infested trees observed at numerous locations.
Polygraphus rufipennis Kby.	wS	Common in traplogs in Buchanan Township.
Pristiphora erichsonii (Htg.)	tL	Occasional colonies observed in Sproule and S. Algona Townships.
Pristiphora geniculata (Htg.)	mAs	Lightly infested mountain ash at scattered locations.
Pristiphora lena Kinc.	wS	Occasional larvae in beating samples at several locations.
Profenusa canadensis (Marlatt)	Haw	Fencerows of hawthorn in Ross Township severely defoliated by this leaf-mining sawfly.
Protoboarmia porcelaria indicataria Wlk.	eC, bF, eH, jP, wS	Small numbers of larvae found in beating samples at many locations.
Psilocorsis fletcherella Gibs.	tA	Lightly infested trees in McKay Township.
Psilocorsis quercicella	rO	Pocket of light infestation in Buchanan Township.
Pulicalvaria piceaella Kft.	wS	Occasional lightly infested trees in Peck and Sproule townships.
Rhagium inquisitor (Linn.)	wS	Common in traplogs in Buchanan Township.

TABLE 20 (concluded)

Insect	Host(s)	Remarks
Schizura concinna A. & S.	ta, W	Small numbers of colonies observed in Buchanan and McKay townships.
Semiothisa bicolorata Fabr.	jP, rP, scP	Small numbers of larvae in beating samples at scattered locations.
Semiothisa bisignata Wlk.	wP	Small numbers of larvae in beating samples at scattered locations.
Semiothisa dispuncta Wlk.	bF, wS	Small numbers of larvae in beating samples at scattered locations.
Semiothisa fissinotata Wlk.	eH	Small numbers of larvae in beating samples at two locations.
Semiothisa orillata Wlk.	eC	Occasional larvae in beating samples.
Tetralopha robustella Zell.	jP, scP	Occasional webs found in Fitzgerald and Westmeath townships.
Tetropium cinnamopterum Kby.	wS	Common in traplogs in Buchanan Township.
Thera contractata Pack.	Ju	Rare in beating samples.
Thera juniperata Linn.	Ju	Small numbers of larvae in beating samples at scattered locations.
Tolype laricis Fitch	eH, rP	Occasional larvae in beating samples in Buchanan Township.
Toumeyella numismaticum (P. & M.)	jP, rP, scP	Small pocket of infestation on Scots pine in Buchanan Twp., occasional lightly infested red pine and jack pine in Clara, N. Algona, Wilberforce, and Wylie townships.
Trichiocampus irregularis (Dyar)	W	Small pockets of light infestation in Bronson, Deacon and Rolph townships.
Trichiosoma triangulum Kby.	W	Small numbers of larvae in Sabine and Wilberforce townships.
Typocerus velutina (Oliv.)	Solidago spp.	Numberous adults observed in Lyell Township.
Vasates quadripes Shim.	sM	Severely infested ornamentals in Pembroke.
Vespamia pini Kell.	wS	Occasional cankered trees in a plantation in Buchanan Township lightly infested.
Xyela minor Nort.	rP	Large numbers of larvae observed descending from trees in Buchanan Township.