FOREST INSECT RANGER REPORT

for

ROCKY MOUNTAIN NATIONAL PARKS.

by

A. E. Anderson & E. F. Thornton

1949

INTRODUCTION

During the past summer, about one month was spent in the National Parks. (Banff, Yoho, Kootenay, Glacier and Mount Revelstoke).

June 3 to June 4 --Examination of the False Hemlock hooper outbreak near Radium Hot Springs, B. C.

July 11 to August 9 --Sampling and inspection in these parks.

DISTRICT CONDITIONS

False Hemlock Looper. (Nepytia nr. canosaria)

The false hemlock looper infestation which threatened the Douglas fir stands near Radium Hot Springs in Kootenay National Park has dwindled to insignificance. The DDT spray applied to this area in 1948 was quite effective.

Mountain Pine Bark Beetle. (Dendroctonus monticolae)

All outbreaks of this beetle in the Yoho National Park had dwindled considerably from even the low populations of last year. The local outbreak near the junction of the Amiskwi and Kicking Horse Rivers had practically subsided as a result of the control project carried out in 1948.

Spruce Budworm. (Choristoneura fumiferana)

The spruce budworm did noticeable damage to the white spruce and alpine fir, in the vicinity of Marble Canyon, in Kootenay National Park. South from there the damage extended to McLeod Meadows, in the park, and east to Lake Louise and Banff, in Banff National Park. Samples of this insect were also obtained at Field, in Yoho National Park.

Lodgepole Pine Needle Miner. (Recurvaria milleri)

The boundaries of heavy infestation in the Banff outbreak, are as follows: In the north by Hector Lake on the Banff-Jasper highway, in the east to Lake Minnewanka, in the southeast to beyond the town of Banff, to Hawk Creek in Kootenay National Park. Beyond the area of noticeable damage, the infestation extended well into the Ghost River Watershed on the east. North of this, extensions were also present in that part of the drainage area of the Red Deer River, formed by the Dormer and Panther Rivers. Beyond the southeastern gate, the miner was found for a distance of one mile. Traces of this insect were found as far south as Simpson River, in Kootenay Park, and as far west as the junction of the Amiskwi and Kicking Horse Rivers, in Yoho Park. Along the Bow Valley, the infestation was heaviest at the lower elevations, and diminished progressively with altitude until the limit of Pine was reached, above 6500 feet.

SPECIAL REPORT (1)

GLACIER

Forest Insect Ranger A. E. Anderson from August 4 to 6, conducted an inspection of reported damage to white pine and cedar in the vicinity of Stony Creek Warden Station, Glacier National Park. Trees were examined in various places and samples taken.

Discoloration was quite evident throughout, extending from Stony Creek northward to the Park boundary. The affected trees were ~~fairly~~ restricted to the bottom of the valley along the Beaver River. Examination of bark and branches indicated that the flow of sap was normal and subcortical conditions healthy. No evidence of blister rust was noted. New growth was put on this season. Samples previously sent to the Dominion Forest Pathology Laboratory apparently were not infected with any disease, according to the report received.

From the evidence at hand, the indication is that the discoloration in both the white pine and the cedar is physiological in nature, probably brought about by weather factors.

SPECIAL REPORT (2)

BARK BEETLES - YOHO

General sampling and bark beetle survey work were conducted in Yoho National Park by Insect Rangers A. E. Anderson and E. P. Thornton, from July 28 to August 9. Bark Beetle areas were re-examined in the vicinity of Leancheil, on the Emerald Lake road, in the Amiskwi Valley, and on Ice River.

On the Leancheil and Emerald Lake areas, the infestation has declined to such an extent that the only bark beetles found were in a few wind-thrown trees. The mountain pine bark beetle is still active on the Ice River area but the decline in population has continued. The ratio of green infested trees (1949 attack) to "red-tops" (1948 attack) is still 1 to 4. This is the same as the ratio found in 1948 between the 1947 and 1948 attacks.

The local outbreak in the Amiskwi Valley, where a control project was carried out in 1948, has practically subsided. Only 6 green infested trees were found, and in 3 of these the broods had apparently been "drowned out" by heavy pitch flow. In the remaining 3 trees the beetles were quite active but it was noted that these trees had been severely scorched during the control operation. When trees are scorched during control work they should be removed along with the infested trees. It would be wise precaution to remove and burn these trees before the spring of 1950.

Forest Insect Survey
Report on White Pine and Cedar in Glacier National Park

Forest Insect Ranger A. E. Anderson was present at the Stoney Creek Warden Station in Glacier National Park from August 4 to 6 where he inspected the reported discoloration on white pine and cedar to try and determine the cause of same if possible.

Trees were inspected in various places and samples taken. Discoloration was quite prominent throughout but from reports received from Park Warden, J. McDonald, the trees had again started to put on new growth.

The area affected extended from Stony Creek and then northerly to the Park boundary with the affected trees being pretty well restricted to the bottom of the valley along the Beaver River.

In all areas where the trees were examined, bark was peeled from the trunks, branches and twigs of the affected trees.

The flow of sap appeared normal and no evidence of insect activity was noted. It had been believed that the discoloration may have been caused by a blister rust but no evidence of any disease was found. Samples previously taken had been sent to the Pathology Laboratory at Victoria, B. C. and from all reports in reply nothing had been noted.

In conclusion, it is therefore believed that the cause of the reported discoloration was due to weather conditions.

A. E. Anderson

FALSE HEMLOCK LOOPER SURVEY, 1949

Forest Insect Rangers A. Anderson and R. Stanley were present at Radium Hot Springs in the Kootenay National Park on June 3 and 4 where they conducted a survey on the False Hemlock Looper outbreak which had been sprayed in 1948. This survey was conducted for the purpose of possible control methods in 1949 and to try and determine the effect of spray in controlling the above mentioned pest.

In 1948 400 acres were sprayed within the Park.

In 1949 this area was again gone over and trees selected at random were beaten and the number of larvae found being counted.

The trees which were selected at random were along the road running west from the Park gate to the Park boundary and from there in a south-easterly direction to the southern boundary of the Park, and also in the vicinity of the garbage disposal where one of the heaviest infested portions of the outbreak was located in 1948. The survey also took in the area lying immediately above the Park gate to the North and then westward to the Park boundary.

In all of the area inspected only 13 larvae were found and these were all in the vicinity of the garbage disposal.

While at Radium Hot Springs personnel from both the Park and the B. C. Provincial Forest Service were contacted. It was learned then that at an earlier date an egg survey had been conducted on P. B. Provincial road lying immediately outside the Park. In this area only 5 eggs were found.

In conclusion it is thought that control will not be necessary this year.

At the time the survey was conducted the larvae were believed to have been in the second and third instars and were therefore very small and it is possible that some of the larvae were missed.

A. E. Anderson
&
R. R. Stanley

Forest Insect Survey, 1949

Yoho National Park

General sampling and survey work was conducted in Yoho National Park by insect rangers A. Anderson and E. F. Thornton from July 28 until August 9. During the time spent in the Yoho National Park they re-inspected the old bark beetle infestation and ranger Ande son undertook a side trip to Glacier National Park to inspect reported discoloration on white pine and cedar;

Bark Beetle Infestation
Yoho National Park

The survey conducted in Yoho National Park to determine the progress of the bark beetle infestation proved very encouraging as in all areas inspected it was found that the infestation was on the decline.

The areas inspected are at Leanchoil, Ice River, Emerald Lake Road and the Amiskwi Valley.

In the Leanchoil and Emerald Lake road areas the infestation has declined to such an extent that the only beetles available were taken from trees that had been blown-down and and were no longer active,

The Ice River area again provided the heaviest infested portion of the Park but here also the infestation is on the decline. In 1948 where the green infested trees occurred in a ratio of 1 - 4 of 1947 infested trees, this year appeared in the same ratio of 1 - 4 to the 1948 infested trees.

In the Amiskwi Valley infestation has practically diminished this year.

A heavy control project was undertaken in the above mentioned area in 1948 with all infested trees being cut and burnt. This year, at the time of the inspection, only 6 green infested trees were found; 3 of these had nodules on the outside bark but when the bark was removed it was found that most had been drowned out and the rest must have left the trees as some of the tunnels were empty.

In the remaining 3 trees the beetles were quite active but this could have been due to the fact that the trees had been quite severely burnt during the control operations.

A point of interest is the fact that a very small number of beetle larvae were present. This may have some bearing on the decline of the infestation, ob it may be caused by the weather meaning that the trees are more vigorous and are not as susceptible to beetle attack during cold wet seasons as they may be during the seasons when it is quite hot and dry.

A.E. Anderson
&
E.F. Thornton

August 16, 1949
a

INTERIM INSECT SURVEY REPORT

Discoloration of White Pine and Cedar in Glacier National Park and a Survey of Bark Beetle Conditions in Yoho National Park.

GLACIER

Forest Insect Ranger A. E. Anderson from August 4 to 6 conducted an inspection of reported damage to white pine and cedar in the vicinity of Stony Creek Warden Station, Glacier National Park. Trees were examined in various places and samples taken.

Discoloration was quite evident throughout, extending from Stony Creek northward to the Park boundary. The affected trees were fairly restricted to the bottom of the valley along the Beaver River. Examination of bark and branches indicated that the flow of sap was normal and subcortical conditions healthy. No evidence of blister rust was noted. New growth was put on this season. Samples previously sent to the Dominion Forest Pathology Laboratory apparently were not infected with any disease, according to the report received.

From the evidence at hand, the indication is that the discoloration in both the white pine and the cedar is physiological in nature, probably brought about by weather factors.

BARK BEETLES - YOHO

General sampling and bark beetle survey work were conducted in Yoho National Park by Insect Rangers A. E. Anderson and E. F. Thornton from July 28 to August 9. Bark beetle areas were re-examined in the vicinity of Leanchoil, on the Emerald Lake road, in the Amiskwi Valley and on Ice River.

On the Leanchoil and Emerald Lake areas, the infestation has declined to such an extent that the only bark beetles found were in a few wind-thrown trees. The mountain pine bark beetle is still active on the Ice River area but the decline in population has continued. The ratio of green infested trees (1949 attack) to "red-tops" (1948 attack) is still 1 to 4. This is the same as the ratio found in 1948 between the 1947 and 1948 attacks.

Bark Beetles - Yoho (cont'd)

The local outbreak in the Amiskwi Valley, where a control project was carried out in 1948, has practically subsided. Only 6 green infested trees were found, and in 3 of these the broods had apparently been "drowned out" by heavy pitch flow. In the remaining 3 trees the beetles were quite actice but it was noted that these trees had been severely scorched during the control operation. When trees are scorched during control work they should be removed along with the infested trees. It would be a wise precaution to remove and burn these three trees before the spring of 1950.

Geo. R. Hopping,
Officer in Charge.

GRH:a
August 13, 1949

FOREST INSECT RANGER REPORT

for

BRAZEAU ATHABASCA FOREST RESERVE

and

ADJACENT FIRE RANGING DISTRICTS.

1949

J. K. Robins and E. J. McNeil

INTRODUCTION

Forest Insect Survey sampling and investigations were conducted throughout the Brazeau-Athabasca Forest Reserve and adjacent Fire ranging Districts from June 9 to August 30. The following Itinerary was followed.

June 9 - June 13	Jasper Park.
June 13- June 21	Trip to Calgary for truck.
June 21- June 27	Entrance Area.
June 27- July 4	Edson, Evansburg, Breton.
July 4 - July 13	Coal Branch.
July 13- July 24	Entrance Area.
July 24- July 30	Evansburg, Whitecourt.
July 30- Aug. 6	Brule Area.
Aug. 6 - Aug. 9	North of Entrance.
Aug. 9 - Aug. 13	North of Marlboro.
Aug. 13- Aug. 20	McLeod River.
Aug. 20- Aug. 30	Coal Branch.

Insects encountered included the Spruce gall aphid, Spruce budworm, Pine nodule maker, Pine shoot weevil, flatheaded borers and ambrosia beetles. A total of 392 collections were made during the summer.

DISTRICT CONDITIONS

Throughout the area covered only a normal insect population was found. There was no evidence of major infestations.

Spruce Gall Aphid. (*Adelges abietis*)

This insect was encountered in all parts of the district. However, as damage caused by this insect is mostly to the appearance of the tree, it is not of much economic importance in this forest district.

Spruce Budworm. (*Christaneura fumiferana*)

In western Alberta, the Spruce budworm has a two-year life cycle. The larvae are very small and somewhat inactive during odd-numbered years, reaching full size and doing most damage in even-numbered years. For this reason very few of these insects were collected.

Pine Nodule Maker. (*Petrova albicapitana*)

A normal complement of these insects was found in most of this area with one small outbreak in the vicinity of Mercoal.

Pine Shoot Weevil. (Pissodes sp. prob. terminalis)

Only one sample was taken of this insect. This sample came from the same area as the Pine nodule maker, i. e., in the Mercoal region.

Flatheaded Borer. (Buprestid sp)

Buprestid larvae were found in nearly all down timber inspected, doing considerable damage to any logs left in the bush, from the previous winter's logging operations. In some places notably the White Creek Lumber Company's timber berth on the McLeod River, Spruce logs had been heavily attacked. Some galleries extended into the logs to a depth of three or four inches.

Ambrosia Beetles. (Trypodendron borealis)

Only one specimen of this insect was found although galleries were found in logs left from last winter's timber operations.

OTHER INVESTIGATIONS

Acting on a report by Ranger E. R. Stanley of Coalspur, an investigation was made into an infestation in Lodgepole Pine in the vicinity of Mercoal. It was determined that the damage to sixty acres of young growth Lodgepole Pine had been caused by a pine shoot weevil. This insect had reached its peak probably in 1947, and had been on the decline since that year. It is expected that this decline will continue. However, it is recommended that the area of infestation be re-inspected periodically, in order to be certain.

FOREST INSECT RANGER REPORT

for

JASPER NATIONAL PARK

1949

J. Grant and F. LaRue

INTRODUCTION

Following three days sampling from June 7 to June 9, Jasper Park was not revisited until August 17 to August 31, when a survey to determine the extent of the Lodgepole Pine Needle Miner infestation was begun. In addition to this project, survey sampling was continued and four permanent sample plots established. The only insect reaching epidemic proportions was the Lodgepole Pine Needle Miner. a total of 115 collections were obtained in the Park.

Lodgepole Pine Needle Miner. (Recurvaria milleri)

See Report "The Lodgepole Pine Needle Miner in Jasper National Park."

Brown Pine Looper. (Caripeta angustiorata)

Larvae of this looper were abundant in some sections of the park, particularly at low elevations along the Miette and Athabasca valleys. More than twenty larvae per tree were beaten from some young Lodgepole Pines only 6 to 8 feet in height; however the average for all trees examined would probably not exceed half that number. By comparison with samples from all other districts where Lodgepole Pine was sampled, this was still an abnormally high population, but it is considered possible that parasitism and other controlling factors may be sufficient to prevent any further increase.

Report on "The Lodgepole Pine Needle Miner in Jasper National Park."

The status of the Lodgepole Pine Needle Miner in Jasper National Park as determined by a survey in August 1949, was as follows: Commencing in the vicinity of tangle Creek, a continuous infestation extended throughout the Lodgepole Pine stands of the Sunwapta and Athabasca Valleys, northwestward to the confluence of the Whirlpool and Athabasca Rivers. Beyond this point, the forest on the valley floor was virtually unaffected, although the infestation continued along the higher slopes to the vicinity of Whistler Creek on the west, and around Signal Mountain to the lower end of Medicine Lake on the east. In the tributary valleys, the infestation extended up Astoria River to a point due west of Cavell Lake; up the Whirlpool River valley at least to Moab Lake (exact limit not determined) and southward along the upper Athabasca valley at least to the junction of the Athabasca and Chaba Rivers.

While it was generally light over most of the area defined above, the infestation had reached more serious proportions in the region beginning a mile south of Poboktan Creek and extending almost to Athabasca Falls in the north, and southward up the Athabasca Valley to a point about three miles from the junction of that river and the Sunwapta. Within this area, branch samples taken at random from the crown of dominant trees showed up to 45% of last year's needles infested;

discoloration will probably be evident in parts of this stand in 1950, particularly in the vicinity of Poboktan Creek.

As would be expected, the needle miner population was above normal in practically all areas of the park adjacent to the infestation: mined needles were found quite consistently, though in small numbers, on most trees examined as far west as Geikie and northeastward to Pocahontas.

It should be borne in mind that this survey was, of necessity, confined to the more readily accessible portions of the park; there is a possibility that subsequent investigations will reveal additional infestations in the upper valleys of the larger streams which could not be reached in 1949.

Lodgepole Pine Needle Miner in Jasper National Park

Excerpt from Forest Insect Ranger Report, 1949, by G. Grant and P. LaRue.

"The status of the lodgepole pine needle miner in Jasper National Park as determined by a survey in August 1949, was as follows: Commencing in the vicinity of Tangle Creek, a continuous infestation extended throughout the lodgepole pine stands of the Sunwapta and Athabasca Valleys, northwestward to the confluence of the Whirlpool and Athabasca Rivers. Beyond this point, the forest on the valley floor was virtually unaffected, although the infestation continued along the higher slopes to the vicinity of Whistler Creek on the west, and around Signal Mountain to the lower end of Medicine Lake on the east. In the tributary valleys, the infestation extended up Astoria River to a point due west of Cavell Lake; up the Whirlpool River valley at least to Moab Lake (exact limit not determined) and southward along the upper Athabasca valley at least to the junction of the Athabasca and Chaba Rivers.

"While it was generally light over most of the area defined above, the infestation had reached more serious proportions in the region beginning a mile south of Poboktan Creek and extending almost to Athabasca Falls in the north, and southward up the Athabasca Valley to a point about three miles from the junction of that river and the Sunwapta. Within this area, branch samples taken at random from the crown of dominant trees showed up to 45% of last year's needles infested; discoloration will probably be evident in parts of this stand in 1950, particularly in the vicinity of Poboktan Creek.

"As would be expected, the needle miner population was above normal in practically all areas of the park adjacent to the infestation: mined needles were found quite consistently, though in small numbers, on most trees examined as far west as Geikie and northeastward to Pocahontas.

"It should be borne in mind that this survey, was of necessity, confined to the more readily accessible portions of the park; there is a possibility that subsequent investigations will reveal additional infestations in the upper valleys of the larger streams which could not be reached in 1949."

Excerpt from July-September, 1950, quarterly report by Dr. K. Graham & R. W. Stark.

"The Jasper Park area was inspected by K. Graham and R. Shepherd, attention being centered mainly on the infestation in the vicinity of Mt. Edith Cavell which remains the outstanding one for that region. Damage to the foliage is conspicuous over the 3-mile interval from Mile 11 to 14 on the Mt. Edith Cavell road. At Mile 12.5 the infestation extends from valley bottom (elevation 5140') up the slope to 6140' where it is very light. The greatest population density, which may be described as moderate to heavy occurs from valley floor to an elevation of 350' above it at this sampling point."

FOREST INSECT RANGER REPORT

for

NORTHERN ALBERTA FOREST DISTRICT

1949

J. Grant and P. LaRue

INTRODUCTION

The summer's itinerary was as follows:

June 23 to July 8	Whitecourt, Athabasca and Lac La Biche.
July 9 to July 25	Slave Lake, High Prairie, Grand Prairie, Peace River and Athabasca.
July 26 to Aug. 13	Lac La Biche, Conklin and Cold Lake.

DISTRICT CONDITIONS

Northern Alberta Forest District.

Investigations were conducted in this district from June 23 to August 13. While no infestations were encountered, a number of species were of sufficient importance to warrant inclusion in this report. In all, a total of 373 samples were collected in this area.

European Larch Sawfly. (Pristiphora erichsonii)

See Special Report No. 1.

Bronze Birch Borer. (Agrilus anxius)

Damage to white birch caused by this borer was found at widespread points: Slave Lake, Conklin, Whitecourt, Lac La Biche and Cold Lake. Injury was heaviest in those localities most favorable to the growth of the host tree (Slave Lake region in particular) although stunted birch clumps growing in the muskeg country at Conklin and Lac La Biche were also suffering from borer attack.

Poplar Leaf-eating Beetle. (Phytodecta americana)

Light defoliation had been caused by this beetle at several localities in the eastern part of the district in 1949; it was most prevalent between Athabasca and Calling Lake, in the Lac La Biche district, and near Conklin where young aspen stands on sandy ridges in muskeg country had been partially denuded.

Forest Tent Caterpillar. (Malacosoma disstria)

Although widespread infestations of this insect have occurred in the past over much of the Northern Alberta Forest District, no larvae were taken in 1949.

Black-headed Budworm. (Acleris variana)

This budworm was collected in all districts sampled, but was nowhere numerous enough to cause noticeable damage.

Jack Pine Sawfly. (Neodiprion sp.)

Larvae of a pine-feeding sawfly were numerous on young trees at the edge of a stand of mature Jack Pine, a mile north of Peace River town. Although larvae were found on most of the trees examined, their numbers were not large enough to cause noticeable defoliation.

Alder Sawfly. (Hemichroa crocea.)

Alders growing along the beach of Cold Lake had been attacked, with light defoliation resulting; most of the larvae had matured before the second week of August.

Report No. 1. (on the European Larch Sawfly in the Cold Lake District of Alberta.)

A survey conducted from August 1 to 13 by Insect Rangers Grant and LaRue, revealed that the European Larch Sawfly is now present in small numbers in the part of Alberta bordering on Cold Lake and westward to the vicinity of Ashmont, 15 miles north of St. Paul. The northern extremity of its range in the province could not be accurately determined, owing to the inaccessible nature of the country involved; however a low population was indicated in all larch swamps examined north of the settlements of La Corey, Lessard, and Ethel Lake. The most southerly points at which the insect was found were Beaverdam and Ashmont. Defoliation was nowhere noticeable and in many cases it was only after careful examination of a large number of trees that any evidence of its presence was obtained. The highest population to be encountered was in a small swamp near Lessard Post Office; partially defoliated branches were noted on practically all the mature trees. This suggested a possible infestation to the northward but investigation of other swamps in that direction did not bear this out.

Report No. 2. (on the Examination of Jack Pine in the Vicinity of Devenish, Alberta.)

On July 28 1949, Insect Rangers Grant and La Rue and Forest Ranger W. Plews of Conklin, Alberta, visited a strip of timber near Devenish, which had been reported as dying out.

An examination of the injury revealed that it was the result of an exceptionally heavy hailstorm in July 1948, and was in no way due to an insect attack. A full year after the storm's occurrence, there was still ample evidence of its intensity; mature Jack Pine were in many instances stripped of needles on their exposed side, and the larger deciduous trees were killed back an average of ten feet from the top. Aspen saplings up to twelve feet in height were almost without exception killed back to ground level, and young pine and spruce were mostly denuded.

A two day survey in the Conklin and Devenish districts did not reveal any insects of importance with the exception of the American Poplar Leaf-eating Beetle, which had caused a few patches of light defoliation amongst aspen stands near Conklin.

FOREST INSECT RANGER REPORT

for

CLEARWATER and BOW RIVER

FOREST RESERVE

1949

A. E. Anderson and E. F. Thornton

INTRODUCTION

The period spent by personnel of the Forest Insect Laboratory in the Clearwater and Bow River Forest Districts, was from August 12 until September 3. During this time forestry personnel was contacted where possible, and general survey collections were made.

On August 16 Insect Ranger Anderson, accompanied by Forest Ranger Verhaeghe, went on a short reconnaisance to determine the extent and intensity of the Needle Miner infestation in the Dormer, Panther and Red Deer Valleys. While this was going on, Ranger Thornton proceeded to Rocky Mountain House and then went westward to Nordegg to survey the area for insect damage.

On completion of these surveys, the insect rangers met at the Red Deer Ranger Station. The two insect rangers then departed for the Clearwater Ranger Station to do general survey work, and re-inspect the reported discoloration of Pine, on Timber Sale 510, Sections 15 and 22, Township 36, Range 9, west of the 5th Mer. (Special Reports 1 and 2).

The insect rangers were present in the Bow River Forest District from August 29 until September 3. During this time general survey and sampling work was again carried out as well as the contacting of forestry personnel. The only insect that had been in epidemic stages, was the American Poplar Leaf Beetle. It was encountered in the vicinity of the Sentinel Ranger Station. Apart from this one exception, the district was found to be moderately free from insects that were capable of causing severe damage.

DISTRICT CONDITIONS

Lodgepole Pine Needle Miner. (*Recuvaria millerii*)

An investigation into the spread of this insect in 1949 proved that the infestation was still general over the 1948 inspected area, and was also found to be spreading quite rapidly to the eastward. This eastward spread was found by two short reconnaisance trips undertaken in 1949.

The trip eastward along the North Saskatchewan River from the Banff-Jasper highway, proved the needle miner had moved to a point 15 miles east of this highway. At intervals of approximately every 3 miles, trees were examined. In each case trees were picked at random, and the number of infested trees were counted as well as the number of non-infested. Not until mile 12 was reached did signs of a decrease show, and in this area only 50% of the trees inspected produced mined needles. At mile 15 the usual procedure was undertaken, but only one tree provided mined needles, and in this case only two needles bearing miners were found.

The second reconnaisance undertaken, was up the Panther and Red Deer Valleys. In this case wonderful cooperation was received from the Alberta Forest Service, in the way of supplying horses and outfitting equipment which was necessary to make such a reconnaisance a success.

During the trip the area traversed, was up the Panther Valley to Corners Cabin, where the Dormer River joins the Panther River, then northward to the Red Deer River, and then eastward again down the Red Deer River to the Red Deer Ranger Station. This trip was made between August 16 and August 20.

Due to the short time available for this reconnaisance, stops were not frequent and a smaller number of trees was counted than on the Saskatchewan crossing trip.

In the Panther Valley the infestation had progressed eastward to a point about 18 miles west of the Red Deer Ranger Station, westward from this point to two miles beyond the Banff Park boundary, up the Dormer River and Panther River. Periodical stops were made and trees inspected for needle miner. In each case where trees were inspected, 20 trees were picked at random. Again the trees with mined needles were counted against the trees with non-mined needles. West of the Red Deer Ranger Station at mile 16, only two of the 20 trees counted provided infested needles, and on one tree only 1 mined needle was found. On the other infested tree, only 3 mined needles were encountered. At mile 18 all trees examined provided mined needles, but in each case the number was very small ranging from 1 to 20 mined needles per tree. Inside the park boundary, in both valleys, the infestation proved much heavier. Almost every branch inspected provided mined needles.

In the low valley connecting the Panther and Red Deer Valleys, the infestation ranged from light to very light.

In the Red Deer Valley, near the park boundary, mined needles on all trees were quite easily found, but eastward along the Red Deer River, at each point of observation, the infestation showed a steady decline. Not until a point 12 miles west of the Red Deer Ranger Station was reached, did an inspection of the pine provide a negative count.

A point of interest during this reconnaisance, was the inspection undertaken in the immediate vicinity of the buildings on the park ranch; here a very large number of trees were inspected and only a single mined needle was found. This location was appoximately 2 miles north of the Red Deer River, yet both to the east and the west, of the ranch headquarters, needle miner were encountered along the river.

American Poplar Leaf Beetle. (Phytodecta americana)

During the 1949 survey season, this defoliating beetle was not encountered at first hand, by the insect rangers in the previously mentioned parks and forest districts, but a considerable amount of damage was still noticable during the latter part of August. No collections could be made at this time as all the beetles had hibernated.

In the Clearwater Forest District, approximately 16 miles west of the Red Deer Ranger Station, along the Red Deer River, the defoliated trees were very noticeable. The attack was found in a number of small patches of Aspen along a fairly open grown hillside. It was quite interesting to note that some of the Aspen patches showed no signs of defoliation.

In the Bow River Forest District, a heavy attack had been made on the Aspen trees in the vicinity of the Sentinel Ranger Station, on

the Highwood River. Here again the beetles had dispersed, but the trees still showed signs of a very heavy earlier attack.

CONCLUSION

In conclusion, it was decided that a much closer observation of the activity of the needle miner, should be kept in the future. We are aware that before the required amount of cooperation can be obtained, from the Alberta Forest Service, with respect to this insect, more information about this issue must be given to the Alberta Forest Service.

It is therefore hoped that before the next meeting of the Forest Service takes place, some member of this laboratory may be able to prepare proper mounts and displays, to be presented at the meeting for their convenience.

These mounts should include the mined needles, as well as the insect itself, in its larval, pupal and adult stages.

SPECIAL REPORT (1)

Examination of Timber Sale 510
Sections 15 and 22, Township 36, Range 9 W. of 5th Mer.

by

J. Grant and J. K. Robins

On June 13, 1949, Insect Rangers J. Grant and J. K. Robins, accompanied by Mr. J. Walker of the Alberta Forest Service, made an inspection of a stand of mature lodgepole Pine on parts of Sections 15 and 22, T. 36, R. 9, West of 5th Mer., following a report of widespread defoliation in this timber berth.

An examination of the timber in the sections named revealed no defoliation which could be attributed to insects, although the majority of the trees, particularly isolated individuals, have been affected by what is commonly called "sun scald" or "frost damage". The general yellowish-brown discoloration of the foliage on the lower part of the tree might be well mistaken for the result of an attack by the Lodgepole Pine Needle Miner, especially in a case such as this, where apparently the damage has occurred in two successive winters. Injury was most extensive on the lower branches, the upper crowns being a normal colour in most of the trees examined.

SPECIAL REPORT (2)

On August 22, 1949, Insect Rangers A. E. Anderson and E. P. Thornton, accompanied by Mr. R. Lyle of the Alberta Forest Service, re-inspected the mature stand of Pine on parts of Sections 15 and 22, T. 36 R. 9, West of 5th Mer., which had been inspected by Insect Rangers J. Grant and J. K. Robins, accompanied by J. Walker, of the Alberta Forest Service.

This re-inspection of the timber in the sections named, revealed not only that there was no defoliation, but also no alarming number of dead needles. No insects were found in the area inspected, and it was believed that the trees in question, had been previously affected by what is commonly known as "sun scald" or "frost damage." These trees shed their brown and dead needles. It was also thought, that with the shedding of the needles and the new current years growth, the trees had taken on their normal healthy appearance again, covering up any previous discolorations and defoliation.

FOREST INSECT RANGER REPORT

for

WATERTON LAKES NATIONAL PARK

and

CROWSNEST FOREST RESERVE

1949. By R. R. Stanley

Introduction

Forest Insect Survey sampling and investigations were conducted throughout the park at Waterton Lakes, and the Crowsnest Forest Reserve from June 6 to September 17.

Insects encountered were Lodgepole Pine Needle Miner, American Leaf-eating Beetle, Forest Tent Caterpillar, Spruce Budworm and in some areas frost damage.

District Conditions. (Waterton Lakes National Park)

Sampling was carried on in the above mentioned areas, on the following dates. June 6 to 10, July 18 to 25, August 5 to 7, September 1 to 5, September 14 to 15. Ninty-one survey collections were made during this time, and the area was found to be free from insects in epidemic proportions.

American Poplar Leaf-eating Beetle. (Phytodecta americana) This insect was found over a wide area in the park. In most cases defoliation was light and occured in small patches, scarcely any larvae were found, indicating that development is practically completed by the end of June in this region.

Spruce Budworm. (Choristoneura fumiferana) was found to be well distributed in this area, but nowhere was it taken in appreciable numbers. It was collected in the Belly River, Red Rock Canyon and Cameron Lake districts. There was no evidence of recent budworm injury.

Forest Tent Caterpillar (Malacosoma spp) Malacosoma pluviale was commonly collected in all districts. While most numerous along the Chief Mountain Highway, south of Belly River R. S., it was also taken near Waterton townsite, and Cameron Lake. Malacosoma disstria was collected in the Red Rock Canyon and Belly River districts. Defoliation was very light.

Frost Damage.

The reddish tinge on the Lodgepole Pine along the Cameron Lake road, was apparently due to frost damage, as there was no evidence of insect activity in this region.

District Conditions. (Crowsnest Forest Reserve)

Investigations in the Crowsnest Forest Reserve, occupied the periods from June 11 to 17, June 23 to July 26, July 9 to 17, July 26 to August 4, August 8 to August 31, September 6 to September 13, September 16 to 17. During this time two hundred and ninty-nine survey collections were taken, and no outbreaks of forest insects were found.

American Poplar Leaf-eating Beetle. (Phytodecta americana) Only three collections of this insect were taken in the reserve, one in the East Porcupines, one at Lynx Creek and one in the Castle Mountain district. Defoliation was not noticable.

Spruce Budworm (Choristoneura fumiferana) was encountered in nearly all districts, but nowhere was it collected in any quantity.

Forest Tent Caterpillar (Malacosoma spp). M. pluviale was collected in three districts, Beaver Mines, Crowsnest Lake and the Castle Mountain areas. M. disstria was quite common throughout the reserve, but not in sufficient numbers to cause much damage.

Lodgepole Pine Needle Miner (Recurvaria milleri). A few mined needles were found along the mine haulage road south of Coleman. this was thought to represent nothing more than a normal population. The reddish tinge in this area, was apparently caused by frost.

Aspen Tortris (Archips conflictana). An investigation was conducted in July in the Aspen stand surrounding the West Porcupine Ranger Station, and although it was too late in the season to find larvae of this insect, it is thought that the Aspen Tortrix was responsible for the heavy defoliation.