

A BRIEF HISTORY OF THE LARCH SAWFLY, *PRISTIPHORA ERICHSONII* (HTG.), IN BRITISH COLUMBIA¹

D. H. RUPPEL²

The larch sawfly was first noted in British Columbia at Grave Creek, tributary of the Elk River north of Fernie, in 1930, and its occurrence was reported to the Forest Insect Laboratory at Vernon in 1933 (Hopping, *et al* 1943). Since 1933 this insect has spread over the range of western larch, *Larix occidentalis* Nutt., in south-eastern British Columbia. In 1952 the larch sawfly was first observed on eastern larch, *Larix laricina* (DuRoi) K. Koch, west of Fort Nelson, and in 1954 it was found on eastern larch at Cluculz Lake and other scattered points southwest of Prince George.

This insect is an important defoliator of larch east of the Rockies, but apparently none of the infestations referred to in the following notes caused any tree mortality. The larch sawfly population in British Columbia had subsided to a very low level in 1957.

History of Population Trends and Infestations³

- 1930—The larch sawfly was first noted at Grave Creek, a tributary of the Elk River, north of Fernie. It probably was present before this date.
- 1931-1932—Information is lacking for these years.
- 1933—The occurrence of the insect in British Columbia was reported to the Vernon Laboratory. The range of Larch sawfly then extended from Sand Creek to Elko and from Elko north in the Elk River Valley to Wright Creek, about 30 miles north of Fernie. Infestations were noted at Fernie and nearby Hartley and Lizard creeks.
- 1934—The range of the sawfly was not extended. Infestation foci were at Sand Creek, Lizard Creek, Hosmer, Corbin, McGillivray and Grave Creek.
- 1935—The range of the larch sawfly extended to Roosville, lower Flathead Valley, Yahk River Valley and Glinochi Creek basin immediately north of the Montana border, Gold Creek, Rosin Lake, Bull River, and north to Fairmont Hot Springs which is the northern limit of western larch in the Rocky Mountain Trench.
- The insect was also found at Lumberton, where it had probably been active since 1932, and as far west as Kitchener. Infestations were confined to the Elk and Flathead River areas.
- 1936—Although there was a decided decrease in population levels, the range of the pest extended as far as Boswell on Kootenay Lake.
- 1937—Numbers of the larch sawfly decreased to a very low level, but the range extended to Slocan Lake.
- 1938—This year saw a build-up of the insect with infestations at St. Mary's Lake and on the headwaters of Goat River near Kitchener. No extension of range was noted.
- 1939—The 1938 build-up increased over much of the known range from Fernie to Slocan Lake. Infestations occurred at Kimberley, Moyie Lake, Yahk, Kitchener, Goat River, Creston, and from Boswell to Riondel.
- 1940—One infestation occurred at New Denver. The insect declined considerably over the remainder of the areas mentioned in 1939, but its range extended to Whatshan Lake.
- 1941—The larch sawfly spread to the eastern slope of the Monashee Range. The population level was a little higher in most areas but was generally low. Infestations were recorded at New Denver and Summit Lake to the north of Slocan Lake.
- 1942—The insect was observed for the first time in the Okanagan Valley in the Vernon area, the western limit of western larch. Infestations were noted at Gray Creek, the Kootenay River Valley west of Nelson, Slocan Valley, and from Nakusp to Needles on the Arrow lakes. Defoliation was negligible from Creston eastward.
- 1943—The only stands of western larch not known to have been infested by the larch sawfly were at Shuswap Lake and in a small area east of Penticton. Heavy defoliation occurred between Nakusp and Edgewood, also at Elko and Morrissey. Light to medium defoliation was noted at intervals between these general areas.
- 1944—Population levels were generally low with light outbreaks at Trinity Valley and Arrow Lakes Valley.

1. Contribution No. 466, Forest Biology Division, Science Service, Department of Agriculture, Ottawa, Canada.

2. Forest Biology Laboratory, Vernon, B.C.

3. Information was gathered from the records of the Forest Biology Laboratory, Vernon, B.C.

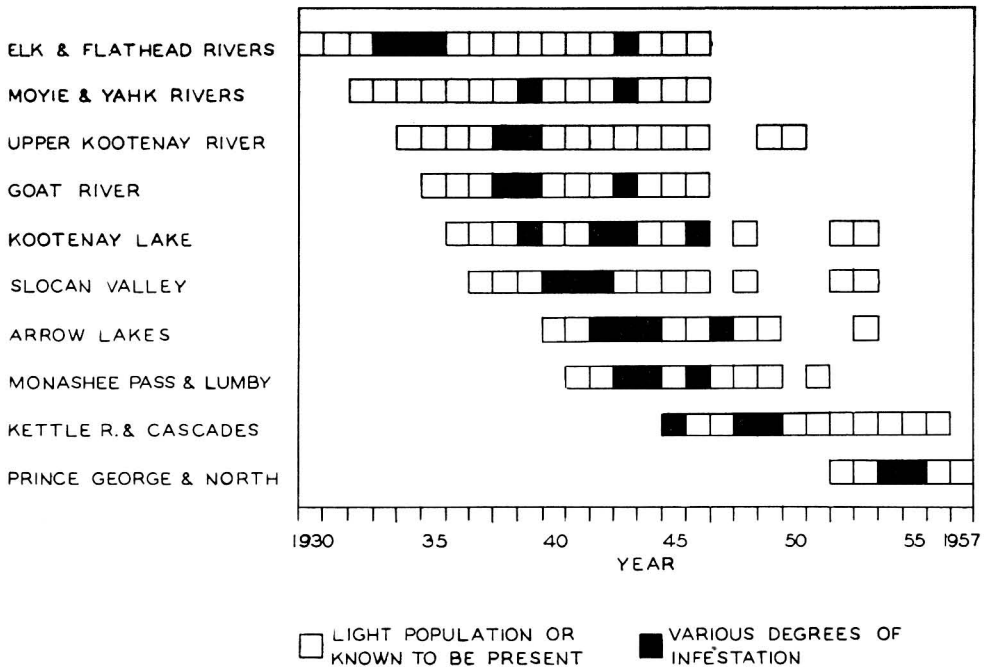


Fig. 1.—Population trends and infestations of *Pristiphora erichsonii* (Htg.), from 1930 to 1957 in British Columbia.

- 1945—The insect was observed in the Pentiction area and Christian Valley. An infestation occurred on the Rossland-Sheep Creek Summit. From Nelson eastward the population was “very light.”
- 1946—Lumby and Hall Creek (near Salmo) were the only localities where damage was recorded.
- 1947—An infestation appeared at Whatshan Lake.
- 1948 & '49—A light infestation occurred in the vicinity of Grand Forks, Eholt, and Phoenix. Elsewhere the insect was scarce.
- 1950 & '51—The larch sawfly was very scarce in Survey collections and all infestations in southeastern British Columbia had subsided.
- 1952—A few Survey collections from points west of Creston contained larch sawfly larvae. They were also found for the first time on eastern larch in the northern part of the province at Mill Creek west of Fort Nelson.
- 1953—Larch sawfly was present in small numbers at scattered points, mostly on the Kettle River drainage.
- 1954—The situation was unchanged in the south but an infestation developed at Cluculz Lake west of Prince George where there are scattered stands of eastern larch.

- 1955—The insect was very scarce on western larch in all areas. A few larvae were collected at Pantage Lake southwest of Prince George, the southern extremity of the range of eastern larch in British Columbia. A light infestation occurred at Cluculz Lake. Presence of the insect was indicated by curled leaders at Commotion Creek west of Dawson Creek.
- 1956—A few larvae were found in a concentrated search in the Phoenix area near Grand Forks. One colony was found at Cluculz Lake west of Prince George.
- 1957—The larch sawfly occurred in one collection made along the Hart Highway west of Dawson Creek, the only known record of the insect for 1957 in British Columbia.

The population trends and infestations of the larch sawfly since its appearance in British Columbia about 1930 are depicted in Figure 1. Figure 2 shows the approximate range of western and eastern larches in the province and areas where infestations of larch sawfly are known to have occurred. The Shuswap Lake area is the only part of the western larch

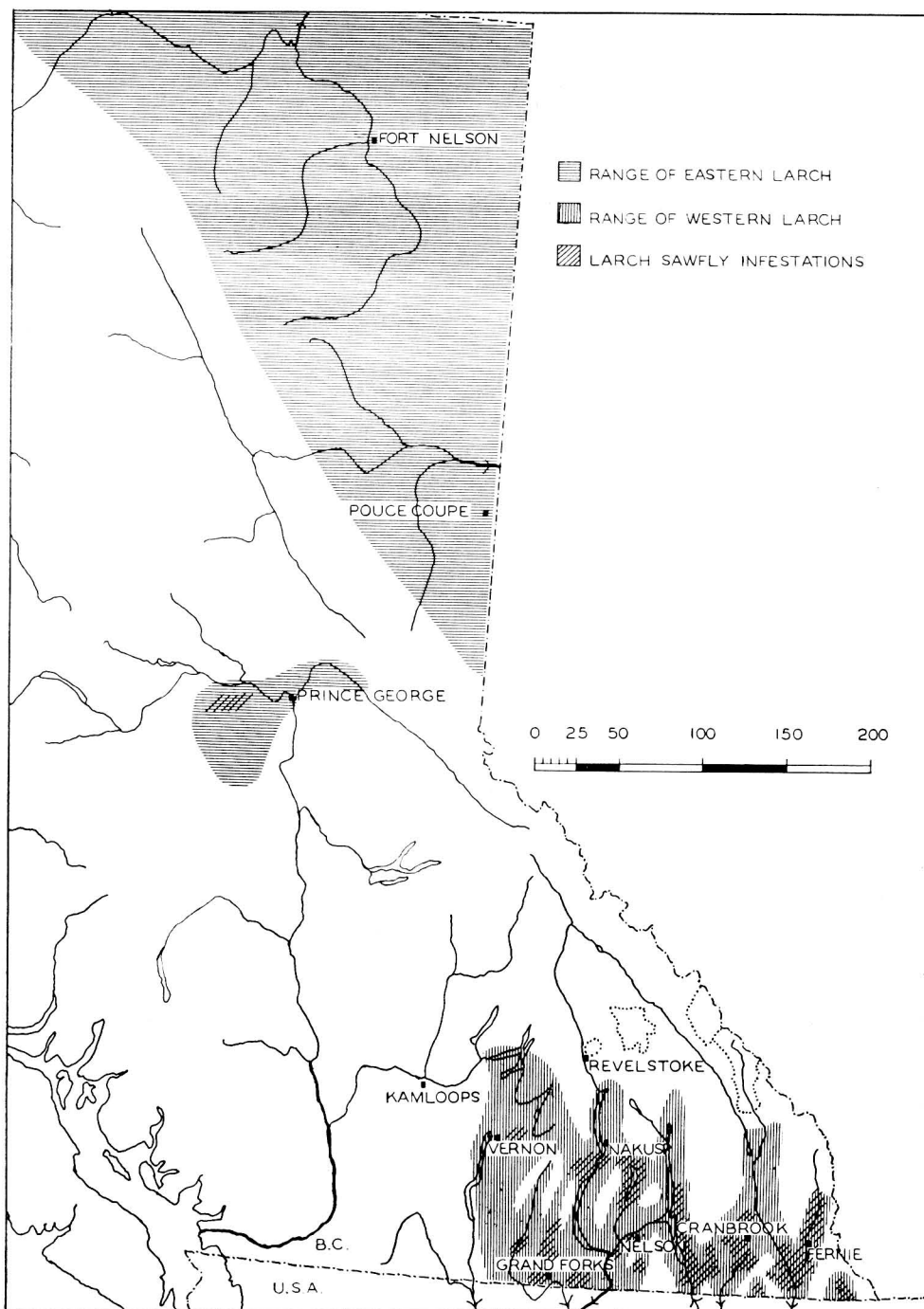


Fig. 2.—The ranges of *Larix occidentalis* Nutt., and *Larix laricina* (DuRoi) K. Koch and known areas where infestations of *Pristiphora erichsonii* (Htg.) have occurred since 1930 in British Columbia.

range where the insect has not been found. Alpine Larch, *Larix lyallii* Parl., occurs at high elevations over much

of the range of western larch, but has never been recorded as a host of larch sawfly in British Columbia.

References

- McLeod, J. H. 1951. Notes on the population and parasitism of the larch sawfly, *Pristiphora erichsonii* (Htg.) (Hymenoptera: Tenthredinidae), in British Columbia. Ent. Soc. B.C. Proc. (1951), 48:81-85.
- Hopping, G. R., H. B. Leech, and C. V. G. Morgan. 1943. The larch sawfly, *Pristiphora erichsonii* (Hartig) in British Columbia, with special reference to the cocoon parasites *Mesoleius tentbredinis* Morley and *Trineptis klugii* (Katzburg). Sci. Agric. 24(2): 53-63.

A Record of a Sand Cricket, Stenopelmatinae, from the Coastal Wet Belt of British Columbia

The Stenopelmatinae constitute the first of five sub-families of the Tettigoniidae or long-horned grasshoppers that occur in British Columbia. Insects of this sub-family, generally called Sand or Jerusalem crickets, have enormous, smooth heads and heavily spined front legs for digging in the sandy soil in which they live. They are nocturnal, hiding by day in burrows excavated under stones and bits of wood.

In his list of the Orthoptera of British Columbia (1), Buckell records three species: *Stenopelmatus fuscus* Haldeman of which he collected one specimen from Fairview, just south of Oliver; *S. longispina* Brunner, recorded from Vancouver by Carl Brunner (in Vehr-Zoll-bot. Gesellsch. Wein XXXVIII, p. 261, (1888)), and *Cyphoderris monstrosus* Uhler, the nocturnal wood cricket which is common in the Dry Belt in the aspen groves that fringe timber line.

Specimens of *Stenopelmatus* have no traces of wings; *Cyphoderris* males have short, stubby tegmina with which they stridulate, but the females are entirely wingless. I have taken a few specimens of *S. fuscus* from under boards near the international boundary at

Osoyoos but had no record from the coast until I received a full grown specimen from Mrs. Minnie Peterson of Semiamu Bay who said it was destroying potatoes in her garden. Now this bay is given, in the Geographical Gazetteer for B.C. as "Georgia Strait East of Boundary Bay, New Westminster District" and may well be considered the Vancouver region. Therefore the specimen I received from Mrs. Peterson is probably *Stenopelmatus longispina* Brunner and it would be the first taking of this insect since 1888, the second record for the province.

I immediately wrote to Mrs. Peterson begging her to sacrifice her potato patch for the sake of science and to collect me all the specimens she could, but the first is the only one received so far; Mrs. Peterson is apparently not a scientist, or the insect is excessively rare at the coast.

Reference:

- (1) Buckell, E. R. 1930. The Dermaptera and Orthoptera of Vancouver Island. Proc. Ent. Soc. B.C. 27: p. 46.
—G. J. Spencer, University of British Columbia.

Melandrya striata Say at Vernon, B.C. (Coleoptera, Melandryidae)

The occurrence of *Melandrya striata* Say at Courtenay, B.C., has been recorded by Gregson (Ent. Soc. B.C., Proc. 41.36, 1944). The only other B.C. specimens that I have been able to locate are in the Canadian National Collection; one is from Victoria and the other is of doubtful authenticity as there is no locality on the label.

On May 16 and 17, 1950, I collected 13 larvae, 4 pupae and 5 callow adults of this beetle from stumps of white birch *Betula papyrifera* Marsh, 8 miles east of Vernon, B.C. The larval galleries were traced to a depth of 4 inches in the rotting wood, but the pupal cells were mostly within an inch of the surface.

—J. Grant, Forest Biology Laboratory, Vernon, B.C.

A new record of *Annabilla arvalis* Hy. Edw. in British Columbia

I took a fine specimen of *Annabilla arvalis* in Saanich, Vancouver Island on March 10, 1958. This appears, from my information, to be the first record since two were taken by E. M. Anderson at Goldstream, V.I., March 22, 1903.

This species formerly masqueraded as *Brepbos fletcheri* in our published lists, but recent investigations have shown its real status (see Provincial Museum Report 1952).

Some doubt has existed that it was present in B.C. since no specimens had been

taken for so long. Evidently it is an insect that cannot be collected deliberately owing to the fact that its habits do not coincide with our method of approach. It seems to be met with only by pure chance and good luck.

The caterpillar is known to feed on *Montia perfoliata*, therefore it should be looked for where this plant grows, but always very early in the season.

—George A. Hardy.