

ANNUAL REPORT OF FOREST BIOLOGY RANGER

for

YUKON DISTRICT

1959

FOREST BIOLOGY SURVEY

YUKON DISTRICT

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INTRODUCTION

The Forest Insect and Disease Survey in the Yukon Forest Biology Ranger District began on June 26 and terminated on August 21. As in the past years, only the areas accessible by roads in Yukon Territory and Atlin Ranger District were surveyed. However, aerial flights, through the courtesy of the Yukon Forestry Division, were made over some of the more heavily timbered areas in the Yukon. A house trailer stationed at the Yukon Forestry Division in Whitehorse was used as headquarters.

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

Table 1

Collections by Hosts

Yukon District - 1959

Coniferous hosts	Forest insects	Forest diseases	Broad-leaved hosts	Forest insects	Forest disease
fir, alpine	3	-	alder, mountain	9	-
hemlock, western	6	-	alder, Sitka	8	-
juniper, common	3	-	aspen, trembling	12	-
larch, eastern	3	-	birch, dwarf	9	-
pine, lodgepole	26	2	birch, water	1	-
spruce, black	8	1	birch, white	5	-
spruce, Sitka	3	-	cottonwood, black	7	1
spruce, white	45	3	poplar, balsam	4	-
			willow	28	5
			miscellaneous	4	3
			Total	87	9
Total	97	6	Grand total	184	15

STATUS OF INSECTS

Spruce Seedworm, Laspeyresia youngana Kft.

Nearly all white spruce stands had a very heavy crop of cones in 1959 and cone samples were taken at four localities. The samples were all collected in early August and only the larvae of the spruce seedworm were present in the infested cones. A sample consisted of 50 cones picked at random from one tree. Table 2 shows the percentage of infested cones.

Table 2

Percentage of White Spruce Cones Infested by the Spruce Seedworm,
Yukon District, August, 1959.

Locality	Percentage infested
McKee Creek, B. C.	46
Mile 867, Alaska Highway, Y. T.	26
Mile 976, Alaska Highway, Y. T.	28
Carcross, Y. T.	74

An Engraver Beetle in Lodgepole Pine, Ips sp.

Only a few scattered lodgepole pine trees near the Minto sawmill were attacked in 1959. However, during the past few years a number of trees have been killed. Most of the beetles attacking the living trees probably emerged from the slash and slabs from the sawmill.

Large Aspen Tortrix, Choristoneura conflictana (Wlk.)

This insect continued to heavily defoliate trembling aspen trees in the infestation three miles north of Carmacks. The area of the infestation has increased and now covers an estimated 500 acres. The average defoliation was estimated to be about 70 per cent.

Light to moderate defoliation of trembling aspen trees was caused by this insect in the infestation at Mile 1205 Alaska Highway, Y. T.

The percentage of parasitism appeared to be very high. Most of the moths had emerged when both areas were surveyed in early July.

Aspen Leaf-miner, Phyllocnistis populiella Cham.

The aspen leaf-miner infestation in the Watson Lake District increased in 1959 and appeared to be spreading westward along the Alaska Highway. Two

permanent sample plots were established in 1959, one at Watson Lake and the other at Rancheria River. Two 12-inch branches were cut from each of five trees at each plot, and the leaves examined. Tables 3 and 4 show the results of the examination of leaf samples taken at the two plots.

Table 3

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

Location	Percentage leaf surfaces with mines	No. of adults produced per leaf surface
Watson Lake	54	0.28
Rancheria	28	0.13

The adult emergence indicates that infestations may be expected to continue in 1960.

A 100-cocoon sample was obtained at each plot to determine mortality occurring at this stage. The results are shown in Table 4.

Table 4

Percentage Mortality of Aspen leaf-miner Cocoons Due to Parasites and other Causes at Two Sample Plots, Yukon District, 1959.

Location	Percentage mortality in cocoon stage	
	Parasites	Other causes
Watson Lake	25	4
Rancheria	33	6

A Lodgepole Pine Weevil, Pissodes sp.

An undetermined species of Pissodes was found infesting the leaders of reproduction lodgepole pines in the area around Whitehorse, Y. T., Mile 774 Alaska Highway, B. C. and Mile 10 Atlin Road, Y. T. Although the infestation was light, it had increased considerably since last year. Dead leaders were also observed in reproduction pine stands in other areas in the Yukon but the damage was very light.

Birch Leaf-rollers, Rheumaptera spp.

The birch leaf-roller population in the Dawson area continued to decline in 1959. Defoliation was light. The two species of Rheumaptera found in the area are R. hastata L. and R. albodecorata Blackwre.

Willow Leaf-miner, Lyonetia saliciella Busck

In the infestation at McKee Creek, west of Atlin, B. C. the population remained unchanged in 1959. The leaves of willow bushes in an area of about 250 acres were severely mined.

Black-headed Budworm, Acleris variana (Fern.)

Very few larvae were collected in 1959 and the population was at a low level in all areas in the Yukon.

Round-headed Borer, Monochamus sp.

Although adult Monochamus sp. have been seen at various localities, no evidence of this beetle's activities has been found in any of the 1958 fires. Lodgepole pine and white spruce trees in 1958 burns at Mile 710, Alaska Highway, Y. T., Mile 756 Alaska Highway, B. C., Mile 18 Atlin Road, Y. T. and Squanga Lake, Y. T. were examined and no infested trees were found.

STATUS OF FOREST DISEASES

Blister Rust on Lodgepole Pine

Cronartium comandrae Peck was found infecting reproduction lodgepole pine trees at Mile 660 to 664 Alaska Highway, Mile 830 Alaska Highway, Mile 905 Alaska Highway and Mile 2 Mayo Road, Y. T. Although infection was light, the rust was found in all reproduction pine stands examined. Dead pine trees, presumably killed by this rust, have been detected in all reproduction pine stands in the Whitehorse District.

Needle Rust on White and Black Spruce

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

Hemlock canker

Cankers on the underside of western hemlock branches were collected by Mr. A. Funk at Mile 42 Haines Road. An unidentified cerambycid beetle was also found and may have chewed the bark off the branches, introducing infections.

Other Noteworthy Diseases

1959

Host	Organism	Locality	Remarks
<u>Comandra livida</u>	<u>Cronartium commandrae</u> Peck	Mi. 830 Alaska Highway, Y. T.	<u>C. livida</u> is the alternate host of this pine blister rust.
<u>Picea glauca</u>	<u>Chrysomyxa ledicola</u> Lagerh.	Miles Canyon, Whitehorse	Rust fungus causing yellow- ish needle discoloration and foliage drop.
<u>Picea mariana</u>	<u>Chrysomyxa ledicola</u> Lagerh.	Little Salmon Lake, Y. T.	Rust fungus causing yellow- ish needle discoloration and needle drop.
<u>Populus trichocarpa</u>	<u>Taphrina populi-</u> <u>salicis</u> Mix	Mi. 38, Haines Road, B. C.	Causes leaf blister
<u>Salix</u> sp.	<u>Rhytisma salicinum</u> (Pers.) Fr.	Mi. 177, Mayo Road, Y. T.	Causes thick tar spots on leaves

