NOTES ON DISTRIBUTION AND HOSTS OF THE WEEVILS *Pissodes schwarzi* HOPK. AND *Pissodes curriei* HOPK. IN BRITISH COLUMBIA AND YUKON TERRITORY[1]

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Several species of the genus *Pissodes* are commonly found in British Columbia; interest in two of these, *Pissodes schwarzi* Hopk. and *P. curriei* Hopk., was heightened after new host records were established recently.

On August 19, 1960, nine teneral adults of *P. curriei* were obtained from pupal cells in the root collar of a two-inch dbh lodgepole pine, *Pinus contorta* Engelm., growing at 2,500 feet elevation 30 miles north of Grand Forks. This tree had sustained previous mechanical damage. Teneral adults of *P. schwarzi* were found in the root collars of blue spruce, *Picea pungens* Engelm., in 1960, at a nursery near Creston. The weevils apparently had caused some tree mortality. Identifications were obtained through Dr. S. G. Smith of the Cytology and Genetics Section, Forest Insect Laboratory, Sault Ste. Marie, Ontario.

In 1962, 59 dead or dying saplings of western white pine, *Pinus monticola* Dougl., (up to two inches basal diameter) were examined at elevations ranging from 1,500 to 3,800 feet at 13 locations in the Upper Arrow Lake and Columbia River watersheds. All these trees had been infected with blister rust or root rot; 18 contained weevil larvae, pupae, or teneral adults in or about the root collar. These were identified as *P. schwarzi* and *P. curriei*. In some instances, both species were inhabiting the same root collar.

To determine the distribution of the two species, the locations of Forest Insect and Disease Survey collections were mapped. Figure 1 shows that *P. curriei* occurs north to the Skeena River, and from Vancouver Island to the Alberta border; *P. schwarzi* has been recorded from the U.S. border to Mile 932, Alaska Highway, Yukon Territory, but not on the Coast. Adult weevils from random beating collections were identified by W. J. Brown, of the

TABLE 1—Perching records of **Pissodes curriei** and **P. schwarzi** from conifers in British Columbia and Yukon Territory.

Tree species	No. collections	
	P. curriei	P. schwarzi
Western white pine	26	19
Lodgepole pine	27	41
Ponderosa pine	6	7
Whitebark pine	0	1
Engelmann spruce	1	1
Black spruce	0	1
White spruce	0	2
Sitka spruce	1	0
Douglas fir	1	0
Western larch	1	1
Totals	63	73

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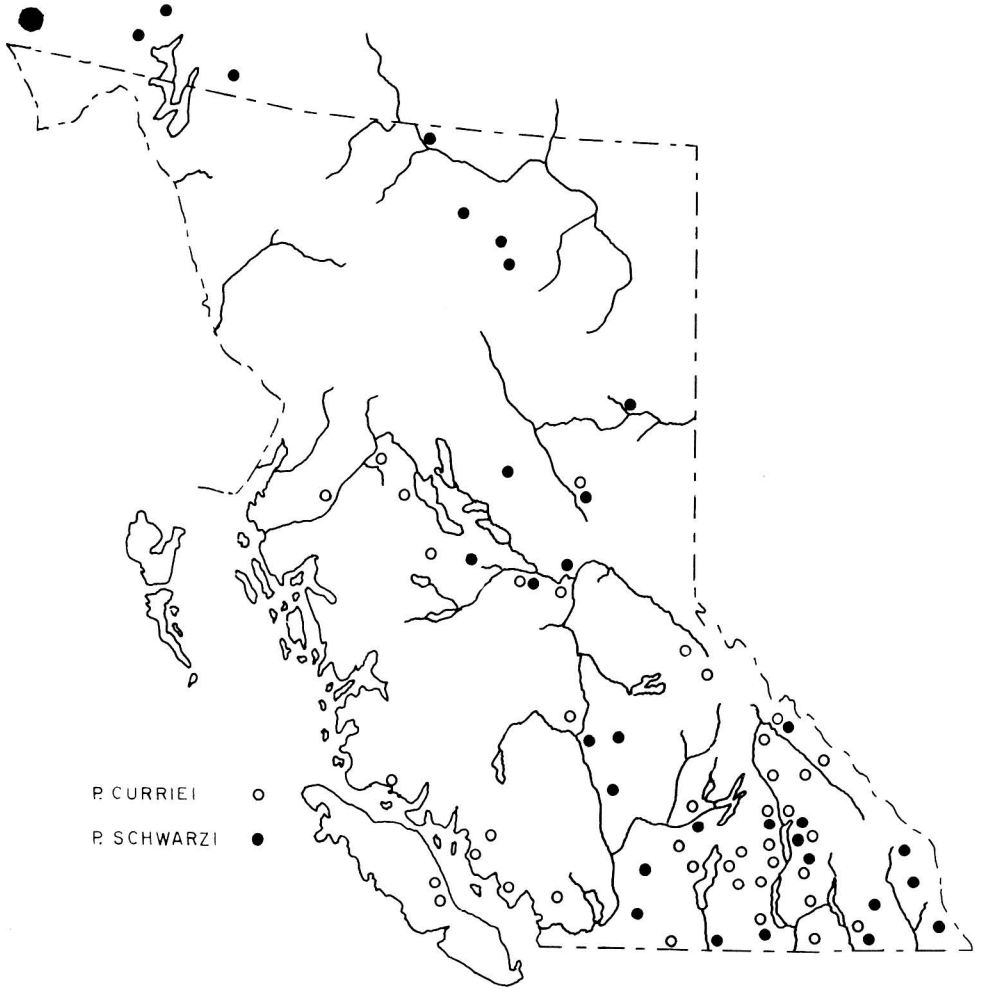

Fig. 1.—Location points of collections of **Pissodes** spp. in British Columbia and Yukon Territory.

Entomology Research Institute, Department of Agriculture, Ottawa. Perching records from these collections are shown in Table 1.

The presence of larvae and pupae of *P. schwarzi* and *P. curriei* in the root collars of western white and lodgepole pine, and teneral adults of *P. schwarzi* in the root collars of blue spruce establishes new host records for both species. The perching records indicate that the weevils are active over a large part of British Columbia and may have more hosts than has yet been determined.

Altica tombacina MANNERHEIM (COLEOPTERA: CHRYSOMELIDAE), A SERIOUS PEST OF FIREWEED

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Fireweed, *Epilobium angustifolium* L., provides the main honey crop for apiarists who move their bees from spring to summar foraging areas. This practice of migratory beekeeping is common among both large and small beekeepers on Vancouver Island. The colonies are overwintered in areas where the climate is moderate and where early blooming plants provide the necessary nectar and pollen for early and rapid build-up of the hives. Later, the bees are transported to logged areas where dandelion, *Taraxacum* sp., and fireweed, bloom in profusion throughout the summer and early fall. Profitable honey production depends largely upon the health of the fireweed and if conditions are suitable crops in excess of 200 pounds per hive are common.

In July, 1964, a local apiarist notified me of an area where the fireweed was suffering heavy damage as a result of a high population of small black larvae. These were identified as the immature stages of a flea beetle, *Altica tombacina* Mannerheim. Eggs and several larval instars were present on the plants at this time. Warm weather during the third week of July which would normally have resulted in an excellent honey flow, accelerated the development and feeding of the beetle larvae. Within a few days the fireweed was severely defoliated. Approximately two thirds of the plants over an area of about ten square miles were damaged, many to the extent illustrated in Figure 1.

All of the larvae brought into the laboratory in July pupated during the first week of August so the infestation was revisited on August 10. At that time the number of larvae feeding had declined noticeably, but was still from 70 to 200 per stalk. No other species of plant was heavily damaged, but evidence of light feeding and a few larvae were found on young roadside alders.

During the August 10 visit, an examination of representative hives among the 200 distributed throughout the infested area revealed that almost no excess nectar had been gathered and most of the foraging bees were visiting dandelion. Subnormal weather had also affected honey production, but sufficient suitable flight weather had occurred to produce some capped honey. An area of the size infested could normally support 1,000 colonies on a commercial basis. In 1964, the 200 hives present produced much less honey than could be expected. The loss of revenue to the beekeeper that could result from such an infestation is difficult to evaluate, but there is little doubt that as the competition for fireweed areas grows more acute, *Altica* could be an important factor in commercial honey production.

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