reduce to insignificance the differences between the treatments, which were all at or close to 100 per cent effectiveness. No experiments were conducted in 1956.

Summary

Experiments from 1940 to 1955 on clay loam, sandy to gravelly loam, and silt soils showed that satisfactory protection of potatoes from larvae of the tuber flea beetle can be obtained by broadcasting and incorporating a single application of one of several chlorinated hydrocarbons into the soil before planting. Effective materials were: aldrin, dieldrin, heptachlor, and chlordane. Incorporating the insecticide into the soil over the entire area was superior to either narrow or wide band application. No apparent differences in control were noted with deep or shallow incorporation. BHC and lindane caused off flavors in the tubers during storage. Given soil in good tilth, soil treatment is simpler and more reliable than foliar applications, although the latter are still popular because the insecticides can be applied in the spray necessary to control late blight.

ANNOTATED LIST OF FOREST INSECTS OF BRITISH COLUMBIA PART VII — *APATELA* SPP. (NOCTUIDAE)[1]

D. A. ROSS[2] *and* D. EVANS[3]

More than 20 species of *Apatela* (*Acronycta*) are known to occur in British Columbia. The larvae feed on deciduous-leaved trees, shrubs, and herbs, and, although occasionally numerous, are of little or no economic importance. No severe tree defoliation by species of *Apatela* has been reported in British Columbia. The larvae have the typical body structure of garden cutworms; unlike the common cutworms, a number of species are clothed with medium to very long, sparse to dense hairs. Body colours are: green and brown, yellowish, brown, or black. The *Apatela* larval head is slightly bilobed; it bears primary setae only.

Most, if not all, local species overwinter in the pupal stage within cocoons in the bark or on the ground.

A. dactylina Grote. *Salix* spp.; Southern Interior, notably along the Big Bend Highway, between Revelstoke and Mile 80; found also on *Alnus tenuifolia* at Aleza Lake and Yard Creek. **Larva:** 2½ inches long; head glossy black; body blackish, with dorsal transverse bands of short brush-like orange hairs; hairs on sides yellowish; dorsal, closely-paired pencils of long black hairs on A_1, A_3 and A_8.

A. lepusculina Gn. *Populus tremuloides, Salix* spp.; Central and Southern Interior and Vancouver Island. **Larva:** 1¼ inches; head black with some whitish markings on frons and sides; body yellowish or greenish excepting blackish venter and dorsal stripe; clothed with soft, long yellow hairs; black pencil tuft on abdominal segments 1, 3, 4, 5, and 8.

A. leporina L. *Populus tremuloides, P. trichocarpa, Salix* spp.; Cuisson Creek Quesnel, Castle Rock, and Cluculz Lake. **Larva:** 1¼ inches; head and body greenish-white; clothed with very long, curved white or yellowish hairs (curved forward on one side, backward on the other) and a few black ones at the end of the abdomen; there may be 3 to 5 black dorsal spots on the dorsum of the abdomen, vestiges of black pencil tufts that occur in early instars.

A. innotata Gn. *Betula papyrifera;* Central and Southern Interior. **Larva:** 1½ inches; top of head reddish-brown, front flesh-coloured, remainder blotched with black; body brown, tinged with blue and purple; small "warts"

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on dorsum black, pale centred; "warts" on sides white; yellow spot between each set of setae i and ii; clothed with rather sparse medium long grey hairs.

A. radcliffei Harv. *Prunus emarginata, Amelanchier* sp., *Sorbus occidentalis;* Narcosli Creek, China Creek, Oyama and Revelstoke and Vancouver Island. **Larva:** 1½ inches; upper half of head reddish-brown, remainder black; pronotal shield black; dorsum and venter of body purplish-brown or blackish; sides, dorsal, and subdorsal lines yellow; sparse medium to long hairs on body.

A. grisea Wlk. *Alnus* spp., *Salix* Spp., *Betula papyrifera, Prunus pennsylvanica* (1 record), *Corylus* sp. (1); Central Interior and Southern B.C., and Vancouver Island. **Larva:** over 1¼ inches; head brown, excepting green frons; body green; brown dorsal stripe widened posteriorly, enclosing green portion on A_5 to A_7, stripe edged in part with yellow; small brown patch about each spiracle and above each proleg and true leg.

A. funeralis G. & R. *Acer glabrum, Betula papyrifera, Salix* spp., *Alnus* sp.; Shuswap Lake, Hupel, Trinity Valley, Aleza Lake, Salvus. **Larva:** head and body black; an oval yellow to orange-coloured patch on dorsum of each body segment, those on the abdomen with a black transverse line through each; long black spatulate setae (seta ii) on the dorsum of abdominal segments 1 to 6 and 8 to 9; additional spatulate setae occur on the first thoracic segment.

A. fragilis Gn. *Betula papyrifera, B. occidentalis, Sorbus occidentalis, Amelanchier* sp., *Prunus* spp., *Salix* spp.; Central Interior, Southern B.C. and V. I. **Larva:** 1¼ inches; head green and brown; body green with broad brown dorsal patch on each segment; pale "warts" with sparse long hairs; no markings on sides of body.

A. impleta Wlk. *Alnus* sp., *Salix,* sp., *Populus* sp.; Alberni, Langford, V.I.; Rivers Inlet, Cinnemousun Narrows, Downie Creek.

A. impressa Wlk. *Salix* spp., *Alnus* sp.; Central B.C., and Yukon Territory. **Larva:** "reddish or tan head; body black, large yellowish and orange tubercles; yellowish and buff coloured setae". According to Forbes (1954) the larva has a red substigmatal line.

Reference

Forbes, W. T. M. 1954. Lepidoptera of New York and Neighboring States — Noctuidae, Part III. Memoir 329, Cornell Univ. Agric. Exp. Sta.

On the feeding preferences of *Perimegatoma vespulae* Milliron (Coleoptera: Dermestidae)

Perimegatoma vespulae Milliron was accidentally brought to the University during the middle thirties in insects that had been collected in the dry belt during the summer. Infestation apparently had occurred when the pinned insects were left out to dry before being put into store boxes.

Since *P. vespulae* is parthenogenetic one beetle loose in a museum room can reproduce without having to fly out of doors to feed, so notwithstanding utmost precautions, every now and then a larva turns up in a cabinet drawer. I have isolated a pupa of this beetle, placed it on powdered fox chow in a tight container, watched the beetle mature, emerge, lay eggs, and watched the eggs hatch to minute larvae, whose capacity to pass between the top of a store box and its lid is astonishing.

For the past ten years or so larvae of this beetle have also been brought down from the dry belt in botanical specimens. Infestation of this material seems to begin in the field during the drying process. When the plants are mounted and distributed to the steel herbarium cabinets, the larvae in the folders may feed undisturbed for long periods, and move to other folders.

When found thus, the larvae are catholic in their tastes, feeding upon petals, buds and leaves of many plants except conifers. However, for initial attacks the beetles appear to show preferences in this order:— Ranunculaceae; Scrophulariaceae, especially *Castilleja;* Compositae, especially *Solidago;* Saxifragaceae, especially *Ribes,* and Aceraceae, especially maple flowers.

I am indebted to Professor T. M. C. Taylor and to Dr. K. Beamish for noting the host preferences in the herbarium.

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