Insect Immigrants in Washington*

By R. L. WEBSTER and LAUREL G. SMITH
Washington State College, Pullman, Washington

It is a well established fact in the field of economic entomology that most of our destructive insects are those which have come to us from other parts of the world. This is even true in the case of those two insect pests which cause the fruit growers of the Pacific Northwest more trouble than all the rest of them put together, i. e. the codling moth and the San Jose scale. The latter insect was not known to fruit growers in North America until some 40 years ago, while many of the older generation of fruit growers may recall those days early in the development of the irrigated regions in eastern Washington when the codling moth had not yet become established in many isolated locations.

On account of its geographical location, the state of Washington has experienced many additions to its insect fauna. Not only have foreign insects become established on our west coast but other introduced insects, which years ago had become established in eastern North America, have invaded the state from that direction. No doubt the vigilant eyes of the port inspection service of the Bureau of Entomology and Plant Quarantine have checked the introduction of many would-be insect pests. But when these insects advance in a solid front, which may actually be several miles in width, they will cross over international boundaries despite the efforts of inspection officials, custom officers, or even armed guards.

Several years ago, in company with officials of the Washington State Department of Agriculture, I attended a conference in British Columbia where entomological representatives of the Dominion government were making a study of the pea moth, a destructive insect which had become established in several counties in western Washington. Although this insect has been known to exist in Whatcom county for at least eight years, we are not entirely certain whether the pest became first established in Washington and advanced across the border into British Columbia or whether the movement was in the opposite direction. At the conference which I have just mentioned there was considerable raillery with our Canadian friends, since neither we nor they particularly desired to take credit for the first establishment of this destructive insect. Known in eastern Canada, in Michigan and Wisconsin, the only records we have of this insect in the United States west of the Mississippi are in four counties in western Washington. The pea moth seems to have slowly advanced toward the south and has already reached northern Snohomish county. Once established in an area where peas are grown, either for seed or for canning, the insect soon becomes sufficiently abundant to cause tremendous losses. These losses have been reduced, however, in areas where the entire acreage is restricted to the production of peas for canning.

Ten years ago before this group I reported on the known distribution of the wheat midge, *Thecodiplosis mosellana* which at that time had reached Snohomish county, having come in from the north, first recorded on the west coast in Vancouver, British Columbia, in 1904. Since that time the wheat midge has slowly extended its range and this year was reported as occurring near Puyallup. Since there are few wheat fields in the territory northward from Puyallup, the spread of the insect is considered as having been accomplished under rather adverse conditions. Since more wheat is grown further south, it seems likely that the further

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distribution of the wheat midge would be more rapid than has been the case since the insect first became established on the west coast. The insect was first observed in the United States in 1820 when it was found in Vermont. It is supposed to have been introduced into eastern Canada from England early in the nineteenth century.

Another dangerous insect imported from Europe, the Satin moth, *Stilpontia salicis* first appeared in Washington at Bellingham in 1921. Previously the insect had become established in British Columbia. Ten years ago the insect had come as far south as Seattle and in 1926 was conspicuous because of its destruction to foliage on Lombardy poplars on the campus at the University of Washington. By 1929 the satin moth had reached Olympia and has now traversed the entire distance across the state and reached Oregon. Though the satin moth became established some time back in the New England states, it does not occur elsewhere in North America except in Washington and in adjacent areas in Oregon and British Columbia.

An insect known as the carrot rust fly, *Psila rosae*, represents still another invader, although this particular pest occurs in eastern Canada, in New York state, in Massachusetts, and as far west as Michigan. It was first noticed in 1929 in the vicinity of Fife near Tacoma attacking carrots on the grounds of some of the Japanese gardeners. Since 1929 the carrot rust fly has moved northward into King county, across Snohomish county and has become firmly established in Skagit county. To the south the insect now occurs at Centralia. No one knows how the carrot rust fly was first brought into the state, although it is surmised that infested carrots in the eastern part of the country shipped to Tacoma or Seattle may have been responsible for the establishment of the insect on the west coast. Here again is a case of another insect which has come to us from Europe, although it has been known in eastern Canada since some time in the eighties.

During the last two years potato growers in the Yakima Valley have had an insect problem on their hands in the potato flea bettle, *Epitrix cucumeris* I think I can say without fear of contradiction that the establishment of these insects in the potato growing districts of the Yakima Valley is the most serious event that has occurred since potatoes were first grown in the irrigated districts of eastern Washington. The insect appears to be identical with our native species which occurs commonly east of the Rocky Mountains, although unknown on the west coast until its first appearance in Grays Harbor and Pacific counties in 1925. Since that time *Epitrix cucumeris* has been steadily increasing its range to the east through Thurston and Pierce counties, south to Lewis county and northward through Mason, King, and Snohomish counties. According to recent reports this insect has become established in Oregon. At a meeting of potato growers held in Spokane this fall, it was very evident that Idaho growers were much concerned over the possibility of this insect further extending its range and becoming established in the state of Idaho.

For a long time the Colorado potato beetle, *Leptinotarsa decemlineata*, was unknown west of the Rocky Mountains. Its first appearance in Washington seems to have been about 1910. It is said to have appeared in Walla Walla for the first time in 1915 and the first notice of the insect in Spokane was in 1918. In recent years the Colorado potato beetle has worked its way up the Yakima Valley and potato growers in the vicinity of Wapato and Toppenish have had to adopt spraying practices in order to prevent defoliation by the larvae of the Colorado beetle. The insect is not known west of the Cascades, although I have seen one specimen in the collection of the Oregon State Col-

lege at Corvallis, which, according to the label, appears to have been collected at Portland.

The first record of the asparagus beetle was in 1924 when it was observed at Yakima by M. A. Yothers. Since that time this particular insect has been collected elsewhere in the Yakima Valley, in Walla Walla, along the Columbia River to Clarke county, and northward on the coast as far as Auburn. Asparagus plantings in the vicinity of Kennewick were threatened by this insect several years ago following a mild winter which brought the beetles out of hibernation in tremendous numbers early in spring.

Another European insect, the elm leaf beetle, *Galerucella luteola,* established in the eastern states, was unknown in this section of the country until 1917, when it was first reported at Lewiston, Idaho. By 1919 the elm leaf beetle had reached Vancouver, Washington. In 1923 it was reported from Chehalis. In eastern Washington the insect attracted attention at Pasco in 1928 and has become firmly established in the Yakima Valley, in Dayton, Walla Walla and vicinity.

A tiny European moth which attacks lilac and privet in western Washington, *Gracellaria syringella,* has spread rapidly in recent years. In 1923 this insect was reported in Mount Vernon and La Conner in Skagit county, at Kirkland in King county, and in Port Blakely in Kitsap county. Following this the insect was reported in Seattle and in 1926 at Tacoma. By 1930 the lilac miner had reached Kelso and in 1934 was reported in two locations in Clarke county. Apparently the lilac miner has not yet invaded eastern Washington.

One more insect needs mention, the turnip seed weevil, *Ceutorhynchus assimilis,* first reported from North America during the past year and so far confined to limited areas in Washington, Oregon, and British Columbia. This insect recently has caused heavy loss to cabbage and turnip seed plantings in Skagit county, where the bulk of these seeds used in the United States is raised. Unless some means of checking this important pest are devised, the valuable seed growing industry in western Washington may be forced to move elsewhere in order to survive.

The Christmas Ceremonies at Quileute, Washington, in 1906

By ALBERT B. REAGAN, PH. D.
Department of Anthropology, Brigham Young University, Provo, Utah
(U. S. Government Official in Charge of the Hoh and Quileute Indians from 1905 to 1909)

At 8 o'clock Christmas evening four men with heavy hammers commenced pounding an iron watertank of an old wrecked vessel on the beach at the Indian village of Quileute, LaPush, Washington. A few minutes later a herald rushed to the residence of the government officials of the place and asked them in the name of the tribe to attend the native Christmas ceremonies in the "potlatch" (native town) hall of the village.

Already was the big hall crowded when the government people arrived, the women having one side of the house, the men the other. At once, then, a Klukwalle dance ceremony was begun, which, together with the continuous pounding of boards to keep the time, sounded much like the roaring of a mighty storm accompanied by a continuous thunder. The large door of the hall swung open. And in through it came a group of men sprawling over the floor on all fours. They were clothed in the skins of wolves. Immediately following these wolf-actors came men in upright position. These had blackened faces and were screened from view with salal brush. They were the hunters

hunting the wolves. A man carrying an ax headed these hunters. Time after time they chased the wolves around the central fire in the great hall. And each time some of the assembled populace joined the hunting group, all dancing a vigorous stamping dance; till every one in the large building was dancing. At this juncture the chief Klukwalle went and got the government officials and their guests and placed them at the head of the dancers just behind the hunter with the ax. Around the room once more they danced. Then there was a shriek and a hideous, ear-grating howl. And with one stroke with the death-dealing weapon the ax-man, in mimicry, killed the wolves, the representatives of the evil spirits that might mar the happiness of the village in the going and coming years.

Then there came a lull as the Shaker priest stood apart from the others as all repeated the doxology-prayer to Jesus-Man: "Kwax tsnahs mahah' stee stah nah' stee tah' tsohn tohs pray' kolh mahahs' stee stah'," followed by the repeating the Shaker ritual (translated)' "Do good to those who do good to you. . . . Our God is in heaven. If we die He will take our life to heaven. . . . Our Father who is there always have a good mine to us," this, in turn, being followed by a prayer-talk by one of the shamans to Kwattee, to the Mother Earth, and to their various other native dieties.

As soon, then, as all were seated, the "rich man's" performance was begun. And men wearing masks, said to represent the faces of the rich gods, began to dance behind a screen in front of the whale-sculptured totem pole in the rear of the building. In a few minutes the village chief came and stood in front of the screen. Soon a group of his aides gathered about him. Speeches of welcome were made by the chief and all who desired to do so, also talks explaining the purpose of keeping Christmas. Then the giving of presents followed. The teller, a man appointed for the purpose, called out in sonorous tones: "Chief ———— gives $25 to the old people of the village. And instantly a runner carried the glittering metal to the recipients. The teller called the name of another donor, and of another, stating the amount that each gave. And so on till all had given away all the ready money they had and also all the calicos and basket straw they had at hand; among Indians the richest man is the one who can give the most away, the government official in charge, his wife and her sisters receiving many baskets from the donors of that evening which, highly prized, they still have in their possession.

Then at the tap of the big drum beneath the east totem pole, eatables were passed around to all. And all helped themselves liberally; for what they could not eat they could carry home.

After the eating came the drinking of the coffee, a scene to be remembered. It was a race to see which side of the house, the men's or the women's, could drink their measured amount of coffee in the shortest space of time. And they drank hot coffee and drank it. And the coffee boys with their coffee boilers ran here, now there, to keep the coffee poured fast enough. The excitement ran high. A shout like the whizzing wind of a mighty storm proclaimed that the women had won. And the Christmas ceremonies of that year were over.

OBITUARY

DR. ALBERT B. REAGAN

SPECIAL PROFESSOR OF ANTHROPOLOGY, BRIGHAM YOUNG UNIVERSITY, PROVO, UTAH.

In the death of Dr. Reagan, Northwest Scientific Association loses a good friend and an active member though we have never had the benefit of his actual attendance at our meetings, and to Science the loss is of an active worker in the Anthropology of the Indians of the Northwest. In NORTHWEST SCIENCE, his posthumous article on "Christmas Ceremonies at Quileute, LaPush, Washington, in 1906," in the current issue, records present day customs. In the issue of May, 1935, will be found an article from his pen on "An Ancient Culture of the Provo Salt Lake Region." This may be of particular importance to those interested in deciphering or making studies of the pictographs in the canyons of Idaho and Washington.

Albert B. Reagan was born at Maxwell, Iowa, January 22, 1871; died at Provo, Utah, May 30, 1936. He was married on June 15, 1903, to Ottilla Adelaide Reese, who survives him. His education was in public schools and Central Teachers College of Oklahoma; Valparaiso University; Indiana University (A. B., M. A. '03); Stanford, Phd., '25. He was a member and fellow of the A. A. A. S., and a fellow of the Ethnological Society; member of the Anthropological Association and numerous state academies of Science. His publications have appeared in many journals of the fields which interested him. Principal of Cornfields, Indian School; member of the U. S. Indian Field Service since 1899, he has served in many capacities. A special staff correspondent of the Deseret News, he has also contributed literally hundreds of articles to various newspapers, chiefly concerning the American Indian. He came to the faculty of the Brigham Young University in 1934, which he served until his death.