

A BRIEF HISTORY OF THE TUBER FLEA BEETLE, *EPITRIX TUBERIS* GENT., IN BRITISH COLUMBIA¹

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The tuber flea beetle was first noted in British Columbia in 1940. Damaged potato tubers from Rosedale and Lulu Island on the lower mainland were received by the Entomology Laboratory at Agassiz for diagnosis. These tubers were found to have pimpling injuries in the skin leading to brown worm-tracks immediately below. Similar damage was reported by Cowan (1) in 1927 and described by Webster and Baker (5) in 1929 in Washington. They attributed the injury to feeding by larvae of the eastern potato flea beetle, *Epitrix cucumeris* Harris.

In 1941, flea beetles were collected from areas where the damaged tubers had been grown. Two species were present; one, the western potato flea beetle, *Epitrix subcrinita* (Lec.), was a minor pest of potatoes that had been present for more than 20 years. This species damaged foliage by feeding but was not known to damage tubers. Later observations (4) indicated that larval damage could occur to tubers when large numbers were present. The second species was readily distinguished from *E. subcrinita*, and was assumed to be *E. cucumeris* until specimens sent to the Systematics Unit in Ottawa, were shown to be undescribed. Finally, in 1944, the insect was described by L. G. Gentner (2).

The first published record of this insect was made in Colorado in 1904 (2) where it caused heavy loss. The insect was first recorded in Oregon,

Washington, and Nebraska before 1928.

From 1941 to 1943, *E. tuberis* spread throughout the lower Fraser Valley. Heavy damage occurred at Agassiz, Chilliwack, Langley, and Sumas but the damage diminished towards the coast. The Delta region remained virtually free until 1948.

In the southern interior heavy infestations were general in 1951 and 1952. At several places in the Lillooet district in the upper Fraser Valley and at Kamloops, heavy adult populations severely damaged the foliage of tomato, bean, beet, rhubarb and potato plantings.

In 1953, *E. tuberis* was taken at Gilpin 7 miles east of Grand Forks. New locality records were also made at Fauquier and Burton on the Arrow Lakes about 70 miles north of Grand Forks. Both localities were completely isolated from previously known infestations.

By 1958, *E. tuberis* had appeared 90 miles east of Grand Forks at Wynndel on Kootenay Lake.

Except where references are given the data in this paper were taken from the records of the Chilliwack Sub-station (formerly the Agassiz Entomology Laboratory), the Kamloops Entomology Laboratory, and the Provincial Entomologist, Mr. C. L. Neilson, to whom grateful acknowledgement is made. We also wish to thank Dr. H. R. MacCarthy, Head, Entomology Section, Research Branch, Vancouver, who suggested this topic and for his assistance in the preparation of this paper.

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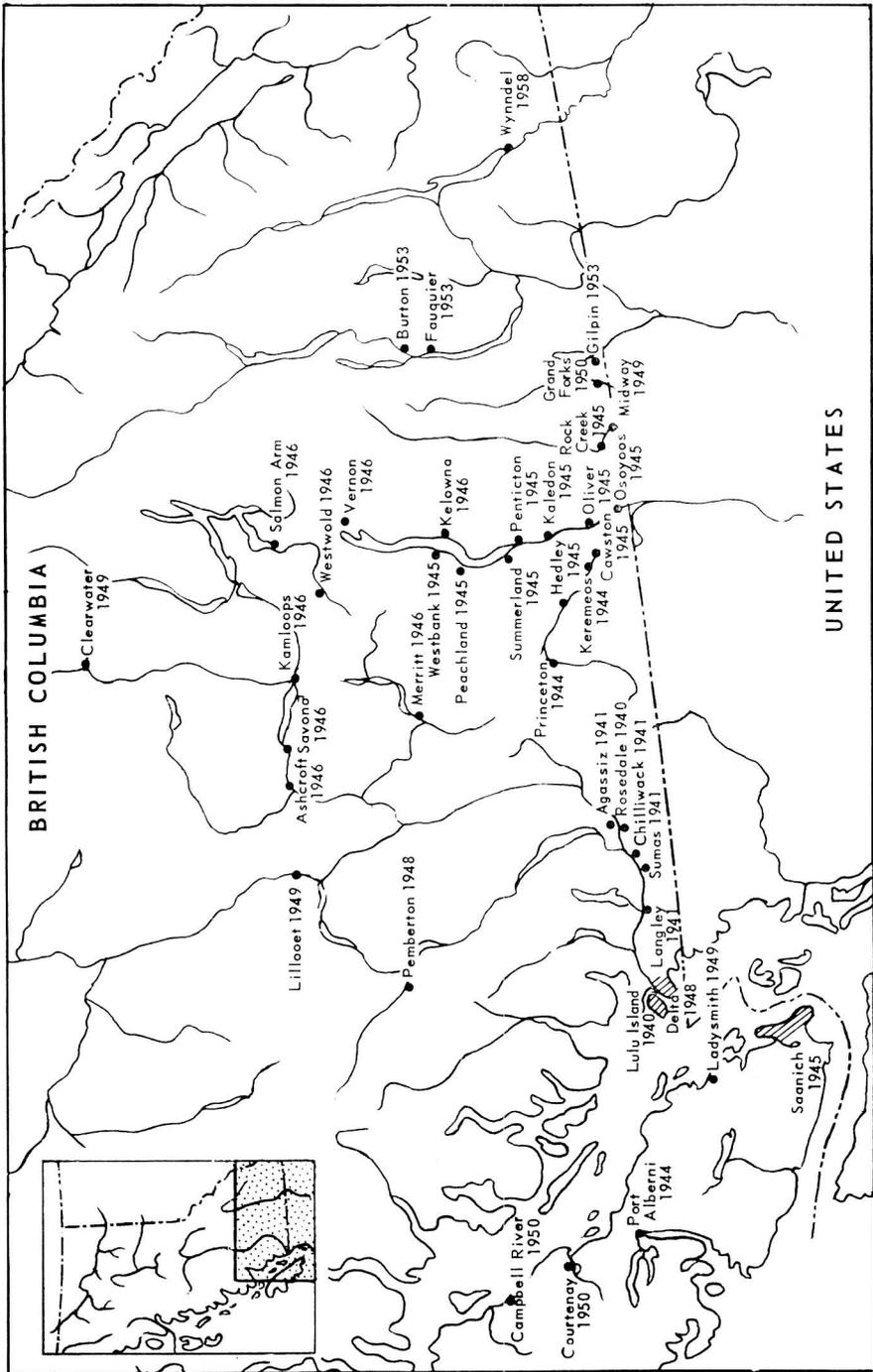


Fig. 1.—Distribution of *Epitrix tuberis* Gent. in British Columbia.

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A FURTHER RECORD OF *GRYLLOBLATTA CAMPODEIFORMIS* CAMPODEIFORMIS WALKER, IN THE INTERIOR OF B.C.

A further record for the distribution of *Grylloblatta campodeiformis campodeiformis* Walker, is established with the discovery of this insect in the Monashee Mountains east of Lumby, B.C. Two specimens, one male and one female nymph, were found on September 13, 1956, at a road crossing over Tepee Creek approximately two miles north-west of Lightning Peak in the Monashee Mountains. The identification of these specimens was verified by Professor Emeritus G. F. Spencer of the University of British Columbia.

It is interesting to note that along with both of these insects was captured a large Carabidae—*Pemphus angusticollis* verified by Gordon Stace Smith of Creston, B.C.

The specimens were taken from a deep crack in a soft granite boulder on the bank of the creek. The outer slab of the rock was removed and the insects were found among the moss which was growing inside of the rock fissure. It was a bright day and temperature was estimated to be 65°F. although evening temperatures were

below freezing. Altitude was estimated at 6,300 feet.

These specimens and the one captured by J. D. Gregson (1938) at Kamloops, B.C. have coal black eyes which is in contrast to the non-pigmented eyes of two adult specimens taken at Jasper (1930) and which are held by Professor G. J. Spencer.

Seven specimens, one adult and six nymphs, were taken by D. K. Campbell and J. Grant and are assumed to be of the same variety, although identification was not confirmed. These specimens were found beneath the rocks, at the foot of a stable talus slope, located on the north-east side of the Monashee highway approximately 32 miles east of Lumby at an elevation of about 3,800 feet. The date of capture was November 11, 1952. At the time of capture the insects were active although air temperature hovered about the freezing point with intermittent snow flurries. The temperature within the rock slide was below freezing. The pigmentation in the eyes of these specimens was not observed.

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References

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