

## OBSERVATIONS OF *CELERIO LINEATA*, THE WHITE-LINED SPHINX, IN UTAH

by GEORGE F. KNOWLTON

Some seasons larvae of *Celerio lineata* (Fabr.) have become extremely numerous in many parts of Utah. On several occasions, migrations a mile or two long have been observed, moving across a highway in range country. Usually such large larval movements have followed the cleanup of the choice host plant—often Knotweed. Great numbers of these huge larvae have fed in small-grain fields of Utah on Knotweed, then moving to succulent Russian Thistle if necessary, generally without feeding at all on the grain plants. In 1949, the writer scarcely visited a county agricultural agent at his office, during June or July, who did not immediately reach for a bottle or can of these large larvae to ask concerning them. Report sheets submitted to the U.S.D.A. Bureau of Entomology and Plant Quarantine, Insect Pest Survey, were returned to me for review by KELVIN DORWARD, now in charge of the Economic Insect Detection and Reporting Section. These sheets formed the basis for the following information:

1930: Larvae of *Celerio lineata* caused moderate damage to tomato plants in several tomato growing areas of Utah.

1935: Larvae of the White-lined Sphinx Moth were unusually abundant upon range plants and weeds this spring and early summer. Grape and Virginia creeper vines were stripped of foliage upon two farms at Granite, in Salt Lake County. Slight damage to dewberries, peas, rose, elderberry and lilac foliage also was reported or observed. Larvae damaged acceptable range plants in various parts of Grand County, several farmers reported.

1939: On June 8, larvae of *C. lineata* were abundant on range lands near farms north of Brigham City, in Box Elder County. These larvae damaged grape foliage at Pleasant View in northern Utah on June 15, and also attacked grapes at a farm in the vicinity of Rock Canyon, Utah County, on June 30. Two tomato fields in southern Box Elder County were devastated by a great army of sphinx moth larvae, reportedly this species. About 30 acres of tomatoes were stripped by horn-worms in a march which swept everything before them. The area of this attack was just north of the Utah Hot Springs.

1940: On October 12 it was reported that larvae of *C. lineata* had seriously damaged evening primrose in flower gardens at Logan during the 1940 season. Adult moths had been abundant about flower gardens during many evenings.

1941: On May 28, larvae of this sphinx moth were abundant in the area from Woodside to Greenriver, on range land. They also were abundant about 5 miles west of Greenriver where much Russian Thistle and some other range plants had been stripped from the borrow pits along the highway. Three to six larvae per square yard, of all sizes, still were present on range weeds. A shining black tachinid (probably *Theleria nigripes*) apparently was parasitizing many of the larvae. A heavy infestation of these horn-worms also was present on range lands in Pleasant Valley of Duchesne County, on June 25. Larvae commonly were present along roadsides, often one to three per square yard, defoliating certain range plants.

1944: A number of extensive outbreaks of the larva occurred in various parts of Utah. Great numbers of these horn-worms moved across highways and roads in Millard County, some large movements crossing the highway south of Lynndyl. In north Ogden, large numbers moved from range land to damage tomato fields. In Salt Lake City they moved in great numbers from range and military reservation lands to damage flowers and some victory garden plants. Much concern was shown by nearby home owners when this large movement occurred, and continued for several days.

1949: On June 20, larvae of *C. lineata* were observed migrating across highways in parts of Millard County, especially south of Lynndyl, and in Box Elder and Beaver Counties. Some concern was expressed by ranchers in outbreak areas. Hordes of larvae were present on dryland farms east of Monticello, on June 29. Most of these fed on weeds until the preferred weeds became exhausted. On July 11, larvae reportedly were damaging grape foliage in two localities, and feeding on weeds in many communities and farms in Utah County. Damage from them was reported to alfalfa on one farm at West Mountain, Utah County. At American Fork they reportedly stripped foliage from Boysenberry bushes, sand lilies, and grapes. A very large movement of larvae was observed to cross the highway in Garfield County on July 13. On July 14, the sphinx moth larvae were numerous in spots around Paragonah, Parowan, Cedar City, Kanarraville, and on range land north of these communities, also on range land in the south end of Beaver County in some spots. These were feeding chiefly on Knotweed and succulent Russian Thistle. Still quite a few of these worms were about, but fewer than a few weeks earlier, in most Tooele and Salt Lake County farm and range areas examined on July 16. By August 7 the very extensive outbreak had largely subsided. "Horrorified" dryland farmers usually suffered little crop injury from this horn-worm, but fear was great among farmers and home gardeners in many counties and communities of Utah.

1950: *C. lineata* larvae were not in outbreak numbers this year. However, adults frequently were seen about garden flowers in late afternoon at Logan, Garfield, Tooele, Provo and Salt Lake. They also were moderately numerous about "Rocky Mt. Bee Plant" blossoms in range land areas.

1951: The sphinx larvae were observed in numbers in flower gardens west of Nephi, but were not causing much damage. However, some damage was reported from them in one flower garden at Delta on September 6.

1952: This was another outbreak season for *C. lineata*. On June 3, larvae were extremely numerous in waste areas and moving into gardens and orchards in several parts of Utah County. Large populations were noted on range lands and on Knotweed and Russian Thistle in weedy grain areas of Millard and Utah Counties on June 14. Many farmers showed concern about these large caterpillars. Hordes of these horn-worms crossed the highway 8 miles north of Delta on June 5, in a two-mile strip. Others crossed the highway nearer Lynndyl to the north. On June 6, larvae invaded many home gardens as the Knotweed food supply on which the larvae had fed became exhausted. Hundreds of home owners in the Salt Lake, Holladay, East Mill Creek, and Sandy area became much concerned. Some flowers and home gardens were damaged during the period from May 29 to June 6. Great hordes of these larvae were observed in West Tremonton and Garfield on June 7, but feeding chiefly on Knotweed. Nearly every day calls concerning these larvae reached the writer's desk. Hundreds of larvae were crossing the highway, over a strip one-fourth mile long, on a range land area a few miles north of Greenriver on June 10. The horn-worms also were very numerous in Sanpete and Sevier Counties in a few large areas, including range land south of Monroe, and north of Gunnison along the highway. On June 12, the sphinx larvae were very numerous on farms and range lands at Kanarraville. They also were present in smaller numbers elsewhere in Iron County. Larvae were abundant along and crossing the highway near Jericho on June 17. They were very numerous on some dryfarms at Clarkston, largely feeding on Knotweed, June 18. Larvae were crossing the highway at a few places in Millard and Tooele Counties in moderate numbers. Numerous larvae in fields in Kane County were nearly always on Knotweed. On June 27 these horn-worms were numerous on range land flats and on some farms west of Salt Lake City, while scattered outbreaks also were noted in Juab, Uintah, and Duchesne Counties at this time. However, these outbreaks on this date were less extensive than those which had occurred during May and in early June. Numerous inquiries were received at the writer's office on July 7 concerning these large, conspicuous larvae which usually were present on Knotweed or Russian Thistle in many small grain fields, vacant lots, and along roadsides. At this time they were numerous in some pasture lands west of Logan. However, the larvae had become less numerous than a month before in most parts of Utah. Still, the population remained well above normal for this time of year. Damage to grape foliage from larvae was reported from Vernal on July 17.

Utah State Agricultural College, Logan, Utah, U. S. A.