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THE MORE IMPORTANT RECORDS FOR APRIL, 1934

In the Great Plains region, where the intensive grasshopper control campaign is being centralized, no reports of hatching of the important economic species were received during April. In certain limited areas of North Dakota where the soil is light and sandy, as high as 25 percent of the eggs were destroyed, apparently by drying. Other than this, conditions throughout the infested region have been favorable for grasshoppers. Eggs were hatching in Montana during the last week of this month. In the Southwest there was a localized serious outbreak in the Salt River Valley of Arizona, involving about 85,000 acres, and some damage was observed in alfalfa and in young citrus plantings about the middle of April. In Idaho the two-striped grasshopper began hatching during the second week in April at Emmett, Gem County; in other parts of the State no hatching of any of the economic species had occurred up to the last week in the month. Eggs of the clear-winged grasshopper were as numerous as 8,000 per square foot of sod in Caribou County.

The army cutworm was appearing in numbers in wheat and alfalfa fields in southern Nebraska, central Montana, and the eastern half of Colorado. Considerable damage was done in a number of localities. Reports of cutworm injury have also been received from many points in Kansas. The pale western cutworm was very abundant and seriously damaging fall wheat in Utah.

The chinch bug situation has not materially changed since our last report. Heavy flights from hibernation quarters occurred during the first and second weeks of April in Kansas and Missouri.

May beetles were reported as damaging pecan buds and foliage in Georgia and Mississippi. Brood C adults were being found in large numbers near the surface of the soil in Wisconsin, and heavy flights occurred in Texas during the first week of the month.

The green bug was attracting considerable attention by its depredations on wheat and barley in southern Missouri, throughout the wheat-growing sections of Kansas, southwestern Nebraska, north-central Oklahoma,

and the eastern half of Colorado. Considerable damage was reported from some sections.

Grain aphids, Rhopalosiphum prunifoliae Fitch and Macrosiphum granarium Kby., were very numerous in southwestern Washington and the Willamette Valley of Oregon.

Corn ear worms were appearing in corn during the last week of the month in southern Florida and in the southeastern corner of Texas.

The pea aphid was attacking alfalfa and English peas over a very wide territory, extending from Indiana through Missouri and Nebraska to Colorado, and southward to the Gulf. In Kansas the outbreak was probably the most wide-spread and injurious of any since the outbreaks of 1921, the damage being particularly severe in the northeastern part of the State. In the West this insect was doing very considerable damage to alfalfa in northern Utah and in the valleys of western Nevada. Austrian winter field peas are seriously damaged in the Willamette Valley of Oregon, and heavy infestations of vetch were reported from western Washington.

Pupation of overwintering larvae of the codling moth started during the second week of April in southern Delaware. During the third week of the month pupation was observed in central Maryland. First adult moths were caught in bait traps at Cornelia, Ga., on April 14. In Ohio practically half of the larvae had pupated by April 12. In Illinois pupation started in the southern part of the State during the first week in April but no pupation had been observed as far north as Urbana up to April 20. In the Pacific Northwest emergence started in Idaho and Washington on April 12, which is extremely early. The first adult in Idaho last year was recorded on May 24.

The eastern tent caterpillar was reported as generally prevalent in the New England, Middle Atlantic, and South Atlantic States, extending westward into Tennessee and Mississippi. The infestation in Tennessee is the heaviest that has been observed in that State during the past five years.

The apple aphid and the apple grain aphid began hatching in the New England States about the middle of April. They appeared to be generally prevalent throughout the New England, and northern Middle Atlantic States, and comparatively scarce in the South Atlantic and lower Mississippi Valley States. The worst infestation of the woolly apple aphid that has occurred for many years was reported from the Willamette Valley of Oregon and from Idaho.

The first emergence of the plum curculio was observed during the third week in April in Delaware. It appeared in numbers in Georgia during the first few days of April and was generally distributed in the orchards by the 10th, eggs were found in the fruit on the 18th, and the first larvae were found in peaches on the 24th. In South Carolina the first adults were observed on April 2.

Adults of the striped cucumber beetle were found hibernating in considerable numbers in a dry, open hillside woodlot in Maryland.

A serious outbreak of buffalo gnats was under way during the latter part of the month in Arkansas. Hundreds of heads of livestock were reported killed.

GENERAL FEEDERS

GRASSHOPPERS (Acrididae)

North Dakota. J. A. Munro (April 21): As high as 25 percent mortality of overwintered eggs has been found in light sandy soils in severe drought-stricken areas of the State, while in the heavier types of soil the mortality is very low. Apparently the mortality is due to desiccation of the eggs in abnormally dry soil.

Mississippi. K. L. Cockerham (April 16): On April 16 a report was received at this office that a serious outbreak had occurred on two truck farms 4 miles north of Biloxi. An investigation showed nymphs quite numerous in grassland around the edges of the truck field and serious damage to tomato plants set in the fields near the grassland. Poisoned bait was applied on these truck farms in an effort to prevent further serious injury. Although the specimens have not been identified, they are believed to be nymphs of Schistocerca americana Drury.

Nebraska. M. H. Swenk (April 15): A threat of more or less damage at this time involves two or three principal areas in the State. As during the past three seasons, the most serious threat lies in north-central Nebraska, along the Niobrara River and the South Dakota boundary. This area includes the northeastern corner of Cherry County from Crookston east, all of Keyapaha and Boyd Counties, the northern sections of Brown and Rock Counties near the Niobrara, about the northern half of Holt County, all of Knox County, and the northern part of Cedar County. In portions of this area grasshoppers were very injurious last year and eggs are now present in numbers as high as 25 eggs to the square foot. Next to this north-central area, an area in Keith and Deuel Counties and western Perkins County seems to hold the threat of most serious injury. A third district where the threat seems less severe includes southeastern Rock County, with major sections of Loup, Garfield, Wheeler, and surrounding counties.

Arizona. C. D. Lebert (April 18): Scouting records to April 10 show the infestations of Melanoplus mexicanus Sauss. in the Salt River Valley to be as follows: 85,000 acres, light infestations; 10,000 acres, medium infestations; and 1,500 acres, heavy infestations. Winged adults were noticed April 6. Actual crop damage is becoming apparent in alfalfa fields and in a few young citrus plantings adjacent to alfalfa fields in the Mesa area. Farmers are using poisoned bran mash in these areas to some extent.

Idaho. C. Wakeland (April 25): Melanoplus bivittatus Say began hatching at Emmett, Gem County April 11. Economic species are not yet hatching in other parts of Idaho. Heavy outbreaks are expected in southeastern Idaho and in Jefferson County. An egg survey in Caribou County showed as many as 8,000 eggs of Camnula pellucida Scudd. per square foot of sod. All of the heavily infested counties are completely organized for control. Orders have been placed for 23 carloads of poisoned bait. Some of the districts most heavily infested last year will show decided decreases

this year, owing to parasitization by sarchophagids (most important), beefly larvae, ground beetle larvae, and blister beetle larvae.

- Utah. G. F. Knowlton (April 23): Nymphs were hatching at Promontory on March 14. First and second instar nymphs were taken at Willard on March 31. Young grasshoppers are now causing some damage to young sugar beets at Kanesville.
- C. J. Sorenson (April 24): Grasshoppers are beginning to hatch in Cedar Valley, Utah County.

MORMON CRICKET (Anabrus simplex Hald.)

- Idaho. C. Wakeland (April 25): Mormon crickets began hatching March 1 in eastern Idaho, and are now in the fourth and fifth instars. Hatching was more than a month earlier than last year and development correspondingly advanced. Infested area is estimated at 50,000 acres, exclusive of that on the Fort Hall Indian Reservation, 44,000 of which are on public domain and 6,000 on private lands. The large infestation in Fremont County, estimated at 30,000 acres is being dusted and the area on the Indian Reservation is being poisoned. It now appears that eggs will be laid late in May or early in June, at least a month earlier than usual.

CUTWORMS (Noctuidae)

- Nebraska. M. H. Swenk (April 15): Numerous reports of the army cutworm (C. auxiliaris) in wheat and alfalfa fields have been coming in during the last 10 days from Kimball, Deuel, Lincoln, Merrick, and Pawnee Counties.
- Kansas. H. R. Bryson (April 24): Between March 31 and April 16, reports of injury by Chorizagrotis auxiliaris Grote were received from Wichita, Sedgwick County, Miltonvale, Cloud County, and from Riley County. This insect, although moderately abundant, has not caused appreciable injury except in local areas.
- Montana. A. L. Strand (April 2): C. auxiliaris is generally prevalent over the central part of the State, particularly in Fergus, Stillwater, Yellowstone, Lewis and Clark, and Gallatin Counties, damaging winter wheat in all parts of the area infested.
- Colorado. G. M. List (April 21): Reports of army cutworms have been received from several localities in the eastern half of the State, where considerable damage is being done in wheat and alfalfa fields.
- Utah. C. J. Sorenson (April 24): The pale western cutworm (Porosagrotis orthogonia Morr.) is very abundant; it has caused serious damage to fall wheat.

FALL ARMYWORM (Laphygma frugiperda S. & A.)

Louisiana. W. E. Hinds (April 27): Grass worm occurrence in large numbers is indicated by reports received from the southern part of La Fourche Parish about April 19.

WHITE GRUBS (Phyllophaga spp.)

Georgia. J. B. Gill (April 25): May beetles were reported as damaging buds of pecan trees in the Tifton territory. One report of damage to Cedrus deodara was received.

Michigan. R. Hutson (April 20): White grubs are moderately abundant in the southern half of the Lower Peninsula.

Wisconsin. C. L. Fluke (April 19): Brood "C" beetles are near the surface in Lafayette and Green Counties, ready to emerge when weather becomes warm. Very few grubs have moved up.

Mississippi. C. Lyle (April 23): A correspondent at Grenada, Grenada County, reported on April 6 that May beetles were injuring the foliage on her young pecan and walnut trees.

J. P. Kislanko (April 20): Several species of May beetles are numerous and injuring pecans and water oaks in Wiggins and Hattiesburg.

Louisiana. H. L. Dozier (April 30): The earliest flight of May beetles at New Orleans took place on April 3.

Texas. F. L. Thomas (April 24): Heavy flights of Phyllophaga congrua Lec. were noted in Liberty County during the first week of April. P. bipartita Horn and P. praetermissa Horn also are active, but are less abundant.

GREEN JUNE BEETLE (Cotinis nitida L.)

North Carolina. W. A. Thomas and L. B. Reed (April 13): Larvae of the green June beetle are doing considerable damage to lawns in the Chadbourn area. Apparently the infestation is somewhat heavier than normal.

Tennessee. J. Milam (April 20): White grubs of this species were found in a tobacco plant-bed at Clarksville. They are also numerous in gardens.

LEAF CUTTER ANTS (Atta spp.)

Texas. Bur. of Ent. (March 9): For several months this Bureau has been the recipient of numerous appeals, originating both with local chambers of commerce and private individuals in western Texas, for information and aid in the control of leaf cutter ants.

CEREAL AND FORAGE - CROP INSECTS

WHEAT AND OTHER SMALL GRAINS

CHINCH BUG (Blissus leucopterus Say)

- Ohio. T. H. Parks (April 24): Chinch bugs are present in more than normal numbers in their hibernating places in fallen leaves along fence rows and borders of woodland. Very few are present in old cornstalks or shocks. There is not much opportunity for spring burning, as the ground cover has been wet.
- Illinois. W. P. Flint (April 20): Weather conditions have failed to reduce to any appreciable extent the numbers of hibernating chinch bugs. Recent counts show from 4 to 5 percent winter mortality. Up to the present time very little flight from winter quarters has occurred. The bugs are extremely numerous and active in their winter quarters, and general flights will start as soon as we have sufficiently high temperatures.
- Michigan. R. Hutson (April 20): Chinch bugs are very abundant in Monroe and Lenawee Counties.
- Iowa. C. J. Drake (April 12): Chinch bugs are present in great numbers in southern Iowa. In some cases we are finding over 4,000 bugs in one square foot of dense grass. Very few bugs have left winter quarters.
- Missouri. L. Haseman (April 24): The situation becomes more alarming with continued dry weather. Bugs have been moving from winter quarters on warm days and are abundant in barley already.
- Kansas. H. R. Bryson (April 23): A heavy flight occurred at Manhattan about April 5-7. A similar one was reported from Hoyt on April 18. The bugs are quite abundant in wheat, barley, and rye fields.
- Nebraska. M. H. Swenk (March 15 to April 15): There is a probability that southeastern Nebraska will be faced with the most serious outbreak in many years. The principal threatened area extends along the southern boundary of the State from Richardson County to Redwillow County, and north to northern Otoe and Lancaster Counties, as well as to Seward, Fillmore, Clay, Adams, Kearney, Phelps, Gosper, and Frontier Counties. Everywhere in this area the population is above normal.
- Oklahoma. C. F. Stiles (April 21): Chinch bugs are present in small numbers in oat fields at this time.

GREEN BUG (Toxoptera graminum Rond.)

- Missouri. L. Haseman (April 24): The green bug has been attracting much attention for the past two or three weeks in wheat, barley, and timothy in southern Missouri.
- Nebraska. M. H. Swenk (April 15): A report received from a Banner County correspondent on April 12, stated that 100 acres of a field of wheat had been killed out by the green bug, specimens of which accompanied

the report. This aphid was also found to be abundant in the wheat fields of the extreme southwestern counties of Nebraska, by L. M. Gates during the past week.

Kansas. H. R. Bryson (April 24): During the past month reports of infestations have come from 18 localities in as many counties, representing practically all sections of the State in which wheat is grown. The cool weather has been decidedly disadvantageous to the parasites and predators and very advantageous to the bug. The complete absence of precipitation has been a contributing factor in increased infestations and the growing severity of old infestations. Reports indicate that injury is on the increase. The wheat has been retarded in its development.

H. B. Hungerford (April 9): The green bug was causing some damage to oats and wheat in southeastern Kansas on April 1. It is present in oats and wheat in Douglas County; and parasites are present.

Oklahoma. C. F. Stiles (April 21): The damage has increased during the past two weeks but seems to be at a standstill at present. Ladybeetles in all stages are very numerous in infested fields; and I believe they will check further spread. Internal parasites are present in small numbers. The cool weather during the past week seems to be holding them in check. The infestation is heaviest in Oklahoma, Logan, Payne, Pawnee, Osage, Noble, Kay, Garfield, and Grant Counties. There is a little infestation as far west as the western limit of Harper County.

Colorado. G. M. List (April 21): The green bug infestation is general over the eastern half of the State, being serious enough in Larimer, Weld, and Adams Counties to destroy a considerable acreage of wheat. Ladybeetles are quite abundant, and it is hoped that relief will come through their work.

GRAIN APHIDS (Aphididae)

Oregon and Washington. L. P. Rockwood (March 31): Very populous colonies of Rhopalosiphum prunifoliae Fitch have been observed, especially on volunteer barley, but also on oats and wheat. Some yellowing of the tips of the leaves where colonies are established might be attributed to them. We found them especially abundant in Clarke County, Washington, on March 21, but there are about as many in some fields in the Willamette Valley of Oregon. They form more compact and populous colonies than Macrosiphum granarium Kby., and I believe they are doing more damage. Alates of M. granarium were abundant on volunteer and early fall-sown grain in January and February. They are now coming upon wheat and oats in some fields. They do not appear to be so abundant as R. prunifoliae in most fields, although there was about an even mixture on oats in one late fall-sown field in Clarke County, Washington, on March 21.

WESTERN WHEAT STEM MAGGOT (Hylemyia cerealis Gill.)

Colorado. G. M. List (April 21): The western wheat stem maggot has damaged a number of plantings of wheat, especially in Adams, Boulder, and Weld Counties. The infestation has been somewhat spotted, but some acreage will be destroyed.

A CRANE FLY (Tipula graminivora Alex.)

California. The crane fly which was reported in the Insect Pest Survey Bulletin, April, 1934, page 41, has been determined by C. T. Greene as T. graminivora.

A. E. Michelbacher (March 30): To-day I examined the field in which the tipulid injury occurred. I found the adults present in great abundance. An examination of the soil showed that most of the larvae had pupated.

CORN

CORN EAR WORM (Heliothis obsoleta Fab.)

Florida. J. R. Watson (April 23): The corn ear worm is scarce. It is beginning to occur in corn in central and southern Florida.

Louisiana. W. E. Hinds (April 27): The corn ear worm is scarce in Louisiana, generally, or unusually late in southern Louisiana.

Texas. S. W. Clark (April 24): The corn ear worm is moderately abundant at Edinburg and Weslaco.

ALFALFA

PEA APHID (Illinoia pisi Kalt.)

Indiana. J. J. Davis (April 20): Reported as very abundant and apparently seriously damaging alfalfa at Bloomfield.

Iowa. C. J. Drake (April 30): The pea aphid is very abundant in the southern part of the State. We have received complaints from Fremont and Lee Counties and indirect reports from other counties. The County Agent of Lee County reported that 90 percent of a 25-acre field of alfalfa at Donnellson, had been destroyed.

Missouri. L. Haseman (April 24): The pea aphid has been very abundant for the past three weeks in the western half of the State, from Joplin to the Iowa line, where it has killed some alfalfa. It is scarce in the central and eastern part of the State

Mississippi. J. P. Kislanko (April 19): English peas are heavily infested in Jones County.

Nebraska. M. H. Swenk (April 15): The pea aphid was reported attacking alfalfa in Pawnee County the second week in April.

Kansas. H. R. Bryson (April 23): The pea aphid has become very abundant and injurious in almost every section of the State where alfalfa is grown. The continued dry, cool weather has retarded the alfalfa and has proved advantageous to the aphid and disadvantageous to the parasites and predators. The outbreak is probably the most widespread and injurious of any since 1921. Reports of injury have been received from 20 localities and 19 counties, in the northeastern part of the State, extending in a line from Decatur County in the northwestern part, southeastward to Cowley County.

H. B. Hungerford (April 9): The pea aphid is ruining the first crop of alfalfa in Douglas County.

Colorado. G. M. List (April 21): The pea aphid is quite abundant in alfalfa fields in the Arkansas Valley and in the irrigated sections north of there and east of the mountains. The growth of hay is being very seriously checked.

Idaho. C. Wakeland (April 25): The pea aphid is unusually abundant on alfalfa and is causing serious damage on the first crop. The mild winter allowed heavy populations to survive and the first generations developed very early.

Utah. C. J. Sorenson (April 24): Aphids are seriously damaging alfalfa in localized areas of Salt Lake, Tooele, and Weber Counties.

Nevada. G. G. Schweis (April 23): Pea or alfalfa aphids are causing great damage in all the valleys of western Nevada. Many fields are completely brown where the alfalfa shoots have been killed down.

Oregon and Washington. L. P. Rockwood (March 31): Austrian winter field peas near Barlow, Clackamas County, Oreg., are seriously damaged. A field of common vetch near Vancouver, Wash., was practically ruined by March 21. Several fields of common vetch in Washington County, Oreg., are badly damaged, large spots showing up now even in a period of favorable growing weather. A field of smooth heavy vetch in Washington County that is very heavily infested shows some damage to tips of plants but not nearly so bad as the common vetch. Alate viviparous females found our plots of Canadian field peas, seeded on March 15, as soon as they showed above ground. Some cannery peas near Hillsboro, Oreg., showed alates well distributed and some already with large families and some larvae three-fourths grown, on March 29. It is hoped that the warm rains of the last 6 days of March will cause the fungous disease Empusa aphidis Hoffman to develop into a substantial check to the aphids. The disease is well distributed in alfalfa fields and early fall-sown vetch and pea fields. It has already affected nearly 40 percent of the population in some fields.

SUGARCANE

SUGARCANE BORER (Diatraea saccharalis Fab.)

Louisiana. W. E. Hinds (April 5): Emergence of moths from overwintered larvae began at Cypremort, on the extreme southern edge of the cane belt, during the first week of April. This is at least three weeks later than usual. (April 27): Eggs are quite abundant in some fields of early corn and advanced stubble cane. The first eggs parasitized by Trichogramma were taken at Jeanerette on April 24, which is unusually early.

T. E. Holloway and W. E. Haley (March 31): Observations showed that young cane planted on August 1, 1933, had as many as 11 live larvae per 100 stalks; cane planted September 1 had as many as 4 live larvae per 100 stalks. No borers were found in cane planted after October 1, which is the usual planting time.

SUGARCANE BEETLE (Euetheola rugiceps Lec.)

Louisiana. W. E. Hinds (April 6): Adults were observed in flight on warm evenings of April 3 and 4 with temperatures of 75 to 80° F. Attack on corn and cane is just beginning. The beetles are as abundant as usual.

F R U I T I N S E C T S

APPLE

CODLING MOTH (Carpocapsa pomonella L.)

New York. P. J. Parrott (April 23): In some sections of western New York many overwintering larvae were killed by low temperatures.

New Jersey. T. J. Headlee (April 25): The codling moth is moderately abundant.

Delaware. L. A. Stearns (April 24): Pupation of overwintered larvae was just commencing the second week in April in southern Delaware.

Pennsylvania. H. N. Worthley (April 14): The record of survival at State College was as follows on April 10: 23.9 percent survival in strawboard bands in a screen-bottomed cage in the orchard and 9.6 percent survival in strawboard strips exposed (except for screening) on the trunks of the trees. In 1933 about 50 percent of the overwintering larvae produced moths. No such difference in the two types of cage has been noted before, and this would seem to be an effect due to exposure of the larvae on the tree trunks.

Maryland. E. N. Cory (April 24): The codling moth is pupating.

Georgia. C. H. Alden (April 21): The first moth was caught in bait traps, April 14, at Cornelia.

Ohio. T. H. Parks (April 24): The codling moth is moderately abundant and is well advanced in Lawrence County. About 50 percent were pupated April 12, when buds were in the pre-pink stage. Parasitization is very low.

Illinois. W. P. Flint (April 20): Codling moth pupation started in southern Illinois during the week of April 8. Cool weather has retarded pupation. No pupation has occurred at Urbana.

Michigan. R. Hutson (April 20): The codling moth is very abundant, with from 30 to 40 percent mortality.

Missouri. L. Haseman (April 24): Recent counts show about 60 to 70 percent survival, but there has been more winter cleanup work done than ever before and growers are optimistic.

Kansas. H. R. Bryson (April 15): Reports from the Arkansas River Valley indicate that a large percentage of the overwintering larvae has been destroyed through excellent sanitation methods applied by the C. W. A.

Idaho. R. W. Haegele (April 18): Codling moth emergence started at Parma on April 12, the earliest on record. The calyx spray was started April 17.

Nevada. G. G. Schweis (April 23): The codling moth is moderately abundant in western Nevada.

Washington. E. J. Newcomer (April 20): The first moths were noted at Yakima April 12, which is a month earlier than last year and several days earlier than the previous earliest season. The calyx spray has mostly been applied, and in many cases the first cover spray will be on by May 1.

Oregon. D. C. Mote (April 24): Adults have been taken in bait in the Willamette Valley for the past several nights.

California. E. O. Essig (April 19): The codling moth is very abundant; abnormally heavy flight of adults occurred in April.

EASTERN TENT CATERPILLAR (Malacosoma americana Fab.)

New Hampshire. L. C. Glover (April 24): The eastern tent caterpillar is moderately abundant. Hatching started the third week in April and apparently there was no winter killing.

Massachusetts. A. I. Bourne (April 24): Tent caterpillars were observed hatching at Amherst on April 15, and on the 17th at the Waltham Station. Caterpillars were hatching without showing any appreciable winter killing.

Connecticut. E. P. Felt (April 23): Apple tent caterpillars appear to be abundant in Stamford, the small webs being very evident upon wild cherry. W. E. Britton (April 24): The eastern tent caterpillar is moderately abundant; egg masses are abundant; there was little winter mortality.

Delaware. L. A. Stearns (April 24): Hatching was first observed April 17 at Newark.

New Jersey. T. J. Headlee (April 25): The eastern tent caterpillar is very abundant.

Pennsylvania. A. B. Champlain (April 24): The eastern tent caterpillar is moderately abundant in Dauphin County. Hatching and forming of nests was observed April 20.

H. E. Hodgkiss (April 23): Eggs are abundant, and even in the area of lowest sub-zero winter temperatures the hatch is normal. In the northern tier of counties the webs were being spun on April 20.

Maryland. E. N. Cory (April 24): The eastern tent caterpillar is very abundant over the central part of the State.

West Virginia. L. M. Peairs (April 24): The eastern tent caterpillar was observed hatching at Morgantown on April 20.

North Carolina. W. A. Thomas and L. B. Reed (April 14): The overwintering eggs began hatching at Chadbourn about the middle of March at a time when there was scarcely any foliage on the trees. The population is apparently much larger this year than normal and approximately half of the wild cherry trees in this area have been completely defoliated. As many as a dozen nests have been observed in a single tree of medium size. The larvae have now about reached maturity.

Georgia. O. I. Snapp (April 2): Caterpillars are more abundant than usual at Dry Branch.

Tennessee. J. U. Gilmore (April 19): There are probably more tents around Clarksville than there have been in the past five years. Complete defoliation of many wild cherry trees is now apparent. Little damage to apple and peach has been observed.

Mississippi. C. Lyle (April 23): Specimens collected from peach trees were recently received from Bay Springs, Jasper County, and Lexington, Holmes County. Only slight infestations were reported in each case.

PISTOL CASE BEARER (Coleophora malivorella Riley)

West Virginia. L. M. Peairs (April 24): The pistol case bearer was reported as abundant in a few orchards in Jefferson County.

APPLE FRUIT MINER (Marmara pomonella Busck)

New York. E. P. Felt (April 23): The work of the bast miner, M. pomonella, in young apple twigs was reported from Bay Shore, L. I.

APHIDS (Aphidae)

New Hampshire. L. C. Glover (April 24): The apple aphids (Aphis pomi DeG.) has been reported as plentiful throughout the State. The eggs commenced to hatch the second week in April.

Vermont. H. L. Bailey (April 25): A. pomi is scarce; young have hatched and are on the opening buds of apple at Dummerston.

Massachusetts. A. I. Bourne (April 24): We noted the hatching of orchard plant lice on or about April 15 at Amherst. Some of the earlier observations indicated that a very considerable percentage of the overwintering eggs was collapsing. At the present time, however, we are noting a sizeable hatch in some orchards.

Connecticut. P. Garman (April 23): The green apple aphid is abundant in some orchards. Ladybird beetles are reported by growers in several parts of the State, indicating that they have passed the winter successfully.

New York. P. J. Parrott (April 23): The apple grain aphid is moderately abundant in western New York. The rosy (Anuraphis roseus Baker) and the green (A. pomi) apple aphids have not yet hatched.

N. Y. State Coll. of Agr. News Letter (April): In the lower Hudson River Valley the apple grain aphid (Rhopalosiphum prunifoliae Fitch) was observed to be hatching on April 9; and nymphs were observed in Dutchess and Orange Counties on April 10. By the third week in the month they were noticed in unusually large numbers in Orange, Dutchess, and Greene Counties. The apple aphid was reported as starting to hatch in Onondaga County the week of April 23. The rosy apple aphid, A. roseus, was observed hatching in Dutchess County on April 14; and one individual was observed in Ulster County on April 12. (Abstract J. A. H.)

New Jersey. T. J. Headlee (April 25): The rosy apple aphid and the green apple aphid are scarce, while the oat aphid is abundant.

Pennsylvania. H. N. Worthley (April 14): Aphid eggs: 232 twigs examined, average survival 57.7 percent; minimum survival 41 percent; and maximum 75 percent, from Franklin County. In beakers of water in the laboratory the collapse of eggs continued, and only 8 percent hatched. The value of these records as to survival in the field is questionable, for all lots except those at State College were in the mail from 24 to 48 hours. At State College aphids were seen on buds of flowering crab during the last week in March, and on opening buds of apple in the silver tip stage on April 9. The large numbers indicated no abnormal effect of low winter temperatures. Weather Bureau records at State College give minima of -6°F. on December 29, -17°F. on February 9, and -13°F. on February 28. Aphids observed so far are all green (A. pomi) and grain (R. prunifoliae) H. E. Hodgkiss (April 23): Nymphs of the green apple aphid and the grain aphid were hatching in the southern counties April 1 in unusually large numbers. Of the two species the grain aphid is more abundant. In the northern counties they started a week later. Rosy aphid eggs commenced to hatch in the most southern counties on April 10. State-wide observations indicate a very light infestation, Adalia bipunctata L. is abundant on apple trees. Syrphid fly eggs were first seen on April 10 and since then have increased in greater numbers than in 1932, when they were plentiful.

Delaware. L. A. Stearns (April 24): Initial hatching of grain aphids noted during the first week of April.

Maryland. E. N. Cory (April 24): Fruit aphids are moderately abundant, oat aphids principally.

Virginia. W. J. Schoene (April 30): The reports indicate that the various species of apple aphids are very scarce in all orchard sections this year. This seems to be true on trees sprayed as well as those not sprayed.

West Virginia. L. M. Peairs (April 24): The rosy (A. roseus) and the green (A. pomi) are scarce in Jefferson and Berkeley Counties.

Georgia. C. H. Alden (April 21): Fruit aphids are scarce at Cornelia.

Ohio. T. H. Parks (April 24): Apple aphids, mainly green and apple grain aphids, are more abundant than usual on the opening buds. The cold rainy weather of the middle of April killed many of these newly hatched aphids

in Jackson County. Some are still hatching at Columbus. Some eggs of syrphid flies are present among these.

Kentucky. W. A. Price (April 24): Green fruit aphids are very abundant, also rosy aphids.

Missouri. L. Haseman (April 24): Fruit aphids are scarcer than usual but cool weather may enable them to build up. We have taken no rosy aphids as yet.

Kansas. H. R. Bryson (April 24): The apple grain aphid has been reported as very abundant on apple trees in the Arkansas River Valley in the vicinity of Oxford.

Idaho. C. Wakeland (March 30): All forms of orchard aphids are hatched; some of these appeared the last of February. Infestations of the woolly apple aphid (Eriosoma lanigera Hausm.) are the most severe we have ever experienced. (April 25): Aphids are very abundant in apple orchards throughout the State. Extensive spraying is being done.

Oregon. D. C. Mote (April 24): The woolly apple aphid (E. lanigera) is more abundant in the Willamette Valley than it has been for many years.

SAN JOSE SCALE (Aspidiotus perniciosus Comst.)

New Hampshire. L. C. Glover (April 24): Very high mortality of the San Jose scale has been reported from Hollis, Wilton, and Kensington. The specimens inspected in the laboratory show less than 5 percent survival.

Connecticut. W. E. Britton (April 24): The San Jose scale is scarce, about 75 percent dead.

New York. E. P. Felt (April 23): The San Jose scale has suffered heavy winter mortality at Freeport, L. I.

W. E. Blauvelt, N. Y. State Coll. of Agr. News Letter (April 9): Examination of over 5,000 young, black individuals show a high winter mortality. In Tompkins, Ontario, Yates, Genesee, and Monroe Counties the mortality was 97 to 100 percent. In Ontario and Yates Counties the low temperatures in February ranged from -24° to -30°F. As low or lower temperatures occurred in Onondaga, Livingston, Wyoming, Chautauqua, and most of Erie County, and it is probable that a similar high mortality of scale occurred. In Orleans and most of Niagara County the mortality in most of the samples examined was from 80 to 86 percent. The temperature in these areas was reported as about -15° to -20°F. in the zones near the lake and about -24° in the middle and southern parts. In a small area in the northwestern corner of Niagara County, around Youngstown and extending south along the Niagara River, the temperature reached only 10 to 12 degrees below zero and the mortality of scale was around 50 percent. The Hudson Valley samples of scale from Ulster and Columbia Counties showed a mortality of from 80 to 90 percent. Examination of scale on currants from Orange County showed a rather high survival.

Pennsylvania. H. N. Worthley (April 14): On 49 twigs examined, the average survival was 45.2 percent; minimum 39 percent from Centre County; maximum 50.8 percent from Franklin County.

Illinois. W. P. Flint (April 20): Counts from several orchards in northern Illinois, where the official temperature was -20°F., show from 50 to 60 percent of the scales alive. Apparently the period of cold weather was not long enough to affect the scale seriously.

Idaho. C. Wakeland (April 25): The mild winter allowed heavy survival. Development is early; and undoubtedly this year will see a heavy increase in populations.

TARNISHED PLANT BUG (Lygus pratensis L.)

Missouri. L. Haseman (April 24): The tarnished plant bug has been abundant and active in central Missouri, and what is probably the same species was reported as blighting some apple fruit buds in northwestern Missouri recently.

EUROPEAN RED MITE (Paratetranychus pilosus C. & F.)

Massachusetts. A. I. Bourne (April 24): All our observations thus far would indicate that the European red mite will have an approximately normal hatch.

Connecticut. P. Garman (April 23): The European red mite is generally less abundant than usual. Where present it has passed the winter successfully. Occasional orchards only appear to be infested.

Pennsylvania. H. E. Hodgkiss (April 23): Eggs are more abundant on apples and peaches than at any time since 1931.

H. N. Worthley (April 14): European red mite eggs: 206 twigs examined; average survival 68.1 percent; minimum 0 percent at State College; maximum 91 percent from Franklin County.

Idaho. C. Wakeland (March 30): European fruit mite eggs have hatched in the Lewiston district.

PEACH

ORIENTAL FRUIT MOTH (Grapholitha molesta Busck)

Delaware. L. A. Stearns (April 24): Fifty-four percent of the overwintered larvae had pupated on April 19.

Virginia. W. J. Schoene (April 30): Adults are emerging in large numbers in the vicinity of Roanoke, and it is expected that much injury will be caused.

Georgia. O. I. Snapp (April 24): First-brood larvae are now appearing in peach twigs at Fort Valley, the largest being about one week old on this date. First-generation eggs hatched about the usual time this year and, therefore, the usual number of broods is anticipated. The dates of first

twig injury in other years are as follows: April 10, 1925; April 20, 1926; April 1, 1927; April 25, 1928; April 4, 1929; April 29, 1930; April 22, 1931; May 17, 1932; April 20, 1933.
C. H. Alden (April 21): Adults have been caught in bait traps for the past two weeks at Cornelia.

LESSER PEACH BORER (Aegeria pictipes G. & R.)*

Georgia. O. I. Snapp (April 12): Spring-brood moths are beginning to emerge.

PLUM CURCULIO (Conotrachelus nenuphar Hbst.)

Delaware. L. A. Stearns (April 24): First emergence of the plum curculio from hibernation was observed at Camden on April 20.

Georgia. O. I. Snapp (April 20): Adults appeared from hibernation in numbers at Fort Valley between April 1 and 3 and were disseminated throughout the orchards by April 10. Eggs were found in the little peaches on April 18. (April 24): The first larvae of the season were found today in green peaches. They were about two days old. An adult depositing eggs in a peach was observed in an orchard on April 19.
C. H. Alden (April 21): Curculios were caught on jarring frames starting April 9 at Cornelia and on April 2 at Thomaston.
T. L. Bissell (April 5): The first beetle of the year was jarred from peach April 5 at Experiment (6 jarrings made previously, from March 21 to April 2).

South Carolina. W. C. Nettles and F. Sherman (April 25): Adults were observed in the Sandhill and Piedmont sections, April 2 to 17.

GREEN PEACH APHID (Myzus persicae Sulz.)

Montana. A. L. Strand (April 2): M. persicae is moderately abundant.

Idaho. R. W. Haëgele (April 18): The peach aphid is very abundant in southwestern Idaho.

Utah. G. F. Knowlton (April 18): Green peach aphids working inside the blossoms have caused large numbers of peach blooms to dry up upon trees at the Davis County Experiment Station farm.

Nevada. G. F. Schweis (April 2): Aphids are very abundant in western Nevada and are curling the leaves of peach and plum.

PEAR

PEAR PSYLLA (Psyllia pyricola Foerst.)

Massachusetts. A. I. Bourne (April 24): Pear psylla eggs were observed at Amherst on April 19, and at Waltham on the 18th. Eggs are hatching

*Correction: The note in the Insect Pest Survey Bulletin, April, 1934, page 47, by O. I. Snapp, under Aegeria exitiosa refers to A. pictipes.
Say

without showing any appreciable winter killing. There seems to be an abundance of the adult psyllas which survived the winter.

Connecticut. P. Garman (April 23): Pear psylla eggs were observed in commercial orchards in New Haven County.

New York. N. Y. State Coll. of Agr. News Letter (April): The pear psylla was abundant and laying eggs in the Hudson River Valley during the middle of the month, and by the third week eggs were very plentiful throughout that region and also in western New York. (Abstract, J. A. H.)

Michigan. R. Hutson (April 20): The pear psylla is moderately abundant and laying eggs.

CHERRY

BLACK CHERRY APHID (Myzus cerasi Fab.)

Montana. A. L. Strand (April 2): The cherry aphid is prevalent in large numbers throughout cherry orchards in the vicinity of Flathead Lake.

PLUM

RUSTY PLUM APHID (Hysteroneura setariae Thos.)

Georgia. O. I. Snapp (April 19): This insect is now abundant on plum at Fort Valley.

Mississippi. C. Lyle (April 23): Plum twigs showing heavy infestations were received from Hattiesburg, Forrest County, on April 2, and from Lombardy, Sunflower County, on April 23.

CITRUS

A SCALE INSECT (Margarodes rileyi Giard.)

Florida. J. R. Watson (April 23): Considerable interest has been aroused among citrus growers by the discovery in citrus groves in Polk and Lake Counties of a species of Margarodes, provisionally identified by H. Morrison as M. rileyi. We have found as many as 4,000 live cysts in two quarts of soil taken around citrus roots. Trees in this situation have a very unthrifty appearance. The adults began to emerge about the middle of the month and the first eggs were found on the 19th.

CITRUS WHITEFLY (Dialeurodes citri Riley & How.)

Florida. H. T. Fernald (April 20): The citrus whitefly was very abundant in Orlando the first two weeks in April.

Mississippi. C. Lyle (April 23): Cape jasmine leaves showing a heavy infestation were received from a correspondent at Way, Madison County, on April 18.

D. W. Grimes (April 20): The citrus whitefly is moderately to very abundant on privet and cape jasmine at Cruger and Durant in Holmes County.

Louisiana. W. E. Hinds (April 27): The citrus whitefly is very abundant on citrus, privets, and other plants.

California. D. B. Mackie (April 18): Two infested trees were found in Marysville, Yuba County; no living fly has been found in Orange, Los Angeles, Sacramento, Butte, Colusa, or Sutter Counties.

CITRUS RUST MITE (Phyllocoptes oleivorus Ashm.)

Florida. J. R. Watson (April 23): Rust mites were very abundant until checked by recent heavy rains, which were unusually heavy for April. H. T. Fernald (April 20): The citrus rust mite is moderately abundant at Orlando.

Mississippi. J. E. Lee (April 14): The citrus rust mite is reported as very abundant at Carriere.

GARDEN SLUG (Agriolimax agrestis L.)

California. H. J. Ryan (April 14): An infestation of a slug, identified by Dr. Howard Hill of the Los Angeles County Museum as A. agrestis, did some damage to foliage and navel oranges on the trees of a grove at Duarte, Los Angeles County, during March. The damage was most evident on the oranges on low hanging branches. As these were picked during March and no further serious injury was noted, no control measures were used.

A SNAIL (Helix pisana Muller)

California. D. B. Mackie (April 18): A new infestation of this pest was found early in April in a citrus grove near Anaheim, Orange County. The forces of the State are organizing to take up its eradication.

AVOCADO

PYRIFORM SCALE (Protopulvinaria pyriformis Ckll.)

Florida. J. R. Watson (April 23): Among the insects which have been particularly prominent in our correspondence during the last month has been a pyriform scale. The infestations are on avocados, concerning which we have received more complaints than we have ever received before in the same length of time.

T R U C K - C R O P I N S E C T S

SPOTTED CUCUMBER BEETLE (Diabrotica duodecimpunctata Fab.)

Virginia. P. D. Sanders (April 2): Two 12-spotted cucumber beetles were observed on the wing in the capitol grounds at Richmond today.

North Carolina. W. A. Thomas and L. B. Reed (April 7): This insect is more abundant than usual and is doing considerable feeding on most of the

early spring cruciferous crops at Chadbourn. The injury is apparently more serious to young cabbage plants that have just been transplanted than to other crops.

Georgia. T. L. Bissell (April 23): First beetles were observed at Experiment, on March 5. On March 22 the beetles were scarce on rye and Austrian peas and abundant on blossoms of wild plum (34 jarred in 15 minutes). On April 10 and 20 the beetles were scarce on peas and fruit trees.

FALSE CHINCH BUG (Nysius ericae Schill.)

North Carolina. W. A. Thomas and L. B. Reed (April 9): The adults are becoming rather abundant on young mustard planted for spring market at Chadbourn. The population has not reached the point where serious damage is being done. There is no evidence that the severe winter was of any practical aid in reducing the overwintering population.

Arizona. C. D. Lebert (April 18): Several calls regarding this insect over-running yards, getting into houses, and on citrus and roses have been received.

SEED CORN MAGGOT (Hylemyia cilicrura Rond.)

Louisiana. W. E. Hinds (April 27): The seed corn maggot is very abundant on beans and early potatoes in southern Louisiana.

POTATO AND TOMATO

COLORADO POTATO BEETLE (Leptinotarsa decemlineata Say)

Virginia. H. G. Walker and L. D. Anderson (April 26): The Colorado potato beetle is just beginning to emerge from hibernation at Norfolk.

South Carolina. W. C. Nettles and F. Sherman (April 25): The beetle was observed in eastern South Carolina on April 19.

Georgia. J. B. Gill (April 25): The Colorado potato beetle is very abundant on potato and tomato plants at Tifton.

Mississippi. N. D. Peets (April 17): The beetle is very abundant in southwestern Mississippi; more abundant than in recent years.

Louisiana. W. E. Hinds (April 27): The Colorado potato beetle is unusually abundant in Louisiana generally.

TOBACCO FLEA BEETLE (Epitrix parvula Fab.)

Virginia. H. G. Walker and L. D. Anderson (April 25): The eggplant flea beetle (E. parvula Fab.) is moderately abundant on young potato plants near Norfolk.

CORN FLEA BEETLE (Chaetocnema pulicaria Melsh.)

Georgia. T. L. Bissell (April 23): This insect was observed at Experiment damaging young corn about 3 inches ^{high} with one or more beetles in each plant most of which were working inside unfolding leaves.

Mississippi. J. Milton (April 21): A serious outbreak of flea beetles was observed on tomato at Utica April 11. They were attacking plants recently set in the fields. The plants were greatly weakened by the attack.

POTATO TUBER WORM (Gnorimoschema operculella Zell.)

Utah. G. F. Knowlton (April 18): Washington, Iron, and Beaver Counties are now quarantined because of the presence of the potato tuber moth in a few localities of each county.

STALK BORER (Papaipema nebris nitela Guen.)

Tennessee. J. Milam (April 10): A 10 to 15 percent infestation of one cold frame of tomato transplants was reported from Dyer; possibly 1,000 infested plants.

SUCKFLY (Dicyphus minimus Uhl.)

Texas. F. L. Thomas (April 24): This insect is extremely abundant in the vicinities of Mission and Edinburg, causing severe damage to the tomato crop. It is also more abundant than usual at Weslaco, according to S. W. Clark.

SQUASH BUG (Anasa tristis DeG.)

Mississippi. G. L. Bond (April 16): Squash bugs are doing considerable damage to Irish potatoes at Moss Point. As high as 8 or 10 bugs were found on 1 plant and such infested plants were scattered all over the patches.

LEAF-FOOTED BUG (Leptoglossus phyllopus L.)

Louisiana. W. E. Hinds (April 27): Leaf-footed plant bugs have been very numerous on and injurious to Irish potatoes, together with potato beetles.

BEANS

MEXICAN BEAN BEETLE (Epilachna corrupta Muls.)

Delaware. L. A. Stearns (April 24): High mortality has occurred in hibernation cages at Newark.

Virginia. H. G. Walker and L. D. Anderson (April 26): The Mexican bean beetle is still in hibernation at Norfolk.

West Virginia. L. M. Peairs (April 24): A few were seen at Morgantown early in April.

CABBAGE

IMPORTED CABBAGE WORM (Ascia rapae L.)

Maryland. E. N. Cory (April 24): The cabbage butterfly was first observed on April 13.

Florida. H. T. Fernald (April 20): Adults were unusually abundant around cruciferous crops during the first half of April in the field crops sections near Orlando.

Utah. G. F. Knowlton (April 11): Imported cabbage worm butterflies are now flying in Davis and Weber County areas.

CABBAGE APHID (Brevicoryne brassicae L.)

Tennessee. J. Milam (April 16): Small numbers of this pest have recently appeared on cabbage at Clarksville.

Mississippi. C. Lyle (April 23): Heavily infested cabbage plants were received on April 10 from a grower at Edwards, Hinds County.

HARLEQUIN BUG (Murgantia histrionica Hahn)

Virginia. H. G. Walker and L. D. Anderson (April 26): The harlequin bug has been found to have passed the winter successfully in rather large numbers in a protected place in a flower garden near Norfolk.

North Carolina. W. A. Thomas and L. B. Reed (April 5 to 15): During the past few days large numbers have suddenly appeared in several fields of cabbage and mustard around Chadbourn. It appears that they all came from a northerly direction and settled within the fields in very limited areas. Even their movements within the field were from north to south. It was not uncommon to find as many as 50 of these insects on a single cabbage plant, 6 inches in diameter or less. There was no indication of egg laying until the end of the second week in April. At the present time hundreds of egg clusters are found on the lower leaves of cabbage, especially those that are partly in contact with the soil. There is no evidence to show where these insects hibernated, as there was no large population in this immediate territory last fall. In this area all food plants were destroyed the latter part of January.

South Carolina. W. C. Nettles and F. Sherman (April 25): The first complaint of this insect was received on April 6 from eastern South Carolina.

Mississippi. C. Lyle (April 23): Harlequin cabbage bugs were reported abundant on mustard and cabbage in gardens at Hazlehurst, Copiah County, on April 10, and at Starkville, Oktibbeha County, on April 19.

Louisiana. W. E. Hinds (April 27): The harlequin bug is very abundant in many fields of crucifers in southern Louisiana.

CABBAGE MAGGOT (Hylemyia brassicae Bouche)

Virginia. W. J. Schoene (April 30): Reports of severe injury to newly planted cabbage at Wytheville has been received. This insect is always present in this area, but causes injury only in favorable years.

ASPARAGUS

ASPARAGUS BEETLE (Crioceris asparagi L.)

South Carolina. W. C. Nettles and F. Sherman (April 25): The asparagus beetle was observed in Saluda County on April 13.

Oregon. D. C. Mote (April 24): The most severe outbreak in many years has been reported from Hood River, the Dalles, Willamette Valley.

MELONS

STRIPED CUCUMBER BEETLE (Diabrotica vittata Fab.)

Maryland. E. N. Cory (April 26): Today we found about 50 adult striped cucumber beetles in dry leaves on a hillside covered with mixed oak, tulip, and pine forest. This is the first time that we have found this beetle in numbers in hibernation.

Mississippi. D. W. Grimes (April 20): The striped cucumber beetle is very abundant at Carthage, and is reported as doing severe damage to young watermelons.

ONIONS

ONION THRIPS (Thrips tabaci Lind.)

California. R. E. Campbell (April 1): Thrips damage to the commercial plantings of onions in the Coachella Valley has been reported, and severe damage has been observed in several small fields near Alhambra.

EGGPLANT

EGGPLANT FLEA BEETLE (Epitrix fuscula Crotch)

Louisiana. W. E. Hinds (April 27): This flea beetle has seriously injured eggplant in East Baton Rouge and St. Mary Parishes.

STRAWBERRY

STRAWBERRY LEAF ROLLER (Ancylis comptana Froel.)

Kansas. H. R. Bryson (April 23): The strawberry leaf roller has reached outbreak proportions in northeastern Kansas in the vicinities of Troy, Wathena, and Blair.

Utah. G. F. Knowlton (April 18): Moths are extremely abundant in strawberry patches at Hyrum and North Logan in Cache County. A small number of eggs and a very few caterpillars are also present.

C. J. Sorenson (April 24): Damage has been reported in some areas of Weber and Utah Counties.

STRAWBERRY WEEVIL (Anthonomus signatus Say)

North Carolina. W. A. Thomas and L. B. Reed (April 18): The strawberry weevil began emerging from hibernation at Chadbourn on March 20 and by March 27 it began entering strawberry fields. The weevils seem to be more widespread than in former years. Even fields away from hibernation areas have become moderately infested, while those in close proximity to unburned areas have been injured to the extent of 25 percent or more. This widespread distribution of the weevil seems to be due to strong winds during the period of emergence which blew them a considerable distance from their winter quarters. Control operations have been more general in this territory than in former years.

Mississippi. J. P. Kislanko (April 20): The strawberry weevil is moderately abundant in Stone and adjoining counties, injuring bloom buds of native blackberry and youngberry.

STRAWBERRY ROOT WEEVIL (Brachyrhinus ovatus L.)

Oregon. W. D. Edwards (April 21): B. ovatus is beginning to pupate.

COMMON RED SPIDER (Tetranychus telarius L.)

Virginia. H. G. Walker and L. D. Anderson (April 26): The red spider is very abundant and injurious in some of the strawberry fields in the Norfolk area. It has also been found infesting foxglove and columbine.

North Carolina. W. A. Thomas and L. B. Reed (April 19): The strawberry red spider, which has been so much in evidence at Chadbourn is much less abundant at this time that it was in the late winter. The strawberry plants are growing very rapidly with fruit nearing the period of maturity; so it is improbable that the injury will be as serious as it was last season. The population was greatly decreased by the unusually cold weather of January and February. In the dusting operations for the control of the strawberry weevil, the red spider was further reduced.

Mississippi. M. L. Grimes (April 19): There is a general infestation of red spider on strawberry.

BEETS

BEET LEAFHOPPER (Eutettix tenellus Bak.)

Idaho. J. C. Chamberlin, Mo. Letter, Bur. Ent. (March): Prospects are for low populations in Twin Falls, Jerome, Minidoka, and Cassia Counties.

Utah. G. F. Knowlton (April 23): The spring dispersal of the beet leafhopper has reached northern Utah. A few pale migratory forms were collected in Tooele County on April 17, and pale forms were moderately abundant from Hooper to Plain City in Weber County on April 23; and specimens were collected farther north in Box Elder County.

SPINACH CARRION BEETLE (Silpha bituberosa Lec.)

Utah. G. F. Knowlton (April 20): Larvae are abundant and seriously damaging one field of young sugar beets at Layton, Davis County. The larvae are now three-fourths grown.

TOBACCO

TOBACCO FLEA BEETLE (Epitrix parvula Fab.)

Florida. F. S. Chamberlin (April 12): Tobacco flea beetles are very scarce on plant beds and newly-set tobacco in Gadsden County.

South Carolina. W. C. Nettles and F. Sherman (April 25): The tobacco flea beetle was observed at Florence on April 14.

Tennessee. J. U. Gilmore (April 20): Flea beetles have appeared the past month at Clarksville and have caused some damage to poorly canvassed tobacco plant beds. However, the beetles are not nearly so numerous as usual.

TOBACCO THRIPS (Frankliniella fusca Hinds)

Florida. F. S. Chamberlin (April 23): Very few thrips can be found on tobacco in Gadsden County. The infestation is evidently much below normal and may be attributed to the recent heavy rains.

F O R E S T A N D S H A D E - T R E E I N S E C T S

GYPSY MOTH (Porthetria dispar L.)

Vermont. H. L. Bailey (April 25): Several rather large colonies have been found in the upper Connecticut River Valley as far north as Wells River, Orange County, denoting an increase during the past five years in that locality. There is no indication of the moth in the interior and western sections of the State. Egg masses are reported as quite general in south-eastern towns.

F O R E S T T E N T C A T E R P I L L A R (Malacosoma disstria Hbn.)

Mississippi. J. P. Kislanko (March 30): The forest tent caterpillar is quite generally distributed in Stone, Forrest, and Perry Counties, where wild plums and Crataegus spp. are being defoliated. Larvae are nearly full-grown.

Colorado. G. M. List (April 21): Examinations for eggs on cottonwood, poplar, and ash trees show that this insect will be quite injurious again in several towns in northern Colorado. The egg masses are much less numerous in the localities where a thorough spraying was done last year.

SPRING CANKER WORM (Paleacrita vernata Peck)

North Dakota. J. A. Munro (April 21): Adults moved up during the forepart of April.

Kansas. H. R. Bryson (April 23): P. vernata has been especially abundant in the State and reports from the Arkansas River Valley indicate a great abundance in orchards where sanitary measures have not been applied.

JAPANESE SCALE (Leucaspis japonica Ckll.)

New York. E. P. Felt (April 23): The Japanese scale has apparently suffered a heavy mortality. This is particularly evident at Freeport, L. I.

CYPRESS

A SAWFLY (Tenthredinidae)

California. R. E. Campbell (April 24): Since April 2 we have received 10 calls regarding sawfly larvae (species undetermined) on cypress, both hedges and trees, from Alhambra. Although the larvae are fairly abundant and apparently widespread, no great damage has been observed.

ELM

ELM LEAF BEETLE (Galerucella xanthomelaena Schr.)

Washington. E. J. Newcomer (April 20): The early season has brought this insect out in Yakima and in many cases elm trees are almost defoliated.

ELM SCURFY SCALE (Chionaspis americana Johns.)

Connecticut and New York. E. P. Felt (April 23): Eggs have wintered in excellent condition at Stamford, Conn., and at Great Neck, L. I.

JUNIPER AND CEDAR

CEDAR BARK BEETLE (Phloeosinus dentatus Say)

Virginia. E. P. Felt (April 23): The cedar bark beetle has been injuring twigs rather seriously in the vicinity of Richmond.

JUNIPER WEBWORM (Dichomeris marginellus Fab.)

Connecticut. M. P. Zappe (April): There is a heavy infestation on Juniperus communis in Madison. Apparently there has been no winter mortality,

INSECTS AFFECTING GREENHOUSE

AND ORNAMENTAL PLANTS

OYSTER-SHELL SCALE (Lepidosaphes ulmi L.)

New York. R. E. Horsey (April 23): Last year's branchlets of European ash, Fraxinus excelsa and Hoary Willow, Salix candida infested by scale were dead, caused by the cold winter or the scale or by both. Eggs under full sized scales were shriveled and dead. Evidently the death of the infested branch has an effect on the eggs. The branches and eggs of the scale were both alive on Albert honeysuckle, Lonicera albertii and a lilac from the Orient, Syringa sp. The lilac was badly incrustated with scale.

Illinois. W. P. Flint (April 20): Examinations of the oyster-shell scale in the east-central part of the State show that most of the overwintering eggs have been destroyed by mites or the scale killed by parasites.

CHAFF SCALE (Parlatoria pergandei Comst.)

Mississippi. C. Lyle (April 23): Infested leaves of Camellia japonica were received from a grower at Hazlehurst, Covich County, on April 16; jasmine in a garden at Starkville, Oktibbeha County, was observed being injured on April 18.

A SCALE INSECT (Odonaspis penicillata Green)

Mississippi. C. Lyle (April 23): Bamboo twigs showing very heavy infestations were received from a correspondent at Gulfport, Harrison County, on March 23. He indicated that many of the bamboo plants in that vicinity were dying out and he believes the scale to be partially responsible.

EUONYMUS

EUONYMUS SCALE (Chionaspis euonymi Comst.)

Virginia. H. G. Walker and L. D. Anderson (April 26): As usual, the euonymus scale is rather abundant on many plantings of Euonymus at Norfolk.

Mississippi. C. Lyle (April 23): Heavy infestations on Euonymus were reported from Jackson, Hinds County, on April 12, and from Hattiesburg, Forrest County, on April 17.

GENISTA

A MOTH (Tholeria reversalis Guen.)

California. R. E. Campbell (April 24): So far this insect is not so abundant at Alhambra as it has been during the past 3 years, when most of the genista bushes were defoliated to a large extent.

GLADIOLUS

GLADIOLUS THRIPS (Taeniothrips gladioli M. & S.)

Indiana. J. J. Davis (April 25): Gladiolus thrips will probably be abundant again this season judging from the reports of infestations on corms.

I N S E C T S A T T A C K I N G M A N A N D

D O M E S T I C A N I M A L S

CATTLE

HORN FLY (Haematobia irritans L.)

Texas. O. G. Babcock (April 6): H. irritans was observed from April 2 to 6. From 0 to 25 per animal on Aberdeen angus were counted at Terra Alta, 25 miles southeast of Christoval.

BLOW FLIES (Muscidae)

Texas. O. G. Babcock (April 10): Blow flies are numerous at the Experiment Station at Sonora; approximately 70.60 percent being Phormia regina Meig., and 28 percent the screw worm (Cochliomyia macellaria Fab.).

WOOD TICKS (Dermacentor spp.)

Nebraska. M. H. Svenk (April 15): From Scotts Bluff County, on March 24, came the complaint of wood ticks (D. variabilis Say) infesting a frame building.

Missouri. L. Haseman (April 24): This year reports of ticks on dog at Columbia were received from April 1 to 15. In 1933 the first dog tick was taken at Columbia, April 23.

SHEEP

BLACK BLOWFLY (Phormia regina Meig.)

California. E. W. Laake (April): The following information has been received from a correspondent: We have never before had such serious infestations by blowflies as we have had this spring in California. There have been quite a few taggy sheep owing to the green grass conditions which together with the mild weather apparently have been ideal for the production of blowflies. Sheepmen report that lambs three days old are infested. An estimate that 20 percent of the animals are infested has been made. Last year very little trouble from blowflies was experienced.

SHEEP BOTFLY (Oestrus ovis L.)

Kentucky. W. A. Price (April 24): The sheep botfly has caused the loss of many sheep in McCracken County during the past few weeks. One farmer

reports the loss of 11 ewes from gid or blind staggers.

HORSE

BUFFALO GNATS (Simulium spp.)

Kentucky. W. A. Price (April 25): Buffalo gnats are appearing in swarms near Brandenburg. The area infested is in the Ohio River bottoms and extends along the river a distance of three miles.

Arkansas. M. P. Jones (April 30): The Buffalo gnats have killed several hundred head of livestock in east-central Arkansas. According to local people the pests appeared about one month later than usual. The County Agricultural Agent of Cross County, reported that 100 mules had been killed in that County. County Agents from Phillips, Monroe, Woodruff, Arkansas, Saint Francis, and Lee Counties also reported losses. The gnats were so abundant in the vicinity of Forrest City, Saint Francis County, that the windshields of automobiles passing through were plastered. A number of the farmers had built smudge fires in the evenings to protect the stock.

G. H. Bradley (May 2): The total deaths of mules have been conservatively estimated at 500. Counties affected are Cross, Lonoke, Lee, Phillips, and Monroe. Rivers examined indicate emergence of gnats complete for this season. No losses of stock have been reported since about April 26.

POULTRY

FOWL TICK (Argas miniatus Koch)

Utah. G. F. Knowlton (April 17): Ticks are reported as injuring chickens and turkeys wherever the ticks occur in Tooele County. (Det. by H. S. Peters, who states that this is their first record of this species from Utah.)

QUAIL

A BITING LOUSE (Lipeurus sp.)

Nebraska. M. H. Swenk (February 14): About a week ago I examined two specimens of bob-white quail shot near McCook, Redwillow County, and found upon them a couple of specimens of biting lice, of a species apparently not represented in our collection at this time.

HOUSEHOLD AND STORED-PRODUCTS INSECTS

EUROPEAN EARWIG (Forficula auricularia L.)

Idaho. C. Wakeland (March 30): The European earwig is becoming increasingly abundant in the Moscow and Coeur d'Alene areas in northern Idaho. Doubtless following the mild winter this insect will become of much greater importance during the present year.