

ANNUAL REPORT OF FOREST BIOLOGY RANGER

for

YUKON DISTRICT

1960

## FOREST BIOLOGY SURVEY

## YUKON DISTRICT

1960

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## INTRODUCTION

The Forest Insect and Disease Survey in the Yukon Forest Biology Ranger District began on June 1 and terminated on September 2. The areas accessible by roads in Yukon Territory and Atlin Ranger District were surveyed and a flight by helicopter was made through courtesy of the Yukon Forestry Division. A house trailer stationed at the Yukon Forestry Division in Whitehorse was used as headquarters.

"Aklavik" Road is under construction and will extend from Mile 84, Dawson Road north to Fort McPherson. The road was open to Mile 40 during the 1960 field season.

Table 1 shows the host trees and the number of insect and forest disease collections made from each host. Map 1 shows the localities where collections were made and field records taken.

Table 1

## Collections by Hosts

Yukon District - 1960

Coniferous hosts	Forest insects	Forest diseases	Broad-leaved hosts	Forest insects	Forest disease
Fir, alpine	9	3	Alder, sp.	-	1
Hemlock, western	1	-	Alder, mountain	11	-
Juniper, common	4	-	Alder, Sitka	4	-
Larch, eastern	2	-	Ash, Sitka mountain	3	-
Pine, lodgepole	41	7	Aspen, trembling	76	3
Spruce, black	11	1	Birch, dwarf	24	-
Spruce, Sitka	1	1	Birch, water	3	-
Spruce, white	78	2	Birch, white	13	-
			Cottonwood, black	46	1
			Dogwood, red osier	3	-
			Poplar, balsam	1	-
			Willow	68	5
			Miscellaneous	35	3
			Total	287	13
Total	147	14	Grand Total	434	27

## STATUS OF INSECTS

Spruce Seedworm, Laspeyresia youngana Kft.

Nearly all white spruce stands had a light to medium cone crop in 1960. Cone samples, which consisted of 50 cones picked at random from one tree where possible, were taken at four localities in late July. Early instar larvae of the spruce seedworm were present in the infested cones. Table 2 shows the percentage of cones infested by the spruce seedworm for 1959 and 1960.

Table 2

Percentage of White Spruce Cones Infested by the Spruce Seedworm, Yukon District, August 1959 and July 1960

Locality	Percentage infested	
	1959	1960
McKee Creek, B. C.	46	96
Mile 867, Alaska Highway, Y.T.	26	26
Mile 976, Alaska Highway, Y.T.	26	60
Carcross, Y.T.	74	92

Perhaps the general increase in the percentage of infested cones in 1960 was due to the lighter cone crop.

Smaller Western Pine Engraver, Ips latidens (Lec.)?

Small numbers of adults and larvae of this engraver beetle infested lodgepole pine on the Annie Lake Road, 27 miles south of Whitehorse. The beetles infested the upper portions of the pine, which averaged about six inches d.b.h.

Numerous dead and dying lodgepole pine bordered the fairways of the golf course off the Annie Lake Road. The oldest attacked pine, that is, those trees of the initial attack, have lost much of their bark, no doubt due to the numerous tunnels excavated by Ips latidens (Lec.)? The infested trees extend over two miles through the length of the golf course. No newly attacked trees were found in that stand, but a few recently attacked lodgepole pine were found scattered along the road west of the golf course. All or most of the attacked trees were fairly exposed, being border trees. These fringe trees may have been climatically weakened prior to the beetle attack.

A few smaller western pine engraver adults were found infesting standing lodgepole pine on the McClintock River Road, about 27 miles southeast of Whitehorse. The open-growing lodgepole pine stands bordering the McClintock River Road very much resembled the stands along the Annie Lake Road to the south-west. A small number of lodgepole pine lightly infested by this beetle was found off Canyon Mountain Road east of Whitehorse.

The damage caused by this beetle was very apparent as the extremely numerous galleries lead to the dropping of the bark, exposing a naked trunk on the upper portions of the lodgepole pine. Woodpecker activity was not evident.

The population of Ips latidens (Lec.)? appeared low in 1960 and should continue at a low level in 1961.

#### Lodgepole Pine Beetle, Dendroctonus murrayanae Hopk.

Adults and larvae of this species infested standing lodgepole pine on the Annie Lake Road, south of Whitehorse. Damage was caused by the beetles girdling the trees at the root collar.

The lodgepole pine beetle was working in conjunction with the smaller western pine engraver, but it was not certain whether the pine beetle or the pine engraver had first attacked the trees. It did appear, though, that the damage caused by Ips latidens (Lec.)? was older and more extensive than that caused by D. murrayanae Hopk.

Trees attacked by the lodgepole pine beetle were quite confined and scattered along the Annie Lake Road; a few recently attacked trees were found.

A few adult lodgepole pine beetles were found in standing trees bordering McClintock River Road. The beetles appeared to have made little headway in the open-growing lodgepole pine stands. In this area, as at Annie Lake Road, the lodgepole pine beetle was working at the root collar, while the smaller western pine engraver was found in the upper stem of the same trees.

A small number of lodgepole pine infested by the lodgepole pine beetle was found near Canyon Mountain Road east of Whitehorse, in trees that had been attacked by the smaller western pine engraver.

#### Large Aspen Tortrix, Choristoneura conflictana (Wlk.)

This insect caused medium defoliation of trembling aspen trees in the infestation two miles north of Carmacks. The area of the in-

festation did not appear to have increased in 1960 and remained at approximately 500 acres.

Four feet was cut from the top of each of five trembling aspen trees at the Carmacks infestation. The trees averaged two inches d.b.h., were 15 to 20 feet in height, and were taken to be representative of the stand. It was decided to take upper crown samples as the tops were most noticeably defoliated. The sample was taken to determine the percentage of defoliation. Table 3 shows the results of this examination.

Table 3

Defoliation of Trembling Aspen by the Large Aspen Tortrix at the Carmacks Infestation, Yukon District, August, 1960

Tree number	Number of leaves examined	Percentage of leaves 20 - 100% devoured
1	672	44
2	831	69
3	998	36
4	571	63
5	563	53
Totals	3635	53

Two empty large aspen tortrix egg masses were found during the sample examination. Fifteen small, green first or second instar larvae of Tortricidae were found in the same sample. They were inhabiting the leaves bound together to form pupal cells that had been occupied by the tortrix. Possibly they may have been early-instar large aspen tortrix preparing to overwinter on the ground.

Parasitism was light in the infestation. Of 24 large aspen tortrix pupae found in the sample, 20 had emerged successfully, three were dead, and one was living, perhaps parasitized.

The large aspen tortrix infestation at Mile 1205, Alaska Highway, appeared to increase slightly in 1960. Parasitism at this location was heavy. No sample was taken.

The two large aspen tortrix infestations may be expected to continue in 1961.

A Gelechiid on Trembling Aspen

Gelechiid larvae were found in the trembling aspen sample taken from the large aspen tortrix infestation north of Carmacks, August 8, 1960. These larvae, inhabiting the deserted leaf pupal cells of the large aspen tortrix, were quite numerous. In the 3635 leaves examined which contained 142 vacated tortrix pupal cells, there were 29 grey gelechiids, three of which were dead.

A Sphinx Moth, Smerinthus cerisyi Kby.

This insect was found in standard 3-tree beatings, eight larvae occurring in six trembling aspen collections, and one larva occurring in one black cottonwood collection. Larvae were found in the Whitehorse, Mayo, and Dawson areas from July 18 to August 16, 1960.

Aspen Leaf-miner, Phyllocnistis populiella Cham.

The aspen leaf-miner was found in varying degrees through much of the range of trembling aspen where the survey was conducted in the Yukon.

The aspen leaf-miner infestation increased in 1960 at the two permanent sample plots at Watson Lake and Rancheria River. Two 12-inch branches were cut from each of five trees at each plot, and the leaves examined. Tables 4 and 5 compare the results of the examination of leaf samples taken at the two plots, in 1959 and 1960.

Table 4

Percentage of Aspen Leaf Surfaces with Mines, and Number of Aspen Leaf-miner Adults Produced per Leaf Surface, August 1959, August 1960, Yukon District

Location	Percentage leaf surfaces with mines		No. of adults produced per leaf surface	
	1959	1960	1959	1960
Watson Lake	54	78	0.28	0.14
Rancheria River	28	42	0.13	0.06

The adult emergence indicates that the infestations may be expected to continue, perhaps on a lower level, in 1961.

A 100-cocoon sample was obtained at each plot to determine mortality occurring at this stage. The results are shown in Table 5.

Table 5

Percentage Mortality of Aspen Leaf-miners in Cocoons  
August 1959, August 1960, Yukon District

Location	Percentage mortality			
	Parasitism		Other causes	
	1959	1960	1959	1960
Watson Lake	25	62	4	6
Rancheria River	33	58	6	8

A Leaf-miner, poss. Nepticula sp., on White Birch

White birch leaf-miner damage was evident on the Dawson Road in mid-August. At that time the insects had vacated their mines, no doubt to pupate on the ground. The mines, one per leaf on the upper surface, were of the linear type while the larvae were early instar, changing to blotch-type in latter instars. The mined leaf areas ~~areas~~ had browned and died.

Two samples, each of which consisted of 10 two-foot branch tips from the five to 10-foot level of white birch trees was taken on the Dawson Road. One branch was cut from the exposed and one was cut from the shaded side of five trees. The two samples from two sites were taken in an attempt to determine the extent of damage caused by the leaf-miner.

Table 6 indicates the results of the examination of the two white birch samples taken.

Table 6

Percentage of White Birch Leaves Infested by a  
Leaf-miner, poss. Nepticula sp., on Dawson Road

Locality	Date	Number of leaves examined	Percentage of leaves infested
Mile 45	Aug. 19	1003	0.1
Mile 101	Aug. 14	964	8.5

Towards the end of the 1960 field season in the Yukon District, damage caused by this insect was noticeable through the range of white birch.

A Leaf Blotch-miner, Lithocolletis sp. on Trembling aspen

This insect was quite prevalent on trembling aspen through the Yukon, especially on the Carmacks-Mayo and Dawson Roads where larvae and pupae were found August 6, at Mile 123. The insect seems to prefer the lower one-half or one-third of the trees and was heaviest on the very young aspen.

Two samples, each of which consisted of five 12-inch branch tips from five trees, were taken at two sites. All the leaves from each sample were put into a container and the 100 leaves yielding information for Table 7 were picked out at random.

Table 7

Percentage of Two 100-leaf Samples Infested by a Trembling Aspen Leaf Blotch-miner on the Carmacks-Mayo Road

Locality	Date	Percentage of leaves infested
Mile 215	Aug. 10	19.0
Mile 168	Aug. 19	1.0

Most of the insects had emerged from the 100 leaves examined at each of the two sites, although pupae and a few larvae were present.

Spruce Budworm, Choristoneura fumiferana (Clem.)

Ten spruce budworm larvae from four 3-tree beating samples were found in mid-June towards the western end of the Yukon section of the Alaska Highway. These larval collections included one taken near Carmacks.

Two vacated pupae were taken in two white spruce beatings west of Haines Junction in the latter part of August.

Birch Leaf-rollers, Rheumaptera spp.

The birch leaf-roller infestation in the Dawson area appears to have collapsed as no evidence of damage caused by this insect was observed in 1960.



Willow Leaf-miner, Lyonetia saliciella Busck.

The McKee Creek infestation, west of Atlin, B. C., continued in 1960; heavy mining of willow bush leaves was evident. The infested area remained at about 250 acres.

Black-headed Budworm, Accleris variana (Fern.)

No larvae were collected in 1960, indicating a very low population level in the Yukon.

Yellow-headed Spruce Sawfly, Pikonema alaskensis Roh.

Sixteen larvae of this insect were taken in 13 white spruce collections; one larva was taken from black spruce. Two additional larvae were hand-picked from white spruce. These collections were taken between Miles 800 to 1000, Alaska Highway, and on the Carmacks-Mayo Road. The larvae were collected from mid-July to the end of August.

Green-headed Spruce Sawfly, Pikonema dimmockii Cress.

Nine larvae were taken in five white spruce collections from mid-July to early August.

A Maggot, Probably Pegohylemyia anthracina Czermy., in White Spruce Cones

This maggot was taken in white spruce cones at four localities in the Yukon. Muscidae larvae feeding on the seeds were found in conjunction with Cecidomyiidae. A sample consisting of 50 white spruce cones from one tree was taken at each of the four localities. The degree of infestation for the four 50-cone samples ranged from 16 to 52 per cent.

A Leaf-miner, Phyllocnistis sp. on Black Cottonwood

Damage caused by this insect was very evident on black cottonwood bordering Watson Lake airport road. At Rancheria River it was abundant on the roadside cottonwood. This leaf-miner can be found on cottonwood, especially regeneration growth, in varying degrees through the tree's range in the Yukon District.

Leaf Beetles, Gonioctena notmani Schffr. and G. americana Schffr., on Willow and Black Cottonwood.

Defoliation of willow bushes was evident south-east of Dawson on the Bonanza Creek Road from Mile 11.6 to 18.3. Many leaf beetle larval

skins were observed hanging from the underside of the willow leaves. Eighteen larvae and eight adults were collected within a short distance. The larvae appeared to be in the prepupal state, and many of these leaf beetles had no doubt pupated in the ground prior to inspection of the area which was carried out on July 2. The infested willow was mainly on the southwest or lower side of the Bonanza Creek Road, between the road and the creeks, forming a strip less than one-quarter mile wide at the widest point. Degree of defoliation varied from light to medium.

The following five collections were made in the Whitehorse area between June 8 and August 7, 1960. Eight G. notmani Schffr. adults were taken in three willow collections, and one from black cottonwood. Two G. americana Schffr. adults were collected from black cottonwood.

A Sawyer Beetle, Monochamus oregonensis Lec.

No evidence of damage caused by this beetle was found in any burns, although three beetles were taken in flight on the Mayo-Dawson Road at the end of June.

#### OTHER NOTEWORTHY INSECTS

##### LARVAE

Insect	Host	Number of collections	Remarks
<u>Acleris pulverosana</u> Wlk.?	W	1	Bennett, B. C.
<u>Anoplonyx canadensis</u> Hgtn.	Le	1	Mile 681
<u>A. laricivorus</u> Roh. & Midd.	Le	1	Mile 658
<u>Aphania spinulana</u> McD.?	Sw	1	Mile 1020
<u>Arge clavicornis</u> (F.)	Big, Dt, W	8	Widely distributed
<u>Argyresthia pygmaella</u> Hbn.	W	2	Watson Lake, Carcross
<u>Brephos infans</u> Moesch.	Big, W	4	Mile 746, B.C., Mile 106, Canal Rd., Whitehorse, Mile 1221
<u>Byrdia rossi</u> Curt.	W	1	Dawson
<u>Campaea perlata</u> Gn.	Biw, W	4	Watson Lake, Mayo, Dawson

Insect	Host	Number of collections	Remarks
<u>Cerura</u> probably <u>occidentalis</u> Lint.	A, Cot, W	3	Mile 43, Carmacks Rd., Stewart River Crossing, Mile 61, Dawson Rd.
<u>Choristoneura</u> <u>rosaceana</u> Harr.	W	1	Mile 1221
<u>Cimbex</u> <u>americana</u> Leach	A, Biw, Dt, W	5	Whitehorse, Mayo, Mile 61, Dawson Rd., Mile 75, Dawson Rd.
<u>Clepsis</u> <u>persicana</u> Fitch	Cot	1	Watson Lake
<u>Compsolechia</u> <u>niveopulvella</u> Chamb.	W	1	Teslin
<u>Dioryctria</u> <u>abietivorella</u> D. & S.	Pl cones	2	Bennett, B. C., Mile 717
<u>Dysstroma</u> <u>citrata</u> Linn.	A	1	Teslin
<u>Epicnaptera</u> <u>americana</u> Harr.	Cot	1	Mile 93, Haines Rd., B. C.
<u>Epinotia</u> <u>solandriana</u> Linn.	Dt., W	2	Bennett, B. C.
<u>Epirrhanthis</u> <u>substriataria</u> Hlst.	A, Cot, W	3	Bennett, B. C., Whitehorse, Mi. 93, Haines Rd., B. C.
<u>Epirrita</u> <u>autumnata</u> Gn.	Bio	1	Watson Lake
<u>Eucordylea</u> <u>atrupictella</u> Dietz.	W	2	Mile 23, Carmacks Rd., Mile 61, Dawson Rd.
<u>Eupithecia</u> <u>annulata</u> Hlst.	Sw, Sb	3	Watson Lake, McRae, Whitehorse
<u>E. filmata</u> Pears.	Sw	1	Mile 147, Haines Rd.
<u>E. luteata</u> <u>bifasciata</u> Dyar	W	1	Mile 93, Carmacks Rd.
<u>E. niphadophilata</u> Dyar	Jc	1	Mile 648
<u>Hydriomena</u> <u>furcata</u> Thun.	W	4	Teslin, Mayo, Bennett, B. C., Haines Jct.

Insect	Host	Number of collections	Remarks
<u>Itame anataria</u> Swett	Cot	1	Watson Lake
<u>I. loricaria</u> Evers.	A, Cot	4	Watson Lake, Teslin
<u>Lexis bicolor</u> Grt.	Sb	1	Mile 1150
<u>Lithocolletis</u> sp.	Cot	7	Whitehorse, Pelly R. Crossing, Dawson, Stewart R. Crossing
<u>Lycia ursaria</u> Wlk.	W	1	Mile 12, Atlin Rd.
<u>Lygris xyлина</u> Hlst.	W	2	Mile 31, Atlin Rd., B. C., Whitehorse
<u>Nematus mendicus</u> Walsh	A, Dt	2	Mayo, Dawson
<u>N. occidentalis</u> (Marl.)	W	1	McClintock River Rd.
<u>N. ventralis</u> Say	W	1	Pelly River Crossing
<u>Neodiprion</u> sp.	H	1	Mile 41, Haines Rd., B. C.
<u>Nycteola frigidina</u> (Pack.)?	A	2	Mile 950, Mile 980
<u>Pontania</u> sp.	W	4	Whitehorse, Mile 1091
<u>Operophtera bruceata</u> Hlst.	Big, Dt, W	3	Whitehorse, Mile 93, Haines Rd., B.C., Mile 1072
<u>Plemyria georgii</u> Hlst.	A, W	6	Mile 25, Canal Rd., Whitehorse, Mile 45, Dawson Rd., Dawson, Haines Jct., Mile 123, Haines Rd.
Pyralidae	Sb "club-top" samples	3	Watson L., Mayo, Dawson
<u>Scoliopterix libatrix</u> Linn.	W	1	Mayo
<u>Semiothisa hebetata</u> Hlst.	W	1	Mile 968
<u>S. sexmaculata</u> Pack.	Le	1	Mile 681
<u>Syngrapha selecta</u> Wlk.?	Sw	1	Haines Jct.
<u>Trichiosoma triangulum</u> Kby.	A, Cot	11	Widely distributed

Insect	Host	Number of collections	Remarks
<u>Acmaeops pratensis</u> (Laich.)?	Sw, W	2	Mile 766, B. C., Elsa
<u>A. proteus</u> Kby.?	Pl	1	Carmacks
<u>Adalia frigida</u> Schn.?	A, Big, Ds, Le, Pl, W	14	Widely distributed
<u>Agonum bembidioides</u> (Kby.)	Sw	1	Whitehorse
<u>Anisocalvia 14-guttata</u> var.?	Sb	1	Dawson
<u>A. 14-guttata</u> Linn.	Dt, Pl	3	Mile 756, B.C., Mile 25, Canol Rd., Car- macks
<u>Anoplodera propinqua</u> Bland.?	A	1	Atlin, B. C.
<u>Buprestis nuttalli</u> Kby.	in flight	1	Mayo
<u>Callidium subopacum</u> Sw.?	in flight	1	Mount Haldane
<u>Carphoborus carri</u> Sw.	Sw	1	Mile 29, Dawson Rd.
<u>Chrysomela falsa</u> Brown	Cot	2	Mile 1104
<u>Coccinella nivicola</u> <u>monticola</u> Muls.?	Big, Le	2	Mile 658, Mount Haldane Rd.
<u>C. transversoguttata</u> Fald.?	Big	1	Mount Haldane Rd.
<u>C. transversoguttata</u> quin- <u>quenotata</u> Kby.?	Big	1	Mile 716
<u>C. trifasciata</u> L.?	Big	1	Mount Haldane Rd.
<u>Gorticeus substriatus</u> Lec.	Pl, Sw	2	McClintock R. Rd., Annie Lake Rd.
<u>Cryphalus nitidus</u> (Sw.)?	W	2	Mile 105, Dawson Rd., Mile 38, Aklavik Rd.
<u>Ctenicera aeripennis</u> Kby.?	Je	1	Mile 548
<u>C. decoratus</u> Mann.?	Sb	1	Mile 1181

Insect	Host	Number of collections	Remarks
<u>C. hoppingi</u> Van D.?	SW	1	Whitehorse
<u>C. lobata caricina</u> (Germ.)?	SW	1	Stewart R. Crossing
<u>C. nigricollis</u> Bland?	Ba	1	McKee Creek, B. C.
<u>C. ochreipennis</u> Lec.?	Ba, SW, W	13	Widely distributed in B. C. and southern Yukon
<u>Cyphon variabilis</u> Thunb.	Le, SW, W	6	Widely distributed
<u>Dendroctonus engelmanni</u> Hopk.?	SW	1	Mile 29, Dawson Rd.
<u>D. engelmanni</u> Hopk.	SW	3	Annie Lake Rd., Mile 8, Carmacks Rd., Calumet
<u>Dicerca prolongata</u> Lec.?	A	4	Pelly R. Crossing, Stewart R. Crossing, Mount Haldane Rd., Mile 21, Dawson Rd.
<u>Enoclerus lecontei</u> Wolc.	SW	1	Mile 29, Dawson Rd.
<u>Hippodamia lunatomaculata</u> Mots.	A	1	Whitehorse
<u>Hypnoidus tumescens</u> (Lec.)?	Sb	1	Stewart R. Crossing
<u>Ips perturbatus</u> Eich.?	SW, felled trees and decked logs	5	McClintock R. Rd., Mile 85, Carmacks Rd., Calumet, Mile 29, Dawson Rd., Mile 82, Dawson Rd.
<u>Lepyrus gemellus</u> Kby.	W	5	Mile 826, Mile 31, Atlin Rd., B. C., Carmacks, Mile 1221
<u>Lexis bicolor</u> Grt.	A, SW	5	Whitehorse, Mile 13, Carmacks Rd., Minto, Mile 980
<u>Lucidota corrusca</u> L.?	Cot, W	2	McKee Creek, B. C. Pelly River Crossing
<u>Magdalis</u> spp.	A, SW, W	4	Mile 766, B. C., Mile 894, Whitehorse, Haines Jct.

Insect	Host	Number of collections	Remarks
<u>Melanophila acuminata</u> DeG.?	in flight	4	Whitehorse, Pelly R. Crossing, Elsa
<u>Mulsantina picta</u> Rand.?	Pl	1	Mile 717
<u>Neomysia pullata randalli</u> Csy.?	Ba, Pl	2	McKee Creek, B. C. Carmacks
<u>Orsodacne atra</u> Ahr.	W	2	Mount Haldane Rd., Dawson
<u>Pachyta lamed</u> L.	in flight	1	Mile 976
<u>Phratora purpurea</u> Br.	A, Biw, W	4	Mile 21, Dawson Rd., Mile 45, Dawson Rd., Snag, Mile 1221
? <u>Pineus</u> sp.	SW	4	Mile 12, Atlin Rd., Mile 932, Minto, Mile 1219
? <u>Pityophthorus</u> sp.	Pl	2	Watson Lake, Mile 25 Carmacks Rd.
<u>Pityophthorus</u> spp.	Pl, SW	2	Bennett, B. C., McClintock R. Rd.
<u>P. tuberculatus</u> Eich.?	Pl	1	Mile 898
<u>Plectrura spinicauda</u> Mann.	Sitka mountain ash	1	Mile 41, Haines Rd., B. C.
<u>Pogonocherus penicellatus</u> Lec.?	SW	1	Mile 898
<u>P. pictus</u> Fall.?	Pl	1	Mile 898
<u>Polygraphus rufipennis</u> Kby.	SW	6	Annie Lake Rd., Mile 21, Carmacks Rd., Calumet, Mile 29, Dawson Rd., Mile 34 Aklavik Rd.
<u>Rhabdophaga strobiloides</u> (Walsh)	W	1	Mile 43, Carmacks Rd.
<u>Rhyncholus</u> sp.	Pl	1	Bennett, B. C.
<u>Saperda moesta</u> Lec.	Cot	1	Haines Jct.
<u>Scolytus</u> sp.	SW	1	Mile 29, Dawson Rd.

<u>Insect</u>	<u>Host</u>	<u>Number of collections</u>	<u>Remarks</u>
<u>Sericus incongruus</u> (Lec.)?	Big	1	Mount Haldane Rd.
<u>Sicya macularia</u> Harr.	W	1	Mile 1051
<u>Syneta pilosa</u> Brown?	Ba, Le, Sw	5	Mile 658, Teslin, McKee Creek, B.C., Tagish, Mile 1048
? <u>Tetratoma concolor</u> Lec.	Pl, SW	8	Mile 756, B.C., Teslin, Mile 876, Mile 904, Carcross, Whitehorse, Mile 932
<u>Urocerus flavicornis</u> Fab.?	on Sw log, in flight	3	Whitehorse, Elsa
<u>Zaraea</u> sp.	Ba	1	McKee Creek Rd., B. C., Mile 981

STATUS OF FOREST DISEASES

Important Diseases

Blister Rust on Lodgepole Pine

Lodgepole pine reproduction was infected by Cronartium comandrae Peck at Mile 904 and Mile 898, Alaska Highway, and on the Carcross Road. Four to five per cent of the young pines were infected at the localities mentioned. Mortality, apparently caused by this rust, was noted.

Needle Rust on White and Black Spruce

Witches' brooms caused by Peridermium coloradense (Diet.) Arth & Kern continued to cause light damage in the district.

? Climatic Injury to Lodgepole Pine

A stand of dead and dying lodgepole pine was seen at Bennett, B. C., on the White Pass-Yukon Railroad. The affected area covered about 0.75



square miles, extending about 1.5 miles in length, and about 0.5 miles in width. Most of the injured trees were located on a sandy, exposed hill with extreme drainage, south-west of Bennett. The upper four-fifths of many of the trees, averaging 17 feet in height, were dead, while the lower one-fifth was living. The fact that the lower portions of a large number of the injured lodgepole pine were living could be due to snow protection. The weakened trees appeared to have fostered a bark beetle population which caused light damage.

? Climatic Injury to Alpine Fir

What appeared to be climatic injury of alpine fir was seen at Calumet and on the Clear Creek Road. The new growth which was dead was quite evenly distributed over the affected trees. At Calumet about 200 acres were affected while on the Clear Creek Road about 1000 acres were affected. The new growth of both reproduction and mature alpine fir at the two localities was killed. Both areas were exposed, at an average of 4000 feet above sea level. At Calumet the alpine fir was growing in association with white spruce which was not affected. The alpine fir damage at Calumet and on the Clear Creek Road is on practically the same degree of latitude, approximately 63° 52'.

A sample consisting of ten 12-inch branch tips from five trees was taken at each site to determine the degree of twig mortality. The average d.b.h. of the ten trees sampled was five inches, branch samples being cut from the five to 10-foot level. Table 8 shows the results of the examination.

Table 8  
Percentage of Alpine Fir Twig Mortality  
Caused by Climatic Injury, Yukon 1960

Locality	Number of twigs examined	Percentage of dead twigs
Calumet	356	45.2
Mile 11.5, Clear Creek Rd.	367	42.5

Yellowing of Lodgepole Pine Terminals

Yellow terminal discoloration was noted in quite a number of reproduction lodgepole pine stands bordering the Alaska Highway and other Yukon roads. It seems that during the winter months cone collections

## OTHER NOTEWORTHY DISEASES

are made for reseeding purposes. The cones being pulled off by hand caused the terminals to die and turn yellow.

Host	Organism	Locality	Remarks
<u>Abies lasiocarpa</u>	<u>Melampsorella caryophyllacearum</u> Schroet.	Calumet, Whitehorse	Needle rust causing "witches' brooms"
<u>Abies lasiocarpa</u>	<u>Cladosporium herbarum</u> (Pers.) Link	Calumet	A mold
<u>Arctostaphylos uva-ursi</u>	<u>Chrysomyxa arctostaphyli</u> Diet.	Teslin	Leaf rust causing leaf blotches
<u>Picea mariana</u>	<u>Chrysomyxa ledicola</u> Lagerh.	Mi. 1151, Alaska Highway, Y.T.	Needle rust
<u>Salix</u> sp.	<u>Melampsora epitea</u> Thum.	Sulphur Crk. Road.	Orange rust on leaves

