

EWB

THE INSECT PEST SURVEY
BULLETIN

Volume 16

June 1, 1936

Number 4

BUREAU OF
ENTOMOLOGY AND PLANT QUARANTINE
UNITED STATES
DEPARTMENT OF AGRICULTURE
AND
THE STATE ENTOMOLOGICAL
AGENCIES COOPERATING

LIBRARY
STATE PLANT BOARD



THE MORE IMPORTANT ENTOMOLOGICAL RECORDS FOR MAY 1936

The periodical cicada began emerging shortly after the middle of May, with the peak of emergence in the Middle Atlantic States occurring during the last week of May. Reports indicate that this brood will reappear throughout the greater part of the territory infested.

Grasshoppers were reported as being extremely abundant in western, southwestern, and southern Iowa, and in parts of North Dakota, Nebraska, Oklahoma, Colorado, Utah, Wyoming, and California. Reports received too late to be included in the body of the bulletin indicate that young grasshoppers are more abundant in the vicinity of Manhattan, Kans., and in central Illinois than they have been for several years.

The Mormon cricket was appearing in outbreak numbers in several counties in Utah, eastern Nevada, Oregon, Montana, and Idaho.

Unusual numbers of cutworms were reported over a great part of the country, from Virginia and Georgia westward through the East Central States to Utah. In Utah, the pale western cutworm had occasioned a loss of over 7,500 acres of wheat. An unusual situation developed in Mississippi, where the variegated cutworm from ditch banks and adjoining alfalfa fields migrated into cotton, seriously damaging the stand. This species is also occurring in abundance in western Kansas.

Cool weather protracted the period of wireworm injury in Washington, where considerable damage was done to truck crops.

Heavy losses to evergreen seed beds occasioned by white grubs were reported from Wisconsin.

The common red spider emerged earlier than usual in the apple-growing sections of Washington, becoming so abundant as to require treatment.

Chinch bug infestation in the East Central States is very spotted. In some localities populations are heavy enough to produce considerable damage.

The spring brood of hessian fly was quite numerous in Indiana and Illinois. Considerable damage is reported from the western and southwestern parts of the latter State.

An unusually heavy infestation of corn ear worm in tomatoes was reported from Mississippi. Damage to corn silk was reported from California.

Sod webworms were very abundant in parts of Iowa and Missouri. Many cornfields were so badly infested as to require replanting.

Rather serious outbreaks of the sugarcane beetle were reported from limited areas in Tennessee and Mississippi.

Codling moth emergence reached its peak in Virginia, southern Illinois, and Indiana by May 10. In Delaware, Pennsylvania, northern Indiana, and northern Illinois the peak of emergence was reached about the middle of the month. In Ohio and Missouri the peak was apparently somewhat later. In the Pacific Northwest emergence began on May 4 and was heavy during the period May 10-13.

Eastern tent caterpillar was reported quite generally from the southern New England and Middle Atlantic States westward to Tennessee.

Various fruit aphids were generally prevalent in the New England and Middle Atlantic States.

The peak of first-brood plum curculio larvae emerging from peach drops occurred in Georgia on May 4, 6 days later than last year. In the Fort Valley section the infestation was moderate. In Indiana, Illinois, and Missouri infestations were heavier than last year. The insect was also reported from Tennessee, Mississippi, and Minnesota.

Rather severe damage to pecans by the nut case bearer was reported from Mississippi and Louisiana.

The six-spotted mite has been more injurious to grapefruit in Florida than for many years. In some groves 50 percent of the leaves dropped.

Flea beetle injury to truck gardens was quite generally reported from the Middle Atlantic, East Central, and Mississippi Valley States. Severe injury by flea beetles was also reported from San Francisco Bay region of California.

The spotted cucumber beetle was observed attacking a variety of truck crops in the South Atlantic and lower Mississippi Valley States. Fields of watermelons and corn were being completely destroyed in parts of Mississippi and Texas.

Mexican bean beetles appear to be quite scarce from Virginia northward, possibly owing to the severe winter experienced in this part of the country. Beetles were starting to emerge in Georgia during the first week in the month but were still quite scarce in that State up to the third week.

The beet leafhopper was reported as having passed the winter successfully at Billings, Mont.

Boll weevil populations were generally reported as light throughout the Cotton Belt, with the exception of Texas, in which State there were more boll weevils than at this time of year during the past 3 years.

The first specimens of the cotton leaf worm were seen on May 5 near Port Tobacco, Tex.

Canker worms attacking both forest and shade trees, and occasionally apples, were very abundant throughout the New England, Middle Atlantic, and eastern part of the East Central States.

Forest tent caterpillars were generally abundant throughout New England southward to New Jersey. Heavy infestation is also reported from Minnesota and another from Mississippi and Louisiana. Considerable feeding by tent caterpillars is also reported from Utah and Washington.

Three cases of Rocky Mountain spotted fever have been reported from Maryland, in the vicinity of the District of Columbia.

During the month large numbers of infestations of household properties by termites were reported from the New England, Middle Atlantic, and East Central States westward to Nebraska and Oklahoma.

We wish to take this opportunity to thank the collaborators for collecting June beetles for P. Luginbill. Further collections will be appreciated and if collections could be made weekly they would be more valuable.--J. A. Hyslop.

G E N E R A L F E E D E R S

GRASSHOPPERS (Acrididae)

Wisconsin. E. L. Chambers (May 20): Melanoplus mexicanus Sauss. was observed hatching in quite large numbers in spots located in light sand areas of northern Wisconsin, where there has been little or no rain this spring.

Iowa. C. J. Drake (May 20): Grasshoppers are extremely abundant in western, southwestern, and southern Iowa. They are probably more abundant than they have been at any time during the past 20 years. The heaviest infestation is along the Missouri River and in the southwestern corner of the State. On Muscatine Island, in the Mississippi River, the hoppers have completely wiped out a number of truck patches. Fairly heavy infestations have been reported at Ottumwa and Waterloo.

Missouri. L. Haseman (May 23): Grasshopper young appearing in swarms on dry ground. Apparently most of them are the common Carolina locust (Schistocerca americana Drury), although we have not closely checked nymphs for specific determination.

North Dakota. F. G. Butcher (May 18): Recent field observations indicate that grasshopper infestations correspond closely to earlier forecasts. Some eggs are reported hatching in the southern counties. Predators have been responsible for the destruction of a small percentage of eggs, but otherwise practically all of the eggs are viable.

Nebraska. O. S. Bare (May 19): Hatching of eggs is proceeding at a rapid rate and the young hoppers are appearing in great numbers along roadsides, pasture edges, ditch, cut banks, and sod fence rows.

M. H. Swenk (May 20): On April 23 an inquiry was received from Webster County regarding the control of grasshoppers.

Oklahoma. C. F. Stiles and F. A. Fenton (May 25): Grasshoppers have been reported as very numerous in pastures in northern Oklahoma. They are moving to alfalfa and row crops. (May 26): We visited Osage County and found four species of grasshoppers very numerous. Alfalfa is being severely damaged. M. femur-rubrum DeG. is the predominant species and M. differentialis Thos. is quite abundant.

Colorado. G. M. List (May 22): Eggs have hatched well, and if the weather is favorable the infestation will be rather heavy for the egg population observed last fall. Poisoning is now under way in several counties.

Utah. C. J. Sorenson (May 20): Grasshoppers have been hatching during the past 2 weeks at Kanosh and are very abundant.

G. F. Knowlton (May 11): Grasshopper nymphs are causing moderate damage to dewberries at Orem, in Utah County, and to wheat near Lehi. Second- and third-instar nymphs are moderately abundant on the

foothills 6 miles west of Lehi. They are less abundant in most agricultural sections of northern Utah County. (May 19): Grasshopper nymphs are abundant in parts of the Lehi-Cedar Valley area and some injury to wheat and garden crops has been observed. Injury to dewberry foliage was observed at Granite and Pleasant Grove.

California. S. Lockwood (May 23): Undetermined species of grasshoppers are now causing damage in Butte, Sacramento, San Joaquin, and Solano Counties.

MORMON CRICKET (Anabrus simplex Hald.)

Utah. C. J. Sorenson (May 20): Mormon cricket outbreaks of third to sixth instars, have been noted as follows: Oak Creek mountains and range, east of Oak City, north of Holden, west of Scipio, also in a few fields near Oak City, Millard County; foothills, canyon, and nearby dry-farm fields southeast of Nephi, Juab County; foothills and adjoining dry-farm alfalfa and wheat fields northwest of Fountain Green, Sanpete County; Settlement Canyon and nearby fields southeast of Tooele, Tooele County.

CUTWORMS (Noctuidae)

Virginia. W. S. Hough (May 19): Climbing cutworms are very abundant in a number of orchards and have caused much damage to young apple trees by completely defoliating them. On bearing trees defoliation has not been complete but considerable damage has resulted from the outbreak. In several orchards cotton bands have been used successfully to keep the larvae from climbing the trees and in some instances poisoned-bran mash has been used in addition to banding the trees.

Georgia. O. I. Snapp (April 29): Cutworms are more abundant than usual at Fort Valley, especially in vegetable and flower gardens. They have cut down many little peach trees in our nursery. Precipitation during the spring has been considerably heavier than usual.

Ohio. T. H. Parks (May 25): Some cutworm injury is reported to corn in central Ohio though the damage is not severe. Late plowing of corn land prevented the farmers from fighting this pest in the usual way and enabled more of the worms to survive.

Indiana. J. J. Davis (May 23): Cutworms (Euxoa sp.) were reported on May 15 to be attacking apple at Bristol to the extent of at least \$1,000 damage. The bronzed cutworm (Nephelodes emmedonia Cram.) was reported from Aurora on May 19 as damaging bluegrass but not attacking any adjoining crops.

Michigan. R. Hutson (May 9): Cutworms have been reported as being particularly numerous at Big Rapids, South Haven, and Sodus. Adults of Agrotis c-nigrum L. have been very numerous at windows here in East Lansing. (May 20): Climbing cutworms are extremely abundant throughout the fruit district. Reports of extensive damage have been received from Hartford, Albion, Stockbridge, Charlotte, Grand Rapids, South Haven, Northville, St. Joseph, and Paw Paw. Additional infestations have been found at Hastings, Odessa, Mentha, Petoskey, and Lake City.

- Wisconsin. E. L. Chambers (May 20): Cutworms are being reported quite generally throughout the northern part of the State as injuring garden crops.
- Minnesota. A. G. Ruggles (May 22): Cutworms are moderately abundant.
- Iowa. C. J. Drake (May 20): Cutworms have been doing a considerable amount of damage in garden truck areas near Des Moines.
- Missouri. L. Haseman (May 23): Cutworms have been abundant during the month but seem less developed than usual for the season and few farmers have complained of them. They have injured corn and cotton next to fields of alfalfa recently cut in southeastern Missouri.
- Nebraska. M. H. Swenk (May 20): From Garfield and Frontier Counties came inquiries on May 2 and 14, respectively, as to the control of cutworms in gardens.
- O. S. Bare (May 19): Very little trouble has been reported from cutworms, but moths of the variegated cutworm (Lycophotia margaritosa saucia Hbn.) have been very plentiful.
- Kansas. H. R. Bryson (May 14): The pale western cutworm (Porosagrotis orthogonia Morr.) is very abundant in many fields in Rawlins County as reported by E. G. Kelly, D. A. Wilbur, and H. H. Walkden. Twenty thousand acres badly injured in Rawlins County. Near Atwood several fields showed that 75 percent of the plants were destroyed. As many as 20 to 50 larvae per square yard were found. The county agent of Meade County reported local infestations in that county. It was also reported from Ellis, Cheyenne, Rush, Barton, and Logan Counties. Chorizagrotis auxiliaris Grote is plentiful in gardens in Rawlins County. Further reports of damage were received from Lincoln, Cheyenne, Riley, and Kearny Counties.
- Mississippi. C. Lyle (May 23): The variegated cutworm (L. margaritosa saucia) has been unusually destructive in the Yazoo-Mississippi Delta for several weeks, especially in fields where winter cover crops were plowed under. This is undoubtedly the worst outbreak in several years. Cotton has suffered the heaviest damage, but fields of alfalfa have also been injured. Many complaints have been received from various sections of the Delta. On May 9 Agrotis ypsilon Rott. was found associated with the variegated cutworm on alfalfa and cotton at Greenwood, but in much fewer numbers.
- Texas. K. P. Ewing & R. L. McGarr (May 1): Very little damage to cotton this year by cutworms in the vicinity of Port Lavaca has been reported, in contrast to widespread damage last year.
- Utah. G. F. Knowlton (May 19): Cutworms have caused moderate injury to newly set tomato plants in various parts of northern Utah.

C. J. Sorenson (May 20): The pale western cutworm (Porosagrotis orthogonia Morr.) is abundant in Cedar Valley and vicinity in Utah County. Loss is estimated at 7,500 acres of fall-planted dry-farm wheat. The pest is also found in a few fields of irrigated wheat on Mapleton Bench and near Lehi, Utah County, and at Bluffdale, Salt Lake County. On Levan Ridge, Juab County, approximately 500 acres of fall-planted dry-farm wheat had been destroyed by May 15.

ARMYWORM (Cirphis unipuncta Haw.)

Virginia. H. G. Walker (May 25): Near Norfolk armyworms are very abundant in some small grain and alfalfa fields where they are migrating to other fields, being especially injurious to young corn.

Illinois. W. P. Flint (May 18): Light trap records at Urbana show a considerable flight of armyworms starting about the 19th of April and continuing in greater or lesser numbers, according to the temperature. Moths were flying in large numbers on the nights of May 8 to 12, inclusive.

SEED CORN MAGGOT (Hylemyia cilicrura Rond.)

New York. L. E. Curtis (May 18): Seed corn maggot injury was observed on young onions grown from seed on muck near Savannah in Wayne County. The larvae were found working in the young developing bulb of the onion.

Iowa. C. J. Drake (May 20): The seed corn maggot is doing considerable damage here and there in the southern half of the State. Heavy infestations have been reported near Leon.

Missouri. L. Haseman (May 23): Seed corn maggots are doing their usual damage in wet, cold soil in northern Missouri.

WIREWORMS (Elateridae)

South Carolina. F. F. Bondy and C. F. Rainwater (May 2): A few wireworm larvae have been found feeding on cotton roots at Florence. Numerous adults were on a tanglefoot screen 2 days after it was put up in the center of a cotton field that was planted to corn last year.

Georgia. T. L. Bissell (May 21): Wireworms are rather abundant, attacking small corn and cotton at Experiment. Injury to the latter seems unimportant. A pupa, species unknown, was observed in soil yesterday.

Mississippi. D. W. Grimes (May 22): Wireworms are causing damage to corn and popcorn at Durant.

Missouri. L. Haseman (May 23): Only the usual number of complaints of wireworms.

Utah. G. F. Knowlton (May 19): Wireworms were moderately abundant in several wheat fields examined in the area northwest of Lehi.

Washington. H. P. Lanchester (May): Injury by Limonis canus Lec. and L. californicus Mann. to lettuce and spring-planted and transplanted onions has been general at Walla Walla. The continuance of cool nights has extended the period of intensive injury until some fields of these crops have been entirely destroyed, while most fields show considerable damage. The plantings of cabbage and corn are not so extensive, nevertheless the injury has been very serious. Some damage has also been noted in newly planted asparagus fields. The various species appeared more nearly at the same time than in the past several years and the period of their flight has been short, being practically over for this season.

K. E. Gibson (May): Plantings of sugar beets at Prosser were destroyed by wireworm (L. canus and L. californicus) feeding, while spring-planted wheat was severely damaged.

California. R. E. Campbell (May 1): Populations of L. californicus in many Orange County fields are much increased over last year, ranging in numerous counts from 3 to 75 per 10 feet of bait row (rows $2\frac{1}{2}$ feet apart), and averaging 23. Last year's average at this time was 9. This increase was anticipated, owing to the large adult population last spring.

WHITE GRUBS (Phyllophaga spp.)

Vermont. H. L. Bailey (May 25): May beetles have been scarce up to this date, but are more plentiful than last year. The first specimen was noted on May 5.

Delaware. D. MacCreary (May 17): The first large flight was observed on this date at Newark.

Maryland. E. P. Felt (May 23): June beetles, probably P. fusca Froel., are reported as very abundant and injurious on large oaks at Monkton.

Georgia. T. L. Bissell (May 5): May beetles are unusually abundant at Griffin, feeding on leaves of oak, particularly red oak.

Kentucky. W. A. Price (May 26): May beetles have been very abundant in the bluegrass district of Kentucky. Many pin oaks and bur oaks have been defoliated. Elm, walnut, hackberry, and willow have also been attacked. Common species are P. hirticula Knoch, P. futilis Lec., P. tristis Fab., P. inversa Horn, P. fusca Froel., P. bipartita Horn, and P. horni Smith.

Wisconsin. E. L. Chambers (May 20): Heavy flights have been observed in Dane, Sauk, Portage, La Crosse, and Monroe Counties. All stages of white grubs are abundant in some of the northern nurseries in spots, and where no treatment was followed heavy losses have resulted to evergreen seed beds.

C. L. Fluke (May 20): A heavy flight of P. tristis Fab. began about the first week in May throughout southern and western counties, especially Jefferson, Lafayette, Iowa, Dane, Trempealeau, and Pepin.

Minnesota. A. G. Ruggles (May): W. G. Werner reports white grubs as very abundant in a lawn infestation at Kasson, in Dodge County.

Mississippi. C. Lyle and assistants (May 23): Injury to the foliage and buds of pecan trees has been observed in several sections of the State, especially near Grenada, Jackson, and Brookhaven.

Louisiana. W. C. Pierce (May 15): It has been difficult to collect specimens of Phyllophaga feeding on new growth of pecan trees in the vicinity of Shreveport since the first adult appearance on the night of March 24. Heavy infestations of the beetles are known to occur around the towns of De Ridder, Elizabeth, and Trout. In the De Ridder vicinity damage to pecans is confusing, owing to the combined attack of May beetles, the leaf case bearer (Acrobasis juzlandis LeB.), and a lepidopterous larva of undetermined species. Most damage occurred to yard trees and outside rows of commercial plantings. Very few pecan trees were noticed around Trout, and these showed practically no injury. The beetles seem to prefer feeding on sweetgum and oak trees, which were almost defoliated. Conditions are about the same around all of these points of outbreak. The towns are located in cut-over pine land sections, with very little of the land in cultivation. The outbreak at Trout is widely separated from those at Elizabeth and De Ridder.

JAPANESE BEETLE (Popillia japonica Newm.)

United States. C. H. Hadley (April): In the monthly report for March 1936 a preliminary statement was made on larval mortality due to the cold weather in January and February. Additional surveys to determine the kill were made during the first 10 days of April. Findings in these bear out the previous statement that mortalities have been high in some areas in New Jersey, south of the latitude of Trenton, in the southeastern corner of Pennsylvania, in northern Delaware, and in northeastern Maryland. In much of this area mortalities above 50 percent are indicated. In areas where there was a heavy snow cover on the ground, as was the case in the northern half of New Jersey and in Pennsylvania, north and west of Philadelphia, mortalities are small, usually less than 5 percent.

ASIATIC GARDEN BEETLE (Autoserica castanea Arrow)

Pennsylvania and New Jersey. L. B. Parker (April): Numerous and well-distributed diggings in areas previously heavily infested with these grubs indicate that the larval population is noticeably decreased this year. This fluctuation has been observed before as a local condition, but it seems to be prevalent throughout the Philadelphia area. Less extensive diggings point to a similar condition in Union County in northern New Jersey.

ASIATIC BEETLE (Anomala orientalis Waterh.)

Connecticut. W. E. Britton (May 22): Larvae have been identified from many lawns in New Haven and West Haven, thus considerably extending the areas infested by this insect.

ROSE CHAFER (Macrodactylus subspinosus Fab.)

New York. C. H. Hadley (May 1): Our attention was recently called to severe injury to several estates in the vicinity of Southampton, Long Island. The situation was investigated by Dr. J. L. King, of this station. Considerable injury to the turf was evident and examination showed that the injury was caused by larvae of the common rose chafer. Larval populations running in places as high as from 6 to 12 grubs per square foot were found.

Tennessee. G. M. Bentley (May 12): A very heavy infestation of the rose chafer occurred in an orchard at Fayetteville. There was a heavy infestation in the orchard last year. We have never had such a heavy outbreak of this insect before.

COMMON RED SPIDER (Tetranychus telarius L.)

Kentucky. W. A. Price (May 26): Red spider is very common in the bluegrass area.

Mississippi. C. Lyle (May 23): Red spiders are fairly abundant on arborvitae in southwestern Mississippi, according to Inspector N. D. Peets of Brookhaven. At this time they are also heavily infesting violets and junipers at State College, while correspondents report them on oak trees at New Albany, on Cedrus deodara at Ackerman, and on spinach at Lexington.

Arizona. C. D. Lebert (May 15): Considerable injury this season to arborvitae, Italian cypress, and other evergreens in the Phoenix area. Several arborvitae and Italian cypresses have been killed and many severely injured.

Utah. G. F. Knowlton (May 6): Reports have been received that red spiders are beginning to injure raspberry foliage in parts of Utah and Box Elder Counties.

Washington. E. J. Newcomer (May 19): This red spider emerged rather early on account of a period of unusually warm weather from April 12 to 22, and it has been very abundant in apple trees.

C E R E A L A N D F O R A G E - C R O P I N S E C T S

WHEAT

CHINCH BUG (Blissus leucopterus Say)

Indiana. C. M. Packard (May 19): Chinch bugs were scarce (from none to 2 per foot of drill row) in 8 out of 10 fields of young wheat and rye examined today in Tippecanoe County. In the other 2 fields spots near favorable hibernation quarters contained from 6 to 20 adult bugs per foot of drill row. A few eggs are now present but apparently none have hatched. No old bugs could be found in their hibernation quarters.

Illinois. W. P. Flint (May 18): A check-up on chinch bug conditions made

during the last 2 weeks shows a very spotted infestation over the southwestern, central, and northwestern parts of the State. Adult bugs were still flying in numbers during the week of May 10. Mating was general in the fields but no eggs had been found. A 400-mile check on wheat fields in the central part of the State, made on May 14-15, showed that approximately 25 percent of the wheat fields had sufficient bugs to cause moderate to heavy damage to adjoining corn, should the next 6 weeks be dry.

C. Benton (May 11-18): In the vicinity of Sterling gradual migration of the overwintered chinch bugs occurred during favorable periods throughout the week. Barley showed rather light but general infestations. Counts in several wheat, rye, and barley fields showed an average of one bug per foot of drill row. The heaviest infestation encountered was in a pastured rye field in which the counts averaged 6 bugs per foot of drill row. Mating is in progress, but no eggs or young have been found to date.

Iowa. C. J. Drake (May 20): The chinch bug situation is more encouraging than it has been for 3 years. Winter mortality ranged from 45 to 85 percent in some of the most heavily infested counties. The cool weather and late spring have greatly delayed spring migration to small-grain fields, and this has given the small grain a good start, so that it will be able to withstand a light to moderately heavy infestation. Surveys indicate that chinch bugs are most abundant in the southwestern and south-central counties and it is possible that moderate damage may occur here and there in these areas. In the extreme eastern and southeastern parts of the State winter mortality was so high that severe damage seems improbable; however, a number of scattered fields in this area contain a moderate number of bugs and there may be light commercial damage in some fields.

Missouri. L. Haseman (May 23): Chinch bugs are most abundant in a strip three or four counties wide extending across the State in a northeasterly direction from southwestern Missouri. Young were hatching on May 15 in west-central Missouri and a week earlier eggs were abundant at Columbia. Some fields are as severely infested with old bugs this year as in 1934.

Nebraska. M. H. Swenk (May 20): Chinch bugs were fairly abundant in barley fields in Nemaha and Richardson Counties during the week of May 11 to 16.

O. S. Bare (May 19): During the past week chinch bugs have appeared in considerable numbers in barley fields of Nemaha and Pawnee Counties.

Kansas. H. R. Bryson (May 19): Some counties in the southeastern corner of the State have an abundance of chinch bugs. Coffey, Bourbon, and Wilson Counties will no doubt need barriers at harvest time. Serious injury may result in some counties.

Mississippi. C. Lyle and assistants (May 23): Young corn is suffering severe injury by chinch bugs at Bay Springs, where many plants were reported to be falling over on April 30. This is also the case in Leflore County.

Bugs were light on oats at Morgan.

Texas. K. P. Ewing & R. L. McGarr (May 1): In April many acres of corn were destroyed in Calhoun County by chinch bugs, together with southern corn root worm (Diabrotica duodecimpunctata Fab.)

HESSIAN FLY (Phytophaga destructor Say)

Indiana. W. B. Noble (May 1): Observations in 16 wheat fields in Knox and Gibson Counties showed from 4 to 75 percent of the stems infested with larvae ranging in size from small to half grown, and a few eggs still being laid. (May 19): Counts were made in 10 wheat fields in Tippecanoe County on May 19. Sten infestations ranged from 2 to 74 percent, with an average of 37 percent. Fly forms ranged from small larvae to puparia.

Illinois. W. P. Flint (May 18): The spring brood of the hessian fly has been abundant and destructive in the western and southwestern parts of the State. In the central and eastern parts of the State very little damage has occurred, either from last fall's brood or from the spring brood.

Missouri. L. Haseman (May 23): The spring brood did not get by the severe weather apparently, as fields showing 90 percent of plants infested last fall with up to 60 flaxseeds per plant are now only moderately infested by the spring brood, with an average of about 1 flaxseed per culm, and not showing the expected severe damage. At the time of the emergence of the spring brood of flies in April the cold late spring had most to do with preventing oviposition and hatching.

Kansas. H. R. Bryson (May 25): According to observations made by E. G. Kelly, the infestation is not so heavy this spring in Coffey County as was anticipated last fall. The county agent of Lincoln County reported finding a number of infested plants at Barnard. Heavy infestations were also reported in Bourbon and surrounding counties.

CORN

CORN EAR WORM (Heliothis obsoleta Fab.)

New Jersey. T. J. Headlee (May 21): Thirty-six square yards of soil 14 inches deep were examined for pupae in April. Sweet-corn fields heavily infested in 1935 were examined and samples were taken from the southern, central, and northern parts of the State. No live pupae were found in any of the samples, whereas in October 1935 similar soil samples contained an average of approximately one pupa per square yard.

Georgia. T. L. Bissell (May 18): Half-grown caterpillars have been found at Experiment on various plants, including rose blossoms and bean leaves.

Mississippi. C. Lyle and assistants (May 23): Unusually heavy infestations on tomatoes have been reported in Rankin, Stone, Jackson, Harrison, Pearl River, and Hancock Counties.

Texas. R. W. Moreland (April): During April five species of plants were examined for eggs of H. obsoleta, with results as follows: Alfalfa, 4,800 plants and 58 eggs; blue-bonnets (Lupinus subcarnosus), 1,280 plants and 30 eggs; blue-bonnets (L. texensis), 1,200 plants; corn, 500 plants; and false indigo, 200 plants without any eggs being found.

California. R. E. Campbell (May 1): Sweet corn coming into the local markets from the Coachella Valley already shows considerable damage.

M. W. Stone (May 19): Adults were collected and eggs found on corn and tomatoes near Santa Ana (Peters Canyon) on May 8. Considerable injury to silks was noted. Eggs collected on tomato near Costa Mesa and San Juan Capistrano on May 12 hatched in the insectary on May 16. First- and second-instar larvae were also observed feeding on tomato foliage at Costa Mesa on May 12.

LESSER CORNSTALK BORER (Elasmopalpus lignosellus Zell.)

Florida. J. R. Watson (May 21): Many complaints are coming in of injury to cowpeas, corn, and, especially, beans.

SOD WEBWORMS (Crambus spp.)

Iowa. C. J. Drake (May 20): Sod webworms are unusually abundant in Iowa this year. Corn planted on newly broken timothy and bluegrass sod is suffering damage from webworms, particularly in the southern part of the State. Near Lamoni and Bloomfield a few cornfields have been almost totally destroyed.

Missouri. L. Haseman (May 23): Sod webworms have been more abundant this spring than usual and many farmers have been obliged to replant corn because of their damage. Most of them are small and not so advanced as usual for the season.

EUROPEAN CORN BORER (Pyrausta nubilalis Hbn.)

Connecticut. N. Turner (May 23): Moths began emerging on May 20 at Mount Carmel. This is much earlier than usual.

CORN BILLBUGS (Calendra spp.)

Iowa. C. J. Drake (May 20): About three species of corn billbugs have been reported from southern and northern Iowa. Near Algona a 40-acre cornfield was totally wiped out by them.

Kansas. H. R. Bryson (May 21): The maize billbug (C. maidis Chitt.) was reported as quite numerous in the valley of the Neosho River, but not so abundant in Wilson County along the Verdigris River. Some reports of injury to young corn plants by the adults have been received.

Oklahoma. C. F. Stiles (May 21): The maize billbug has been damaging corn in the lowlands of northeastern Oklahoma.

SUGARCANE BEETLE (Euetheola rugiceps Lec.)

Tennessee. G.M. Bentley (May 25): The rough-headed cornstalk beetle is reported as doing considerable damage to young corn in the community of Rogersville, Hawkins County. It has also been reported in Bledsoe County in the vicinity of Pikeville. Every few years we have a serious outbreak of this beetle and, by its starting early, we anticipate considerable damage this year.

Mississippi. C. Lyle and assistants (May 23): The sugarcane beetle has been found at Durant around corn and has been reported from other points in the Durant district, while complaints of serious damage to corn have been received during the past month from Cruger, Oakland, Kosciusko, and Hermanville. On May 22 the county agent at Calhoun City reported many complaints concerning this pest.

CORN FLEA BEETLE (Chaetocnema pulicaria Melsh.)

Virginia. H. G. Walker (May 25): Very abundant in many cornfields around Norfolk and on the Eastern Shore of Virginia.

ALFALFA AND CLOVER

ALFALFA WEEVIL (Hypera postica Gyll.)

California. A. E. Michelbacher (May 21): Larvae of the alfalfa weevil are becoming rather scarce throughout its entire range in middle lowland California. Serious injury occurred in only one field in the Patterson area of the San Joaquin Valley. After the cutting of the first crop, alfalfa started immediate growth over one-half of the field and now it is being cut for the second time. Over the other half of the field newly emerged adults apparently fed so heavily on the crowns that the alfalfa is only a few inches tall. The larvae are heavily parasitized by Bathyplectes curculionis Thos., the parasitization in many places being 99 percent or more.

Utah. C. J. Sorenson (May 20): The alfalfa weevil is moderately abundant and noticeable damage is in evidence in Millard County.

Colorado. G. M. List (May 22): Adults are numerous in the alfalfa fields at Grand Junction. On May 9 sufficient eggs and small larvae were present to indicate rather severe injury to the first crop.

CLOVER LEAF WEEVIL (Hypera punctata Fab.)

Indiana. J. J. Davis (May 23): The clover leaf weevil was damaging clover at Winchester on May 19. Clover injury was reported from Noblesville on May 7 and, although the report was not accompanied by specimens, the leaf weevil was probably responsible.

Iowa. H. E. Jaques (May): The clover leaf weevil has been reported from the following counties: Osceola, Mills, Monroe, Wapello, Davis, Henry, and Louisa.

CLOVER ROOT BORER (Hylastinus obscurus Marsham)

Oregon. D. C. Mote (April): Adults of the clover root borer were reported at Hubbard, the infestation amounting to 30 percent in one field of Austrian winter field peas adjacent to a 3-year-old field of red clover.

PEA APHID (Illinoia pisi Kalt.)

Wisconsin. C. L. Fluke (May 20): The pea aphid is plentiful on alfalfa in Dane County. Natural enemies such as syrphid flies, ladybeetles, and parasites are also quite active.

Washington and Oregon. L. P. Rockwood (April 21): Low populations, rarely exceeding 200 per 100 sweeps, were found in irrigated fields in Washington near Maryhill, Toppenish, Satus, Mabton, Touchet, and Walla Walla, and near Milton-Freewater, Blue Mountain, Stanfield, Hermiston, Umatilla, Irrigon, Arlington, and The Dalles in Oregon. In one irrigated field near Echo, Oreg., with a southern exposure and protected by hills from the cold winter winds, I. pisi averaged 1,300 per 100 sweeps. Unirrigated fields near Maryhill, Wash., Weston and The Dalles, Oreg., yielded from none to 5 per 100 sweeps, and most of those swept were immigrant alates. Coccinellid beetles, especially Hippodamia convergens Guer., were very abundant (10-68 per 100 sweeps), except in the Yakima Valley where the season appeared later than elsewhere. Full-grown larvae of H. convergens and of the syrphid Lasiophthicus pyrastris L. were collected at Echo, Oreg.

Oregon. L. P. Rockwood and M. M. Reeher (May 16): Aphid populations remained at practically the same low levels as in March on fall-sown annual legumes in Washington and Clackamas Counties until April 10 during cool weather. After that date, they multiplied rapidly, especially on Austrian field peas, during a 10-day period of abnormally warm weather without precipitation. This was also a period of remarkably fast growth of all crops. By May 6 the populations in some fields were 100 times as great as they had been on April 10, attaining 3,000 per 100 sweeps in one field. During the first week of May, during a period of moderate but daily precipitation following a similar period in the last week of April, the entomogenous fungus Entomophthora aphidis attained epidemic proportions among aphids in early fall-sown fields. As a result, the aphid populations were reduced 38 percent in some fields.

SPITTLEBUGS (Cercopidae)

Maryland. E. N. Cory (May 25): A severe outbreak of spittlebugs is occurring in Cecil, Harford, Baltimore, and Kent Counties on clover, alfalfa, and weeds. Farmers have been advised to mow hay at once.

Delaware. L. A. Stearns (May 14): A spittlebug, probably Philaenus leucophthalmus L., is abundant in nymphal stages on clover and alfalfa at Odessa and Middletown. Several varieties are present.

Oregon. D. C. Mote (May): P. leucophthalmus was hatching in considerable numbers on April 25 in the Willamette Valley. The first adult was observed on May 19. Reported by W. D. Edwards.

COWPEAS

COWPEA CURCULIO (Chalcodermus aeneus Boh.)

Georgia. T. L. Bissell (May 21): Weevils have been found on volunteer cowpeas at Experiment since May 5. They are feeding somewhat on leaves and stems.

GRASS

MEADOW PLANT BUG (Miris dolabratus L.)

Kentucky. W. A. Price (May 26): The meadow plant bug is abundant on bluegrass in Fayette, Scott, Woodford, Bourbon, and Clark Counties.

FLAX

FALSE CHINCH BUG (Nysius ericae Schill.)

North Dakota. J. A. Munro (May 27): The wingless nymphs are present in countless numbers in a 40- to 50-acre field of flax 7 miles west of Lisbon, Ransom County. The owner of the field states that a week ago the rows of flax were showing over the entire field. Yesterday when we saw the field it was completely bare except for a few low spots. The field had been in grass and weeds for the last 10 years and was plowed just prior to seeding flax this spring. A grassland pasture adjoining the field is also overrun by the bugs.

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

NEW YORK WEEVIL (Ithycerus noveboracensis Forst.)

Connecticut. M. P. Zappe (May 23): Adults rather abundant on peach twigs near Cheshire, where they are gnawing into the bases of new shoots.

North Carolina. C. H. Brannon (May 20): New York weevil attacking apple trees in a large orchard in Alexander County.

FLOWER THRIPS (Frankliniella tritici Fitch)

Delaware. P. L. Rice (May 7): This thrips, which appeared in abundance on young fruit and leaves of apple shortly after petal fall in 1935, was found in a number of orchards in Kent and Sussex Counties early in May. Infestations were very light, as compared with those of 1935.

Michigan. R. Hutson (May 20): F. tritici is abundant beneath the shucks and on the leaves of peach trees in the vicinity of Sodus, in Berrien County.

EUROPEAN FRUIT LECANIUM (Lecanium corni Bouche)

Michigan. R. Hutson (May 20): Adults of the European fruit lecanium are very abundant in the vicinity of Lansing.

Oklahoma. F. A. Fenton (May 23): The European fruit lecanium continues to be the outstanding insect pest of the State. It is found principally on elms, but is also recorded as occurring on Osage orange and soft maple. The pest is still in the egg stage.

APPLE

CODLING MOTH (Carpocapsa pomonella L.)

New York. N. Y. State Coll. Agr. News Letter (May 25): The first codling moths of the season were collected in bait traps on the night of May 22 in the Hudson River Valley. On this night 25 moths were caught in 52 traps in orchards in the vicinity of Poughkeepsie. Night temperatures during the month indicate that this was the first moth-flight period of the season. Of a few specimens examined on May 22 it was determined that less than 30 percent of the overwintered larvae had pupated.

Pennsylvania. H. E. Hodgkiss (May 27): The first peak of emergence occurred between May 15 and 18 in Cumberland and York Counties. In Union County in the north-central area the first peak was on May 17 and 18, and a second large emergence started on May 22. Flight records were taken from bait pails.

Delaware. L. A. Stearns (May 23): Emergence of the spring brood is 75 percent complete; first brood larvae hatched May 17; development earlier than usual.

Maryland. E. N. Cory (May 12): First emergence of the codling moth on Eastern Shore, May 7; western Maryland, May 9; and emergence from cages May 12.

Virginia. W. J. Schoene (May 26): The emergence of the codling moth reached a definite peak on May 9 at Crozet. The emergence of unusually large numbers of adults within a short period was evidently due to the very high temperatures.

Ohio. T. H. Parks (May 25): Moth emergence in Lawrence County began May 8; at Columbus and Wooster, May 17; and in the lakeshore counties on May 18. It is unusual for emergence along the lake to so closely parallel that in central Ohio. First cover sprays have been recommended for all sections based on this emergence and the daily evening temperatures. Bait pans at Columbus have caught fairly large numbers of moths nightly since May 21. The first larval entrances were observed in Lawrence County on May 20.

Indiana. L. F. Steiner (May 7): The first moth appeared in traps at Bicknell on May 4. The daily catch has increased slowly until 90 were captured

today in 338 baited trees. (May 21): Spring-brood emergence began April 30 at Elberfeld. Bait-trap catches at Vincennes and Bicknell reached their peaks on May 16 and 17. Small numbers of larvae were hatching by May 14.

J. J. Davis (May 23): Codling moths are emerging in noticeable numbers in some localities. G. E. Marshall found the first adults at Orleans on May 4. The peak of emergence for southern Indiana was from May 8 to 14. Bait traps are located at the following points in the northern half of Indiana, and the dates of first codling moth catches are: La Fayette, May 16; Denver, May 16; Saint Joe, May 16; La Porte, May 20; Bristol, none to date.

Illinois. W. P. Flint (May 18): There was a heavy emergence of adults from overwintering larvae at all points in the southern half of the State, starting May 5 and reaching a peak in southern Illinois between May 8 and 10. Newly hatched larvae were first found entering the fruit in extreme southern Illinois on May 13.

Michigan. R. Hutson (May 9): On May 8, in field observations at Mason, 50 percent of the codling moth larvae were found pupated.

Missouri. L. Haseman (May 23): The codling moth began emerging the last days of April in southern Missouri and by the end of the first week emergence was general over most of the State. First worms entered fruit in southern Missouri between May 11 and 15. Bait-trap catches indicate only a moderate number of first-brood moths in orchards. Heaviest emergence in southern Missouri was from May 5 to 18 and in northern Missouri from May 10 to 20.

H. Baker (May 26): The first codling moths were caught in bait traps at Saint Joseph on May 7, and large catches were taken during the period May 14-22. Only a few scattering worm entrances have been observed to date.

Colorado. G. M. List (May 22): The first codling moths were taken in traps at Paonia by J. H. Newton on May 3. There was a low winter mortality of the overwintering larvae in that section.

Washington. E. J. Newcomer (May 19): Emergence of moths began on May 4 in the Yakima Valley with large numbers emerging from the 10th to the 13th. This is about the same time as last year, although the development of the apples is about a week ahead of last year.

EASTERN TENT CATERPILLAR (Malacosoma americana Fab.)

Connecticut. W. E. Britton (May 19): Nests are very numerous in some localities. Caterpillars are now about half grown. Gray birches along the roadside in Wallingford were nearly defoliated on May 14.

New York. N. Y. State Coll. Agr. News Letter (May): Infestation by tent caterpillars is general in the Hudson River Valley and the western New York fruit district, although probably not so intensive as last year.

R. E. Horsey (May): Two tents $1\frac{1}{2}$ inches in diameter, with larvae $\frac{1}{4}$ inch in length were seen on crabapple on May 2 at Rochester. Since then they have become very numerous, more so than I have ever seen them. As many as 12 nests were found on one small native crabapple tree, and over 200 nests were removed from about 7 acres of ornamental and native crabapples. They were bad on Japanese quince, cotoneasters, wild plum, ornamental cherries, etc. A note from Gates on May 18 said, "We have been having quite a time with tent caterpillars in our hodge (English hawthorn) and cherry trees. We thought we had them all cleared out but found a number of large nests in one of the cherry trees today."

New Jersey. T. J. Headlee (May 21): The eastern tent caterpillar is less abundant than last year but is still present in considerable numbers in the northern half of the State. The caterpillars are about full grown and many of them have gone into migration. Egg parasites were common but not abundant in the eggs laid last fall.

Pennsylvania. R. M. Baker (May 22): M. americana was observed hatching as late as the last week in April in Crawford County.

H. E. Hodgkiss. (May 27): Eastern tent caterpillar is very abundant in Bradford, Susquehanna, and Centre Counties. Elsewhere it appears to be less abundant than in 1935.

Maryland. E. N. Cory (April 3): First noticed the tent caterpillar on cherry and apple trees in Worcester County on April 3, in Talbot and Queen Anne Counties on April 4, and southern Maryland on April 9.

Tennessee. G. M. Bentley (April 15): Tent caterpillars are very abundant again this year on wild cherry and apple trees in all parts of Tennessee.

FRUIT TREE LEAF ROLLER (Cacoecia argyrosipila Walk.)

Pennsylvania. H. E. Hodgkiss (May 27): Infestation of fruit tree leaf roller severe in some orchards. Not general in the State.

APPLE APHIDS (Aphiidae)

Connecticut. P. Garman (May 19): Rosy apple aphid (Anuraphis roseus Baker) very abundant in some localities in New Haven County.

New York. N. Y. State Coll. Agr. News Letter (May): All three species of the apple aphids appear to be more abundant than usual in the Hudson River Valley. The rosy apple aphid is the predominating species in the western fruit district. In both places syrphid flies and ladybeetles are holding the aphids in check.

Maryland. E. N. Cory (April 29): Rosy apple aphid observed attacking apple at Sandy Spring.

Wisconsin. C. L. Fluke (May 20): Apple grain aphid (Rhopalosiphum prunifoliae Fitch) infests 75 to 90 percent of terminals in Crawford County. Green

apple aphid (Aphis pomi DeG.) is practically absent in the western apple orchards in Crawford County.

Missouri. L. Haseman (May 23): Some rosy aphid present in southwestern Missouri and in the west-central portion but generally aphids are less abundant than usual.

Colorado. G. M. List (May 22): The rosy apple aphid is somewhat more numerous than usual in Delta and Mesa Counties and was reported for the first time from Montezuma County.

LEAFHOPPERS (Cicadellidae)

Connecticut. P. Garman (May 19): It was estimated that from one-fourth to one-half of the white apple leafhopper (Typhlocyba pomaria Mc.) had emerged at the time of calyx spray.

Pennsylvania. H. E. Hodgkiss (May 27): T. pometaria hatching on May 13 in Berks County. Infestation heavy in some orchards.

Missouri. L. Haseman (May 23): There was a heavy overwintering crop of the red-spotted (Erythroneura maculata Gill.) and red-striped (E. obliqua Say) leafhoppers, but in the last 2 weeks they have been less noticeable on foliage, owing to spread and possibly dying following egg laying. First nymphs of these seemingly beginning to show up. The white apple leafhopper, which passes the winter in the egg stage, is fairly abundant and the first-brood mating occurred from May 15-20 in central Missouri.

APPLE REDBUGS (Miridae)

New York. N. Y. State Coll. Agr. News Letter (May): Red bugs have injured the terminal growth in several orchards in the lower Hudson River Valley. Reports from Orleans and Wayne Counties also indicate injury.

New Jersey. T. L. Guyton (May 21): Apple redbug (Lygidea mendax Reut.) are rather numerous in part of an apple orchard at Lebanon.

Pennsylvania. H. E. Hodgkiss (May 27): Both species, L. mendax and Heterocordylus malinus Reut., are abundant through the State. They were hatching on May 5 and 6.

SAN JOSE SCALE (Aspidiotus perniciosus Comst.)

Georgia. O. I. Snapp (May 20): Most of the San Jose scales are dead in peach orchards sprayed last winter for the control of this insect at Fort Valley. In these orchards, crawlers and recently set-up young are rather scarce.

Tennessee. G. M. Bentley (May): In many of our peach and apple orchards of western Tennessee San Jose scale is showing up in appreciable numbers.

Missouri. L. Haseman (May 23): San Jose scale is not breeding up heavily, probably on account of severe winter mortality.

Wisconsin. E. L. Chambers (May 20): More than 600 city properties in southern Wisconsin were sprayed during April with a miscible oil in a clean-up campaign against the San Jose scale. New infestations were found following an intensive survey in 6 new localities. This insect has not yet reached the commercial fruit-growing districts of the State.

North Dakota. J. A. Munro (May 18): Examination of a cotoneaster hedge at Fargo showed a heavy infestation of San Jose scale. All insects above the snow line were dead, but where protection has been afforded by snow the survival was about 5 percent.

FLAT-HEADED APPLE TREE BORER (Chrysobothris femorata Oliv.)

Missouri. L. Haseman (May 23): Adults first observed on May 18-20. Expect another bad siege, although some increase of parasites last year may help.

Nebraska. M. H. Swenk (May 20): During the period from April 21 to May 20 numerous complaints of damage to fruit and shade trees by the flat-headed apple tree borer continued to be received. These came from Douglas, Saunders, Saline, Platte, York, Hall, Holt, and Redwillow Counties.

APPLE FLEA WEEVIL (Orchestes pallicornis Say)

Ohio. T. H. Parks (May 25): Adult flea weevils overwintered in large numbers in some orchards and migrated to the new apple leaves in the delayed dormant stage of bud development. Prompt sprays gave fairly good control. On unsprayed trees larvae are now full grown in their blotch mines.

APPLE CURCULIO (Tachypterellus quadrigibbus Say)

Pennsylvania. H. E. Hodgkiss (May 27): Adults of apple curculio were depositing eggs in apples in York County on May 20. One larva was found feeding in young apple.

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

Connecticut. P. Garman (May 19): European red mites are abundant in some orchards in New London County. Mites were mature and laying eggs at the time of the calyx spray.

Pennsylvania. H. E. Hodgkiss (May 27): First-generation individuals of European red spider mature in Dauphin County on May 6. Eggs deposited by first-generation adults hatching in Adams County on May 21.

PEACH

PLUM CURCULIO (Conotrachelus nenuphar Hbst.)

- Connecticut. P. Garman (May 19): Beetles of plum curculio out of hibernation in New Haven County but not working on fruit as yet.
- Delaware. L. A. Stearns (May 23): The first overwintered adults were collected by jarring on April 17 at Bridgeville. Injury by first-brood grubs subnormal.
- Pennsylvania. H. E. Hodgkiss (May 27): First observation of plum curculio in Lancaster County was on May 11, when they were feeding on apple and plum. No feeding seen on peach, even where interplanted with apple.
- Maryland. E. N. Cory (May 13): Plum curculio was found ovipositing on peach on May 13 at Avanel.
- Virginia. W. J. Schoene (May 26): A heavy second brood of the plum curculio is in progress. The overwintering adults reached the orchard between April 24 and May 25. Large numbers arrived about May 1. The wormy peaches were dropping in large numbers on May 20-23, infestation running as high as 95 percent. In one orchard drops in the center of the peach block averaged 50 percent wormy and those on the outside of the blocks averaged 90 percent. The fruit is very small, about 1,000 to the gallon.
- Georgia. O. I. Snapp (May 6): The peak of first-brood larval emergence from peach drops at Fort Valley occurred on May 4, which is 6 days later than the peak emergence in 1935. (May 25): Nearly all of the overwintered adults are dead, as revealed by recent jarring of commercial orchards at Fort Valley. First-generation adults have not yet started to emerge.
- Ohio. T. H. Parks (May): Scars from the plum curculio are very scarce and no special sprays on apple have been necessary.
- Indiana. L. F. Steiner (May 21): Injuries were noted at Vincennes on Ben Davis apples as early as May 5, only a few days after petal fall. The pest is more abundant than usual and is doing considerable damage throughout the district.
- Illinois. W. P. Flint (May 18): Plum curculio is more abundant in southern Illinois than it has been at any time during the past 3 years. Jarring records made by S. C. Chandler show a considerable increase in numbers of adults taken during the past 2 weeks. The wet season of 1935 certainly enabled this beetle to stage a strong comeback.
- Michigan. R. Hutson (May 9): On May 8 we jarred some trees at Mason and East Lansing. C. nenuphar was recovered at both places. These recoveries were, without doubt, due to the extremely warm weather of the past few days. The buds are in the prepink stage.

Tennessee. G. M. Bentley (May): In peach and plum orchards where timely sprays have not been applied a large number of the curculio is present generally over the State.

Mississippi. C. Lyle (May 23): Injury by the plum curculio is rather general in unsprayed orchards, although only light damage is reported in the central and southwestern parts of the State. Inspector J. E. Lee at Poplarville reports wild plums in Pearl River County heavily infested, one count showing 94 percent infestation.

Minnesota. A. G. Ruggles (May 22): Plum curculio is moderately abundant in Hennepin County.

Missouri. L. Haseman (May 23): In central Missouri there was an early May appearance of curculios and both apples and stone fruits were attacked generally, but at first punctures were mostly for feeding. In the peach district of southwestern Missouri stone fruits were also badly attacked with worms in fallen fruit May 20-22.

A FLEA BEETLE (Chalcoides helxines L.)

Connecticut. M. P. Zappe (May 22): Considerable feeding on leaves by adults. Most abundant in peach orchards at Southington on those trees adjoining hedgerows containing chokecherries. Probably more beetles on chokecherries than on peach. Injury not serious on either plant.

ORIENTAL FRUIT MOTH (Grapholitha molesta Busck)

Delaware. L. A. Stearns (May 23): Emergence of spring brood practically complete; first-brood larvae feeding in twigs are about half grown.

Pennsylvania. R. M. Baker (May 13): Terminal infestation on young peach quite noticeable at Rutherford. Not quite so bad on older trees.

Georgia. O. I. Snapp (May 20): Oriental fruit moth infestation is light at Fort Valley.

Ohio. E. W. Mendenhall (May 20): Quite bad on the peach trees in central Ohio that are left alive from the severe freezes of last winter. The tips of the peach limbs are quite noticeable from their injury. Their population will be somewhat decreased on account of so many peach trees being killed last winter. They will no doubt attack other fruit trees.

Missouri. L. Haseman (May 23): Oriental fruit moth is more abundant at Cape Girardeau than usual. The first brood is causing much damage to tips and worms are occasionally entering green fruit.

Mississippi. C. Lyle (May 23): Oriental fruit moth injury to peach twigs was observed by Inspector N. L. Douglass at Water Valley and Grenada about the middle of May. At State College this injury is much lighter than in the spring of 1935. Some orchards heavily infested last year show no injury at all this season.

PEACH BORER (Aegeria exitiosa Say)

Georgia. O. I. Snapp (May 9): A male peach borer moth was taken at Fort Valley this morning while trees were being jarred for the curculio. This individual evidently emerged on May 8, as it was taken shortly after 4 a.m., and according to our observations emergence does not take place before 7 a.m. Furthermore, the freshly cast pupal skin containing recently dried fluid was found on the tree next to the one from which the individual was jarred. Moths have not been taken in the orchards earlier than May 27 before this year. (May 20): The infestation is heavy in orchards at Fort Valley that were not treated for this insect. Pupation is starting unusually early. Thirty-four cocoons and 20 freshly cast pupal skins were removed during the period May 9-18 as a result of the examination of 223 trees in one commercial orchard. In a second orchard, 1 cocoon and 1 cast pupal skin were removed during the examination of 60 trees on May 12, and in a third orchard 4 cocoons were removed during the examination of 103 trees on May 15 and 18. Peach borer pupation in numbers is starting earlier than in any year since the insect has been under observation in this latitude.

PEACH TWIG BORER (Anarsia lineatella Zell.)

Utah. C. J. Sorenson (May 20): The peach twig borer is moderately abundant in Davis County. The overwintered broods have been emerging as adults during the past 2 weeks.

A MEGACHILID (Anthidium sp.)

Arizona. C. D. Lebert (May 19): A leaf-cutting wasp, possibly A. emarginatum Say, caused severe defoliation of peach and apricot trees in a small grove near Higley. The peach trees had their foliage badly riddled. Some injury to the foliage of Chinese elm and umbrella trees was noted.

GREEN PEACH APHID (Myzus persicae Sulz.)

Pennsylvania. H. E. Hodgkiss (May 27): There is a general infestation of green peach aphid through the State.

A LEAFHOPPER (Macropsis trimaculata Fitch)

Michigan. R. Hutson (May 20): The leafhopper, reported to be responsible for the spread of certain virus diseases on peach, started hatching May 10 at East Lansing.

PEAR

PEAR PSYLLA (Psyllia pyricola Foerst.)

New York. N. Y. State Coll. Agr. News Letter (May): In the Hudson River Valley most of the eggs of pear psylla had hatched by the middle of the month, after which date a few summer flies were observed. In

western New York hatching was well under way by the middle of the month, but some eggs were still unhatched by the 25th.

PEAR THRIPS (Taeniothrips inconsequens Uzel)

Washington. I. W. Bales (May 4): Pear thrips have caused considerable damage in Clark County this spring. Some orchards have suffered as high as 75 percent blossom injury.

Oregon. S. C. Jones (May): In the Willamette Valley emergence of adults stopped on April 22. The larvae have been hatching since April 17. In the Umpqua Valley larvae have been hatching since April 1. The larvae were practically full grown and had left the trees by May 12.

CHERRY

CHERRY LEAF BEETLE (Galerucella cavicollis Lec.)

Michigan. R. Hutson (May 20): Reported doing considerable damage to sour cherries in the vicinity of Traverse City.

PLUM

HOP APHID (Phorodon humuli Schrank)

California. L. M. Smith (May 18): The production of migrants on French prunes in the Sonoma Valley was practically complete by May 15, marking the close of an unusually heavy infestation on the trees. Large numbers of migrants (10-50 per leaf) were found on the terminal leaves of hops, while numerous immature alienicolae were found on the older, lower leaves of this plant.

SAY'S BLISTER BEETLE (Pomphopoea sayi Lec.)

Ohio. T. H. Parks (May): These blister beetles were sent from New Concord on May 1 with the statement that they were devouring plum blossoms.

RASPBERRY

RASPBERRY CANE BORER (Oberea binaculata Oliv.)

Minnesota. A. G. Ruggles and assistants (May 18): Raspberry cane borer very abundant, causing heavy damage to raspberries in Clearwater County, according to J. T. Barnes.

GRAPE

GRAPE LEAF FOLDER (Desmia funeralis Hbn.)

Missouri. L. Haseman (May 23): Bearing vines at Columbia are not showing injury but newly set young plants were badly attacked by grape leaf-roller on May 15.

GRAPE ROOT WORM (Fidia viticida Walsh)

Delaware. L. A. Stearns (May 22): There is a rather serious infestation of grape root worm on Moore's Early and Concord varieties at Smyrna.

GRAPE PLUME MOTH (Oxyptilus periscelidactylus Fitch)

Ohio. T. H. Parks (May 21): Specimens of the larvae of grape plume moth were received from Hamilton County with the statement that they were feeding on grape foliage.

GRAPE LEAFHOPPER (Eyrthroneura comes Say)

Delaware. L. A. Stearns (May 13): First overwintered adults of grape leafhopper observed on grape at Camden today.

GOOSEBERRY AND CURRANT

GOOSEBERRY FRUIT WORM (Zophodia grossulariae Riley)

New York. N. Y. State Coll. Agr. News Letter (May 4): Recently the gooseberry fruit worm has caused heavy losses in gooseberry and current plantings in the Hudson Valley.

IMPORTED CURRANT WORM (Pteronidea ribesii Scop.)

New York. N. Y. State Coll. Agr. News Letter (May 18): Found imported currant worms were working on currants on May 12 in Ulster County.

Ohio. T. H. Parks (May 20): The larvae of imported currant worms are now about half grown and are rapidly defoliating currants and gooseberries in some plantings at Columbus.

PECAN

PECAN NUT WORM (Acrobasis caryae Grote)

Louisiana. W. C. Pierce (April 24): Larvae and pupae of the pecan nut case bearer were collected in pecan shoots at the Robson Experimental Station. The number of injured shoots ranged from two to four per tree on 6-year-old pecan trees. On May 14 the first case-bearer eggs were collected on young pecan. Eggs were in late stage of development with none hatched at this time. Damage will probably be noticed by pecan growers this year on account of the light pecan crop, which is confined to a few varieties.

PECAN LEAF CASE BEARER (Acrobasis juglandis LeB.)

Louisiana. W. C. Pierce (May 7): Considerable damage has been caused by larvae of the pecan leaf case bearer feeding on buds and new growth of pecan in southwestern Louisiana near De Ridder.

PHYLLOXERA (Phylloxera spp.)

Mississippi. C. Lyle and assistants (May 23): Numerous complaints of damage to pecans have been received during the month. Specimens of P. devastatrix Perg. were received from correspondents at Rolling Fork, Yazoo City, Charleston, Leland, and Satartia. P. notabilis Perg. was received from Pattison, and a complaint unaccompanied by specimens came from Vicksburg. A report was received of damage to a pecan tree at Leland.

Louisiana. W. C. Pierce (May 5): The first open galls of P. devastatrix were observed near Shreveport on Schley pecan trees. The gall opening period on Stuart and Success varieties is a little later than on the Nelson and Schley varieties. Severe damage has been caused on pecan trees at locations scattered along the Red and Mississippi Rivers. (May 7-15): Light infestations of Phylloxera sp. (undetermined) have been observed on pecan trees in southwestern Louisiana and on trees growing along the Red and Mississippi Rivers. The most severe infestation was observed on Nelson variety, which was also attacked by P. devastatrix.

PECAN APHIDS (Aphiidae)

Georgia. T. L. Bissell (May 21): Melanocallis caryaefoliae Davis, the black pecan aphid, is present in moderate numbers, a small number of feeding spots being present at Experiment. Monellia costalis Fitch is very abundant at Experiment. M. nigropunctata Granovsky is present in moderate numbers on pecan at Experiment.

A SAWFLY (Periclista sp.)

Louisiana. W. C. Pierce (May 1-15): Small holes in pecan leaflets caused by the feeding of sawfly larvae have been observed in every pecan orchard visited in this State. Practically no damage has been caused.

OBSCURE SCALE (Chrysomphalus obscurus Comst.)

Mississippi. C. Lyle and assistants (May 23): An infestation of obscure scale on pecan trees at Shaw was reported by Inspector N. L. Douglass, who also stated that a few oak trees had been killed by this insect and others severely injured. In the Delta this scale is causing damage to pecan trees.

Louisiana. W. C. Pierce (May 7): Ten-year-old pecan trees severely encrusted with obscure scale were observed near De Ridder. It is unusual to find pecan trees of this age heavily encrusted with this scale. In northern Louisiana damage is confined mostly to the lower parts of trees from 20 to 30 years old or over.

CITRUS

CALIFORNIA RED SCALE (Chrysomphalus aurantii Mask.)

Arizona. C. D. Lebert (May 19): It seems that the fumigation and scale clean-up around Phoenix during the past season has been 100 percent efficient. No live adult scales or crawlers have been found on either citrus or ornamentals. Check trees in formerly infested groves fumigated this spring were negative.

COTTONY CUSHION SCALE (Icerya purchasi Mask.)

Florida. H. T. Fernald (May 23): The fluted or cottony cushion scale is very abundant in the Orlando section on prickly pear, but I have not seen any on citrus.

Mississippi. C. Lyle (May 23): An infestation of cottony cushion scale on pecan was sent in by a correspondent at Hattiesburg on May 2.

Arizona. C. D. Lebert (May 19): A light-to-moderate infestation of this scale was found in a grapefruit grove near Phoenix. The Australian ladybeetle (Rodolia cardinalis Muls.) was also present and each scale cluster had from 3 to 7 larvae around it. The beetles were building up nicely.

CITRUS WHITEFLY (Dialeurodes citri Riley & How.)

Mississippi. J. E. Lee (May 23): The citrus whitefly very abundant in the vicinity of Poplarville. A number of Cape-jasmine plants have been completely defoliated.

ORANGE TORTRIX (Tortrix citrana Fern.)

Florida. J. R. Watson (May 21): W. L. Thompson, of our Citrus Station at Lake Alfred, reports that he has seen more orange tortrix than for several years.

A THRIPS (Frankliniella sp.)

Florida. J. R. Watson (May 21): Thrips multiplied rapidly during this dry period in the month of April and the first half of May.

Correction.--The note on page 39 of the Insect Pest Survey Bulletin volume 16, number 2 (April 1, 1936), Scirtothrips citri Moul. should read Frankliniella sp.

CITRUS RUST MITE (Phyllocoptes oleivorus Ashm.)

Florida. J. R. Watson (May 21): Dry weather has caused rapid development of rust mites and there has been much spraying for them.

SIX-SPOTTED MITE (Tetranychus sexmaculatus Riley)

Florida. J. R. Watson (May 21): The six-spotted mite has been more injurious to grapefruit than for many years, in most sections of the State causing a severe leaf drop, in some cases as much as 50 percent. The leaves are maturing at the present time and the damage from this mite is subsiding.

DATE PALMS

A CERAMBYCID (Prionus sp.)

Arizona. C. D. Lebert (May 19): The larvae of a cerambycid, probably P. californicus Mots. or P. heroicus Semen, were found in date palms and offshoots at Litchfield Park. Numerous tunnels in the mother palms and all the offshoots on three parent plants were either dead or dying. Twenty-seven large larvae were taken from three small offshoots. The injuries were confined to one side of the field and to four or five trees.

NAVEL ORANGE WORM (Myelois venipars Dyar)

Arizona. P. Simmons (May 27): Moths reared from dates near Phoenix were sent in by P. Simmons and determined by C. Heinrich as M. venipars.

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

VEGETABLE WEEVIL (Listroderes obliquus Klug)

Mississippi. C. Lyle and assistants (May 23): Early in the month infestations were reported on tomato at Hazlehurst and on cabbage at McCool. This pest has been very active during the month, damaging turnips in Hinds, Rankin, Holmes, and Yazoo Counties.

California. A. E. Michelbacher (May 21): In parts of the San Francisco Bay region newly set tomato plants have been seriously injured.

FLEA BEETLES (Halticinae)

New York. N. Y. State Coll. Agr. News Letter (May): Flea beetles were reported as injurious in western New York during the latter half of the month.

Ohio. B. J. Landis (May 4): Adults of the striped cabbage flea beetle (Phyllotreta vittata Fab.) are common on turnip and early cabbage at Columbus.

Indiana. J. J. Davis (May 23): Flea beetles were damaging small radish plants at New Haven on May 19.

Missouri. L. Haseman (May 23): Several species of flea beetles have been abundant and injurious in gardens in central Missouri.

Mississippi. D. W. Grimes (May 22): Flea beetles are causing damage to turnips at various points.

Nebraska. O. S. Bare (May 19): Numerous small, dark-colored, quick-jumping beetles have riddled the leaves of radishes and cabbage.

California. A. E. Michelbacher (May 21): In parts of the San Francisco Bay region newly set tomato plants have been seriously injured.

STRIPED CUCUMBER BEETLE (Diabrotica vittata Fab.)

Connecticut. W. E. Britton (May 20): Severe damage to young summer squash plants observed in one field on May 11 at New Haven.

N. Turner (May 23): Some cucumbers killed in East Hartford by striped cucumber beetle, which is apparently abundant as usual.

Virginia. H. G. Walker (May 25): The striped cucumber beetle is rather scarce in the Norfolk district.

Ohio. B. J. Landis (May 6): The first adult of the striped cucumber beetle was observed on May 6. On May 10 adults were numerous in a woodlot at Columbus.

Mississippi. C. Lyle and assistants (May 23): A heavy infestation was observed on watermelons in Jackson County and on squash at Durant, Holmes County.

Minnesota. A. G. Ruggles (May): Striped cucumber beetle has been reported as moderately abundant in Morrison, Crow Wing, Rice, and Pipestone Counties.

Missouri. L. Haseman (May 23): In central Missouri the striped cucumber beetles are either slower in showing up or less abundant than usual, as little damage has been done as yet.

Oklahoma. F. A. Fenton (May 23): The two-striped cucumber beetle is injuring the cucurbits.

SPOTTED CUCUMBER BEETLE (Diabrotica duodecimpunctata Fab.)

Virginia. L. W. Brannon (May 7): Twelve-spotted cucumber beetles were observed feeding in the field at Norfolk on young snap beans for the first time this season on April 20. This is 6 days earlier than the first beetles were observed feeding in 1935.

Georgia. T. L. Bissell (May 5): The first injury to corn by budworms was seen today at Experiment. Beetles were very numerous in March and early April but very few larvae have been found on cover crops.

O. I. Snapp (May 19): The spotted cucumber beetle has been more abundant than usual this spring, and large numbers have been jarred from peach trees at Fort Valley.

Mississippi. C. Lyle and assistants (May 21): Adult beetles are completely destroying a field of watermelons at State College. The larvae were causing unusual damage to corn in the Aberdeen district. (May 22): Twelve-spotted cucumber beetles found on squash at Durant and noticed generally in gardens on other plants.

Kentucky. W. A. Price (May 26): Spotted cucumber beetle present on beans.

Oklahoma. F. A. Fenton (May 23): The twelve-spotted cucumber beetle is injuring cucurbits.

WESTERN SPOTTED CUCUMBER BEETLE (Diabrotica soror Lec.)

Oregon. D. C. Mote (May): More numerous at this time in the Willamette Valley than for the last few years. Damage to alfalfa has been observed in Linn County. Reported by B. G. Thompson.

STRIPED BLISTER BEETLE (Epicauta vittata Fab.)

Georgia. T. L. Bissell (May 25): Pimiento pepper beds in Butts County are attacked by this blister beetle.

A COCCINELLID (Geratomegilla fuscilabris Muls.)

Mississippi. J. P. Kislanko (May 23): An unusual case of economic loss due to this ladybeetle has been observed. A canning factory in Laurel rejected several tons of turnip tops and spinach on account of numerous pupae attached to the lower surface of the leaves, which rendered the product unfit for canning.

FALSE CHINCH BUG (Nysius ericae Schill.)

California. A. E. Michelbacher (May 21): In one or two places in the San Francisco Bay region nymphs of the false chinch bug have caused some damage.

S. Lockwood (May 23): Outbreaks of the false chinch bug are now appearing in Napa, Sacramento, and El Dorado Counties. In some fields the bugs are doing considerable damage to young tomato plants which are just now starting to grow in the field.

Nebraska. M. H. Swenk (May 20): On May 16 a Madison County correspondent reported the false chinch bug feeding on radishes, cucumbers, and other garden vegetables.

Arizona. C. D. Lebert (May 19): On account of the dry spring and the consequent sparse growth of mustard weed there has been very little trouble from this pest. One heavy infestation was observed in a citrus

grove near Phoenix where severe injury occurred to the young trees. A mustard cover crop in this grove was responsible for this infestation. Reports from Tucson state that several residents were annoyed by the presence of large numbers of these pests late in April and early in May.

TARNISHED PLANT BUG (Lygus pratensis L.)

Colorado. G. M. List (May 22): The tarnished plant bug was not as abundant on peaches during the blooming period in the peach-growing districts as usual. It has, however, been comparatively numerous on some garden crops in other localities.

GREEN STINKBUG (Acrosternum hilaris Say)

California. S. Lockwood (April 30): The green soldier bug is occurring in large numbers again this year in Merced County. Inspections yesterday gave evidence of far more than normal numbers of this insect.

POTATO AND TOMATO

COLORADO POTATO BEETLE (Leptinotarsa decemlineata Say)

New York. N. Y. State Coll. Agr. News Letter (May 18): The Colorado potato beetle is laying eggs in Nassau County.

Delaware. D. MacCreary (May 12): One specimen of Colorado potato beetle observed at Odessa.

Virginia. H. G. Walker (May 25): The Colorado potato beetle is very abundant at Norfolk.

Georgia. T. L. Bissell (May 5): The Colorado potato beetle has become very abundant and injurious on Irish potato at Griffin.

Ohio. N. F. Howard (May 18): The potato beetle is injuring early tomatoes in the field at South Point but is not very numerous on early potatoes.

B. J. Landis (May 7): The first adult was seen flying on May 7 at Columbus. On May 11, 15 adult beetles were counted on a 50-foot row of potatoes. Egg mass on Solanum dulcamara was observed on May 12.

Mississippi. C. Lyle (May 23): The Colorado potato beetle is generally abundant over the State and practically all gardeners are finding control measures necessary.

Missouri. L. Haseman (May 23): Reported by many growers as extremely abundant, more so than was expected, following so severe a winter.

Nebraska. O. S. Bare (May 19): Potato bugs seem to be very plentiful this spring.

Oklahoma. C. F. Stiles (May 21): Potato beetles are quite numerous in the vicinity of Edmond and it will be necessary to poison most of the fields to prevent defoliation.

POTATO FLEA BEETLE (Epitrix cucumeris Harr.)

New York. N. Y. State Coll. Agr. News Letter (May 18): Some potato flea beetle injury is showing up in Nassau County.

Pennsylvania. H. E. Hodgkiss (May 27): On May 14 potato flea beetle was just starting on potatoes. The initial infestation is not as large as in most years.

Kentucky. W. A. Price (May 26): Potato flea beetles are common and destructive over the State generally.

Iowa. H. E. Jaques (May 23): Potato flea beetle unusually abundant.

Mississippi. J. E. Lee (May 23): The heaviest infestation of potato flea beetles in several years was noted at Purvis early in May.

Colorado. G. M. List (May 22): Flea beetles, especially E. cucumeris, are damaging tomatoes, potatoes, and many other small plants in several sections of the State.

TOMATO PINWORM (Gnorimoschema lycopersicella Busck)

Florida. J. R. Watson (May 21): Tomatoes in the Bradenton section show a very light infestation of the pinworm.

POTATO APHID (Illinoia solanifolii Ashm.)

Virginia. H. G. Walker (May 25): The pink and green potato aphid is beginning to appear on potatoes at Norfolk in small numbers.

TOMATO PSYLLID (Paratrioza cockerelli Sulc.)

Colorado. G. M. List (May 22): The tomato psyllid was taken in a "car trap" at Grand Junction April 20 by O. A. Hills. Adults were taken on native host plants at Las Animas, by L. Sweetman on May 2. On May 16 eggs were rather numerous at Fort Collins on tomato plants growing in the coldframe.

BEANS

MEXICAN BEAN BEETLE (Epilachna varivestis Muls.)

Virginia. H. G. Walker (May 25): The Mexican bean beetle appears to have suffered a very heavy winter mortality, as they are very scarce in the field and less than 2 percent have emerged from hibernation cages at Norfolk.

L. W. Brannon (May 7): The first Mexican bean beetle of the season was found feeding in the field in the Norfolk area on April 20. Only one beetle was found on 20 rows of snap beans 300 feet long, so the beetle is apparently one of the first to emerge. Daily observations have been made since the first beans were observed on April 11.

Georgia. T. L. Bissell (May 5): One beetle found today on beans at Griffin. Occasional beetles have been found for 2 weeks on peach trees but this is the first on beans. (May 21): The beetle continues to be scarce at Experiment, doubtless on account of the long-continued dry weather, which is also keeping the beans back. A report that the beetle is injurious at Thomasville has not been verified.

Ohio. N. F. Howard (May 20): The first beetle was found in the field at South Point on May 8 and had apparently been feeding for a day or more. By May 18 a number of beetles were present in each field examined but were less numerous than usual.

BEAN LEAF BEETLE (Cerotoma trifurcata Forst.)

Virginia. H. G. Walker (May 25): The bean leaf beetle is very abundant at Norfolk and it seems especially destructive because of the dry weather, which has greatly retarded the growth of the beans.

Georgia. T. L. Bissell (May 5): The bean leaf beetle has severely riddled the leaves of snap beans. Injury was first noted about 2 weeks ago at Experiment and Griffin.

Ohio. N. F. Howard (May 18): The bean leaf beetle has been numerous on early beans at South Point. The first leaves in some fields averaged 20 holes per leaf. Injury to trifoliolate leaves is not great and the infestation is subsiding.

Indiana. J. J. Davis (May 23): The bean leaf beetle was reported to be damaging garden beans in a number of localities in the southern half of the State, Terre Haute being the most northern point reported. Most of the reports came in from May 11 to 14.

Kentucky. W. A. Price (May 26): The bean leaf beetle has been more destructive to the bean crop than the Mexican bean beetle, which is very common.

Mississippi. C. Lyle and assistants (May 23): The bean leaf beetle has been rather uniformly destructive over the State.

BEAN APHID (Aphis rumicis L.)

California. S. Lockwood (May 25): The bean aphid is causing considerable damage to sugar beets, field peas, and horse beans in the Delta district of Solano County.

PEAS

PEA APHID (Illinoia pisi Kalt.)

New Jersey. T. J. Headlee (May 21): The first pea aphids on peas were observed on May 18 in southern New Jersey. The infestation is confined to those fields bordering on or near clover and alfalfa fields. Pea

fields situated some distance from clover and alfalfa fields are free from aphids. Weekly aphid surveys have been made since the last week in April, covering 3,500 acres of peas in the southern part of the State.

Virginia. L. W. Brannon (May 7): The first pea aphid of the season in the Norfolk district was found on peas on April 13. Peas have been up in that district since the middle of March and weekly sweepings had been made since that date. On April 24 the first pea aphid of the season on the Eastern Shore of Virginia was found in the vicinity of Cheriton. Peas have been up in that district since the middle of March, and weekly sweepings had been made since the first week in April.

Ohio. B. J. Landis (May 12): Pea aphids scarce on canning peas at Chillicothe, Circleville, and Canal Winchester. (May 20): Pea aphid survey on canning peas in Ohio: Pea fields swept are the same and bear the same numbers as those reported May 12; no sweeps were made at Canal Winchester; $1\frac{1}{2}$ miles north of South Bloomfield--50 sweeps, 13 aphids; 1 mile east of Circleville--50 sweeps, 27 aphids; south edge of Circleville--50 sweeps, 59 aphids; Scippo Creek--50 sweeps, 88 aphids; in a field north of covered bridge on Route 104--50sweeps, 47 aphids; in field near Veteran's Hospital on Route 104--50 sweeps, 107 aphids; 2 miles west of Chillicothe--50 sweeps, 98 aphids; $2\frac{1}{8}$ miles west of Chillicothe--50 sweeps, 179 aphids; south of city limits of Chillicothe--50 sweeps, 83 aphids. (May 27): $1\frac{1}{2}$ miles north of South Bloomfield--52 aphids in 50 sweeps; 1 mile east of Circleville on State Route 188--130 aphids in 50 sweeps; south edge of Circleville on State Route 23--171 aphids in 50 sweeps; 4 miles south of Circleville on State Route 23 at Scippo Creek--360 aphids; about 3 miles north of Chillicothe on State Route 104 at wooden bridge--85 aphids in 50 sweeps; across from Veteran's Hospital on State Route 104--170 aphids in 50 sweeps; 2 miles west of Chillicothe on U. S. Route 50--172 aphids in 50 sweeps; $\frac{1}{4}$ mile west of No. 7--162 aphids in 50 sweeps; south edge of city limits of Chillicothe--456 aphids in 50 sweeps.

Mississippi. C. Lyle (May 23): Infestations of I. pisi were observed on English peas and sweetpeas near State College and Starkville on May 1 and 15.

California. R. E. Campbell (May 14): A 50-acre field of cannery peas in full bloom in Marin County was quite generally infested with the pea aphid, ranging from 3 or 4 to 200 per plant. Although a few syrphid larvae and numerous eggs were present, it was apparent that the infestation was building up and that serious injury would be caused.

CABBAGE

IMPORTED CABBAGE WORM (Ascia rapae L.)

Virginia. H. G. Walker (May 25): Cabbage worms are relatively scarce, although there are a few imported cabbage worms and a few larvae of the diamond-back moth (Plutella maculipennis Curt.) in some fields.

Mississippi. C. Lyle (May 23): The imported cabbage worm is causing severe injury in the Aberdeen district and is fairly abundant at State College and in the trucking section of Copiah and Lincoln Counties.

Washington. R. S. Lehman (May): The cabbage butterfly is doing some damage to cabbage near Walla Walla. Cabbage plants are usually set out in the fall, but a fall freeze killed all the plants, making a spring setting of plants necessary; thus, greater damage by the cabbage butterfly is expected as the plants will mature late.

CABBAGE LOOPER (Autographa brassicae Riley)

Mississippi. L. J. Goodgame (May 23): The cabbage looper is unusually abundant in the Aberdeen district.

CABBAGE APHID (Brevicoryne brassicae L.)

Virginia. H. G. Walker (May 25): The cabbage aphid is very abundant in some fields of cabbage and seed kale at Norfolk.

Tennessee. G. M. Bentley (May 6): The cabbage aphid is prevalent on young cabbage plants in the western part of the State in the trucking counties, and particularly in Gibson County in the vicinity of Humboldt. These plants were observed on May 6.

HARLEQUIN BUG (Murgantia histrionica Hahn)

Virginia. L. W. Brannon (May 7): Adults have been observed feeding on seed-kale plants in the field at Norfolk since March 31. The first eggs were found in the field on April 21. The date of emergence and oviposition is about normal.

Georgia. T. L. Bissell (May 12): Eggs were found in collards today at Experiment.

Mississippi. C. Lyle and assistants (May 23): The harlequin cabbage bug was abundant in the Aberdeen district and around Jackson. Only slight damage in southwestern Mississippi has been observed.

CABBAGE MAGGOT (Hylemyia brassicae Bouche)

Connecticut. N. Turner (May 23): Maggots reported to be much more abundant on cabbage in the Connecticut Valley than usual. Mature larvae were found May 22, somewhat earlier than usual. Two fields of early cabbage showed heavy infestations and 50 percent loss.

New York. N. Y. State Coll. Agr. News Letter (May): The cabbage maggot is more injurious to crucifers on Long Island than it has been for several years. It is also injurious in Niagara and Onondaga Counties.

New Jersey. T. J. Headlee (May 21): The cabbage maggot has been unusually abundant this season, especially in the northern part of the State.

Pennsylvania. H. E. Hodgkiss (May 27): Infestations as a whole are rather light. On May 13 in Fayette County cabbage following a planting of turnips of 1935 was very heavily infested.

CABBAGE CURCULIO (Ceutorhynchus rapae Gyll.)

Ohio. T. H. Parks (May): Cabbage curculios were brought to the office with the statement that they were injuring cabbage near Cincinnati. This insect is rarely brought to our attention.

SQUASH

SQUASH BUG (Anasa tristis DeG.)

Mississippi. D. W. Grimes (May 22): Squash bug found on squash at Durant and noticed generally in gardens on other plants.

Utah. G. F. Knowlton (May 19): Squash bugs were active in the fields before squash seed was planted this season.

ONIONS

ONION THRIPS (Thrips tabaci Lind.)

Virginia. H. G. Walker (May 25): Onion thrips are very abundant at Norfolk.

Florida. J. R. Watson (May 21): The onion thrips became so bad in Sarasota County on celery that the crop was harvested 10 days or 2 weeks before it would have otherwise been cut. Several fields of beans in Sarasota and Manatee Counties were also a total loss because of depredations of this thrips.

A BLISTER BEETLE (Meloe impressus Kby.)

Minnesota. A. G. Ruggles (May 22): M. impressus is damaging onions at Red Wing, in Goodhue County.

CARROTS

CARROT BEETLE (Ligyrus gibbosus DeG.)

Michigan. R. Hutson (May 20): The carrot beetle has been reported from Garden City.

North Carolina. C. A. Brannon (May 22): This species is causing considerable damage to carrots in Cumberland County.

STRAWBERRY

STRAWBERRY WEEVIL (Anthonomus signatus Say)

Delaware. L. A. Stearns (May 13): Strawberry weevil particularly severe in infestations about the margins of plantings adjoining woodland at Bridgeville.

Pennsylvania. H. E. Hodgkiss (May 27): A. signatus is abundant in Union and York Counties, where it wiped out crops.

Michigan. R. Hutson (May 20): Strawberry weevil is abundant in the vicinity of St. Joseph.

A BEETLE (Diplotaxis atlantis Fall)

Connecticut. W. E. Britton (May 19): Moderate injury from D. atlantis on a $\frac{1}{2}$ -acre field at East Haven, where in one corner the leaves had been eaten by the adult beetles. Adult also received from New Haven.

STRAWBERRY LEAF ROLLER (Ancylis comptana Froel.)

Missouri. L. Haseman (May 23): The strawberry leaf roller is abundant and was doing much damage in some patches in central Missouri from May 10 to 20.

Nebraska. M. H. Swenk (May 20): A. comptana reported damaging strawberry plants in Gage County on May 18.

Colorado. G. M. List (May 22): Larvae were very numerous in two plantings of strawberries at Grand Junction on May 8 and an occasional moth was flying. The larvae were mostly in the second instar.

STRAWBERRY CROWN BORER (Synanthedon bibiopennis Bdv.)

Oregon. D. C. Mote (April): W. D. Edwards reports that in the Willamette Valley S. bibiopennis left their winter cells and began feeding on April 25.

FIELD CRICKET (Gryllus assimilis Fab.)

Missouri. L. Haseman (May 23): Black field crickets are very abundant in central and northern Missouri, injuring ripe strawberries badly.

PEPPER

PEPPER WEEVIL (Anthonomus eugenii Cano)

Florida. J. R. Watson (May 21): Three light infestations have been found in Manatee County. The two most severe of these were due to a small planting of hot peppers, which was missed last summer during the clean-up campaign.

SPINACH

A GELECHIID (Gnorimoschema chenopodiella Busck)

Michigan. R. Hutson (May 20): Adults are numerous in spinach plantings at Lake Odessa.

RHUBARB

RHUBARB CURCULIO (Lixus concavus Say)

Michigan. R. Hutson (May 20): Reported from Kalamazoo, Flint, and Birmingham.

Indiana. J. J. Davis (May 23): The rhubarb curculio has been reported from several central-Indiana localities as appreciably damaging rhubarb.

BEETS

BEEF LEAFHOPPER (Eutettix tenellus Bak.)

Montana. J. R. Douglass and D. E. Fox (April): Surveys in the Billings beet-growing district from April 20 to 23 revealed that a small number of females of E. tenellus survived the past winter in that district and that some of the host plants had germinated the previous fall. The surviving adults were found near Billings and Warden, practically in the center of the district where the curly-top disease of sugar beets was most prevalent in 1934 and 1935. The fact that even a few individuals can survive winter conditions in the Billings district is of great importance, as it demonstrates the ability of this pest to survive a moderately severe Montana winter and shows at least a temporary extension of this insect's range.

Utah. G. F. Knowlton (May 19): Beet leafhoppers survived in reasonable abundance again in the Grantsville-Timpie area of Tooele County.

TOBACCO

TOBACCO FLEA BEETLE (Epitrix parvula Fab.)

North Carolina. C. H. Brannon (May 15): Flea beetle injury to newly set tobacco is very severe in eastern North Carolina.

C O T T O N I N S E C T S

BOLL WEEVIL (Anthonomus grandis Boh.)

South Carolina. F. F. Bondy (May): Emergence of the boll weevil at Florence has been much lighter than usual.

Mississippi. D. W. Grimes (May 22): One specimen was found on cotton in Leake County on May 19.

Louisiana. R. C. Gaines (May): The boll weevil emerged in much fewer numbers than usual at Tallulah this year.

Oklahoma. C. F. Stiles (May): The emergence of the boll weevil has been lighter than usual at Eufaula.

Texas. R. W. Moreland (May): Emergence has been about normal or a little above normal at College Station.

K. P. Ewing and R. L. McGarr (May 9): All indications are that there are more boll weevils in the field this year than for the last 3 years. More weevils have been collected from the flight screens and more have been observed from plant inspections than previously. During the week ended May 9, three weevils were found on the flight screens and three were found by inspection of 5,800 plants in 24 fields in Calhoun County. Inspections were made May 8 in 5 fields in the Guadalupe River bottom at Victoria. Eight weevils were found on 1,600 plants in this area or an average of 0.45 per 100 plants.

F. L. Thomas (May 29): Boll weevils were found on 15 of 35 farms examined along the coastal plain last week. They were most abundant in De Witt, Goliad, and Refugio Counties.

COTTON LEAF WORM (Alabama argillacea Hbn.)

Texas. K. P. Ewing and R. L. McGarr (May 16): The first leaf worm of the season was found on May 5 on a farm 1 mile south of Port Lavaca. The worm was about three-quarters grown. On May 15 seven leaf worms were found on a farm about 15 miles south of Port Lavaca.

BEE T ARMYWORM (Laphygma exigua Hbn.)

Arizona. T. P. Cassidy (May 2): A small area of seedling cotton in the Buckeye Valley was found by T. C. Barber to be infested on April 30. This is the first occurrence of this insect on cotton reported this season. The first report in 1935 was on May 2. Although the present infestation is small, it indicates that damage may be expected again this year.

COTTON APHIDS (Aphidae)

South Carolina. F. F. Bondy and C. F. Rainwater (May 16): Alate and apterous females and nymphs of Aphis medicaginis Koch were found on cotton near Florence the past week. Some cotton plants were severely infested. The root aphids Trifidaphis phaseoli Pass., Anuraphis maidi-radici Forbes, and Rhopalosiphum sp., were found on cotton during the week. Much cotton has been killed in some fields.

Texas. R. W. Moreland (May 16): In places around College Station fairly heavy infestations of aphid, probably Aphis gossypii Glov., have developed.

K. P. Ewing and R. L. McGarr (May 16): Aphids, probably A. gossypii, have done considerable damage in Calhoun County. Many fields are heavily infested and in a few fields the stand of cotton has been destroyed.

COTTON FLEA HOPPER (Psallus seriatus Reut.)

Texas. F. L. Thomas (May 29): Of 35 farms examined last week in 12 counties along the coastal plain, 25 had infestations of the cotton flea hopper. The heaviest infestations were in Goliad, Jim Wells, and Victoria

Counties. Five of the farms had sufficient infestations to warrant control.

K. P. Ewing and R. L. McGarr (May 2): Although the seasonal emergence records at Port Lavaca are not complete, indications are that the peak of emergence occurred from April 27 to 30. The peak of emergence was approximately 3 weeks later than in 1935.

Mexico. C. S. Rude (May 19): Flea hoppers have been observed in several fields near Tlahualilo, but there is no noticeable damage.

THRIPS (Thysanoptera)

South Carolina. F. F. Bondy and C. F. Rainwater (May 20): Thrips are much more numerous now than a week ago and an appreciable infestation may develop. The infestation is unusual, according to J. G. Watts, as to the manner of infestation and the species causing it. The infestation is centered in the terminal bud, rather than on the small leaves, and the attacked buds resemble those stung by the boll weevil. Four species have been found on cotton to date, namely, Frankliniella fusca Hinds, F. tritici Fitch, Thrips tabaci Lind., and Sericothrips variabilis Beach. The last-named species is responsible for 75 percent of the total injury.

FOREST AND SHADE-TREE INSECTS

CANKERWORMS (Geometridae)

Rhode Island. A. E. Stone (May 28): Cankerworms are apparently abundant in places where they occurred last year.

Connecticut. P. Garman (May 19): Many cankerworms (Alsophila pomataria Harr.) emerged in New Haven County and were feeding at the time of the pink spray, May 5 to 7. Sprays applied at that time gave almost complete control. Shade and woodland trees are heavily infested in some localities.

New York. N. Y. State Coll. Agr. News Letter (May 18): Cankerworms are unusually numerous in Rockland County; especially in the Nyack area. They are seriously injuring oaks, elms, and linden trees. In Dutchess County they are more numerous than last year.

New Jersey. T. J. Headlee (May 21): Cankerworms are abundant and causing considerable injury to forest trees and some shade and street trees in most of the northern half of New Jersey. Four species of worms are present in considerable numbers. These are A. pomataria, Paleacrita vernata Peck, Erannis tiliaria Harr., and Ennomos subsignarius Hbn. The caterpillars are about half grown.

Pennsylvania. H. E. Hodgkiss (May 27): Fall and spring cankerworms are generally abundant.

New Jersey. T. L. Guyton (May 12): Cankerworms are numerous on apple and forest trees at Lebanon.

Ohio. T. H. Parks (May 25): Larvae of the fall cankerworm are defoliating many elms in western Ohio. The infestation extends as far east as Madison County, though the greatest injury is reported from Greene and Clark Counties. The outbreak is very spotted but some complete defoliation has already occurred, although the larvae are still less than half grown.

Michigan. R. Hutson (May 20): Spring and fall cankerworms are very abundant in the vicinity of Lansing, Grand Ledge, and Lake Odessa.

FOREST TENT CATERPILLAR (Malacosoma disstria Hbn.)

Vermont. H. L. Bailey (May 25): Forest tent caterpillars are very abundant in the southern and western parts of the State. Reports of heavy feeding during the week of May 18 came from Bennington, Windsor, and Addison Counties. The first hatching from eggs was noted at Middlebury on May 4. Apparently most larvae were in the third instar on May 22-23.

Connecticut. W. E. Britton (May 19): Observed a few caterpillars crawling on trunks of paper birch on my premises at New Haven.

Massachusetts, Connecticut, and New York. E. P. Felt (May 23): The forest tent caterpillar is locally abundant in western Massachusetts, in Connecticut, and in areas of New York adjacent to Massachusetts and Connecticut.

New Jersey. T. J. Headlee (May 21): The forest tent caterpillar has been common but not injurious in wooded areas.

Minnesota. A. G. Ruggles (May 22): Very abundant in the Arrowhead district. On May 20 many were hatching, although none were beyond the second instar.

Mississippi. C. Lyle and assistants (May 23): Specimens were received from Waveland on May 1 with the report that they were defoliating fruit trees and roses. The heavy infestation which existed last month has about disappeared. So many caterpillars were then present that the grade of turpentine produced was considerably lowered.

Louisiana. T. E. Snyder (April): P. Wakeley reports that forest tent caterpillars are defoliating several southern hardwood trees more or less severely. This condition is general from Slidell and Pearl River north through Talisheek and Bush to Bogalusa, and is more severe this season than in recent years.

Utah. G. F. Knowlton (May 20): Poplars and ash are being severely damaged in Washington County by the forest and apple tree tent caterpillar (Malacosoma sp.)

Washington. R. S. Lehman (May): The forest tent caterpillar is doing considerable feeding on fruit trees, especially on prunes at Walla Walla.

BROWN-TAIL MOTH (Nygmia phaeorrhoea Don.)

Rhode Island. A. E. Stone (May 28): A few nests of the brown-tail moth were found for the first time in over 10 years.

LEOPARD MOTH (Zeuzera pyrina L.)

New York. E. P. Felt (May 23): The leopard moth is somewhat generally prevalent though not usually abundant, in shade trees on western Long Island and in the vicinity of New York City.

A SCALE INSECT (Lecaniodiaspis pruinosa Hunter)

Colorado. G. M. List (May 22): This scale has been increasing on the elm and cottonwood at Rocky Ford, until it is now doing considerable injury. The only report of this insect in the State comes from Otero County.

ASH

CARPENTER WORM (Prionoxystus robiniae Peck)

Nebraska. M. H. Swenk (May 20): From Saunders County on May 19 came an inquiry as to the control of the carpenter worm in ash trees.

BANDED ASH BORER (Neoclytus caprea Say)

Nebraska. M. H. Swenk (May 20): The banded ash borer was reported to be working in ash trees in Knox and Saunders Counties on May 15 and 19, respectively.

BEECH

WOOLLY BEECH APHID (Phyllaophis fagi L.)

Kentucky (May 26): Woolly beech leaf aphid very common on beeches in the vicinity of Lexington.

BIRCH

EUROPEAN BIRCH SAWFLY (Fenusa pumila Klug)

Connecticut. W. E. Britton (May 20): Adults observed on May 8 at Hamden. No eggs could be found in the leaves.

A BEETLE (Diplotaxis sp.)

Vermont. H. L. Bailey (May 25): Diplotaxis sp. had stripped foliage from young transplanted white birch trees at East Haven in Essex County on May 20.

CATALPA

CATALPA SPHINX (Ceratonia catalpae Bdv.)

Mississippi. C. Lyle and assistants (May 23): A heavy infestation of the

catalpa sphinx is reported in the cities of Charleston and Grenada and in the vicinity of Laurel.

ELM

ELM LEAF BEETLE (Galerucella xanthomelaena Schr.)

Vermont. H. L. Bailey (May 25): Adults in numbers reported to be emerging from hibernating quarters about houses at Windsor the first week in May.

California. H. C. Donohoe (April 28): Elm leaf beetles were observed on April 26 to be causing serious damage to foliage in a planting of large elm trees near Fresno.

C. S. Morley (May 4): Elm leaf beetle has been actively feeding on elm trees for the past 3 weeks in Kern County.

PIGEON TREMEX (Tremex columba L.)

North Dakota. J. A. Munro (May 18): Pigeon tremex reported as common in elm trees at Crystal in Grand Forks County.

ELM BUD GALL (Dasyneura ulmea Felt)

Nebraska. M. H. Swenk (May 20): Specimens of white elm twigs having blasted and malformed buds caused by this small gall midge were received on April 24 from Douglas County.

MOURNING-CLOAK BUTTERFLY (Hamadryas antiopa L.)

Georgia. T. L. Bissell (May 13): The spiny elm caterpillar is present on elm in small numbers at Experiment.

EUROPEAN ELM SCALE (Gossyparia spuria Mod.)

Wisconsin. E. L. Chambers (May 20): The European elm scale is still restricted to less than a half dozen cities in southern Wisconsin. Drastic control campaigns were carried out in Madison and Milwaukee during March and April.

Colorado. G. M. List (May 22): The winter mortality of the European elm scale was comparatively low, with the result that there will be heavy infestations in most sections of the State where spraying was not done.

HACKBERRY

HACKBERRY BUD GALL (Pachypsylla gemma Riley)

Nebraska. M. H. Swenk (May 20): Specimens of the hackberry bud gall on a branch from a hackberry tree were sent in from Dundy County on May 18.

LARCH

LARCH CASE BEARER (Coleophora laricella Hbn.)

New York. R. E. Horsey (May): Larch case bearer is fairly numerous on Dahurian, European, American, Siberian, and Japanese larches at Rochester. They were feeding on the leaves on May 2, after a temperature of about 80° F., for a couple of days.

LINDEN

LINDEN BORER (Saperda vestita Say)

New York and New England. E. P. Felt (May 23): The linden borer is locally injurious to young trees in southwestern New England and on Long Island.

LOCUST

LOCUST BORER (Cyllene robiniae Forst.)

Oklahoma. F. A. Fenton (May 23): We have received requests for information on control of the locust borer.

MAPLE

A ROOT BORER (Prionus laticollis Drury)

New York. E. P. Felt (May 23): Broad-necked Prionus grubs were found working abundantly in the living roots of silver maples on Long Island.

GLOOMY SCALE (Chrysomphalus tenebricosus Comst.)

Mississippi. C. Lyle (May 23): A correspondent at Doddsville sent in maple twigs heavily infested with this scale on May 1.

OAK

AN OAK GALL (Andricus punctatus Bass.)

New Jersey. T. J. Headlee (May 21): The gouty ash gall seems to be increasing in abundance in the State and is causing some injury to oaks in several plantings.

Pennsylvania. E. P. Felt (May 23): The gouty oak gall was found to be somewhat abundant on oaks in the Philadelphia area.

AN APHID (Myzocallis walshii Monell)

Georgia. T. L. Bissell (May 13): Oak aphids (M. walshii) are exceedingly abundant on oaks at Griffin.

PINE

SOUTHERN PINE BEETLE (Dendroctonus frontalis Zimm.)

Mississippi. H. Gladney (May 23): A large infestation of the southern pine beetle was observed in Harrison County on May 12.

EUROPEAN PINE SHOOT MOTH (Rhyacionia bouliana Schiff.)

Connecticut. E. P. Felt (May 23): European pine shoot moth was found extremely abundant in Mugho pines in Greenfield Hills.

A PINE NEEDLE MINER (Paralechia pinifoliella Chamb.)

Massachusetts. E. P. Felt (May 23): The pine leaf miner was found somewhat prevalent on pitch pine at Belmont.

PITCH-MASS BORER (Parharmonia pini Kellicott)

Massachusetts. E. P. Felt (May 23): The pitch-mass borer was somewhat prevalent in a white pine planting at Waban.

PINE BARK APHID (Pineus strobi Htg.)

New York and New Jersey. E. P. Felt (May 23): Pine bark aphid was reported on white pine in large numbers at Peekskill, N. Y. It was also reported present on white pine at West Orange, N. J.

Wisconsin. E. L. Chambers (May 20): Our white pine blister rust forces are reporting the pine bark louse as being abundant on white and Norway pine throughout the northern part of the State.

PINE NEEDLE SCALE (Chionaspis pinifoliae Fitch)

Massachusetts. E. P. Felt (May 23): The pine leaf scale was extremely abundant on pine at Stockbridge. This insect usually favors the Austrian pine.

Minnesota. A. G. Ruggles (May 22): Hatching at Wabasha and Fairmont on May 15. Very abundant.

Nebraska. M. H. Swenk (May 20): On May 13 a Cherry County correspondent reported that one of his Black Hills spruce trees was infested with the pine-leaf scale.

SCOTCH PINE SCALE (Toumeyella numismaticum Pettit & McDaniel)

Wisconsin. E. L. Chambers (May 20): The Scotch pine scale, while still prevalent in northern Wisconsin jack pine forests, is apparently less abundant than usual this spring.

SPRUCE

SPRUCE MITE (Paratetranychus uninguis Jacobi)

Connecticut. W. E. Britton (May 19): Leaves of spruce showed result of mite injury last season at Danielson, Hartford, and West Haven.

Pennsylvania. H. E. Hodgkiss (May 21): Spruce mite is very abundant in Franklin County.

WILLOW

WILLOW SAWFLY (Pteronidea ventralis Say)

Delaware. P. L. Rice (May 7): A heavy infestation of the slug was found on a willow tree at Georgetown.

EUROPEAN WILLOW BEETLE (Plagiodera versicolora Laich.)

Pennsylvania. R. M. Baker (May 11): Adults and larvae are abundant on willow at Camp Hill.

A WILLOW SCALE (Chionaspis salicis-nigrae Walsh)

Minnesota. A. G. Ruggles (May 22): C. salicis-nigrae observed in the southwestern part of the State.

I N S E C T S A F F E C T I N G G R E E N H O U S E
A N D O R N A M E N T A L P L A N T S

A SAWFLY (Tenthredinidae)

Ohio. T. H. Parks (May): Specimens of sawfly larvae were received from Versailles with the statement that they were infesting evergreens in that vicinity.

OYSTER-SHELL SCALE (Lepidosaphes ulni L.)

Indiana. J. J. Davis (May 23): Oyster-shell scale began hatching at Lafayette about May 20, much earlier than usual.

Minnesota. A. G. Ruggles (May): Oyster-shell scale is moderately abundant in Nicollet, Rice, Murray, Brown, Winona, and Ramsey Counties.

Utah. G. F. Knowlton (May 19): Oyster-shell scale is damaging many shade and ornamental plants in northern Utah, plants often being killed by severe infestations. Serious injury to dogwood and horsechestnut were recently observed at Logan.

ARBORVITAE

CEDAR BARK BEETLE (Phloeosinus dentatus Say)

New York. E. P. Felt (May 23): Arborvitae twigs showing work of cedar bark beetle were received from Babylon, Long Island.

AZALEA

AZALEA SCALE (Eriococcus azaleae Const.)

Mississippi. C. Lyle and assistants (May 23): An infestation of the azalea scale was found this month at Kosciusko but the source of the plants could not be determined. An infestation was also found in Bay St. Louis. On May 19 the scale was found for the first time in the Durant district.

CRAPEMYRTLE

CRAPEMYRTLE APHID (Myzocallis kahawaluokalani Kirk.)

Georgia. T. L. Bissell (May 17): The crapeyrrtle aphid is very abundant on crapeyrrtle at Griffin.

ELDER

AN APHID (Aphis sambucifoliae Fitch)

Mississippi. J. P. Kislanko (May 23): A heavy infestation on elder at Hattiesburg, causing the leaves to turn yellow, was observed on May 2.

JUNIPER

JUNIPER WEBWORM (Dichomeris marginellus Fab.)

Pennsylvania. E. P. Felt (May 23): The juniper webworm was found to be injuring junipers in the Philadelphia district.

LILAC

LILAC BORER (Podosesia syringae Harr.)

Michigan. R. Hutson (May 20): The lilac borer has been reported from Flint.

MAGNOLIA

A CURCULIONID (Prionomerus calceatus Say)

Mississippi. H. Gladney (May 23): Several of these beetles were collected on a magnolia at Ocean Springs on May 9.

MAGNOLIA SCALE (Neolecanium cornuparvum Thro)

Maryland. E. N. Cory (April 15): Magnolia scale was found attacking magnolia at Pocomoke City.

OLEANDER

HEMISPHERICAL SCALE (Spissetia hemisphaerica Targ.)

Mississippi. J. G. Hester (May 23): Oleanders infested with this scale were found in Louisville on May 2.

ROSE

ROSE SAWFLY (Caliroa aethiops Fab.)

New Jersey. J. S. King (May 10): Adults of the European rose slug were abundant in the late afternoon on rose leaves at Riverton. Larvae were also present in all stages up to 5/16 inch in length on tea roses.

OBLIQUE-BANDED LEAF ROLLER (Cacoccia rosaceana Harr.)

Ohio. E. W. Mendenhall (May 22): The rose roller is quite bad already in rose gardens in Columbus.

THRIPS (Thysanoptera)

Mississippi. C. Lyle and assistants (May 23): Numerous complaints of thrips on roses have been received from various parts of the State, including Louisville, Coffeeville, Cleveland, Ocean Springs, and Jackson.

ROSE LEAF BEETLE (Nodonota puncticollis Say)

Maryland. J. A. Hyslop (May 30): Practically every blossom of rose and peony in my garden at Anavel is ruined by this beetle. As many as 40 beetles occur in a single peony flower and as many as 12 in a rose.

SPIREA

SPIREA APHID (Aphis spiraeicola Patch)

Maryland. E. N. Cory (May 6): Aphids taken on spirea on April 5 at College Park were determined by P. W. Mason as A. spiraeicola.

VERBENA

CHRYSANTHEMUM LEAF MINER (Napomyza chrysanthemi Kowarz)

Mississippi. C. Lyle (May 23): Was causing considerable damage to verbena leaves at State College on May 9.

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

MAN

BUCK MOTH (Homileuca maia Drury)

Texas. O. G. Babcock (May 18): Oak leaf spiny caterpillar first appeared on live oaks 31 miles southeast of Sonora about April 1, but is now grown and about gone. Many cases of local poisoning have been reported. A few parasites are appearing this year.

BEDBUG (Cinex lectularius L.)

Indiana. J. J. Davis (May 23): Bedbugs have been reported from a number of localities in the State as abundant in homes and poultry houses.

Nebraska. M. H. Swenk (May 20): Complaints of the infestation of houses by the bedbug were received from Dodge, Madison, Merrick, Custer, and Frontier Counties from April 21 to May 20.

Colorado. G. M. List (May 22): The hat bedbug (C. pilosellus Horv.) has been brought in during the last 2 weeks from Greeley, Loveland, and Fort Collins. In all cases these were taken in dwellings and were confused with the common bedbug.

MOSQUITOES (Culicinae)

Delaware. D. MacCreary (May 3): The peak of the flight of Aedes cantator Coq. in Delaware City occurred on the above date.

Indiana. J. J. Davis (May 23): Mosquitoes have been quite annoying at Lafayette the past week.

Utah. G. F. Knowlton (May 19): Mosquitoes have been very abundant and annoying in various parts of northern Utah near numerous ponds left by subsiding flood water along various streams and rivers.

Texas. H. E. Parish (May): Mosquitoes have not yet made their appearance in numbers to be of economic importance.

SANDFLIES (Culicoides spp.)

Delaware. D. MacCreary (May 12): Sandflies are very abundant and annoying in salt marshes near Odessa.

Georgia. J. B. Hull (May 25): During the first 3 weeks of April sandflies, especially C. canithorax Hoff., were numerous around the marshes near Savannah. There was a marked decrease in the number of adults during the last week of April, indicating the end of the heavy spring emergence.

Florida. F. C. Bishopp (May 25): Reports from the east coast of Florida show that sandflies were unusually bad in that locality during the entire winter and spring.

TICKS (Dermacentor spp.)

Massachusetts and Maryland. F. C. Bishopp (May 25): The American dog tick (D. variabilis Say) is rapidly increasing in abundance in Maryland in the vicinity of Washington, D. C. This species is the carrier of the eastern form of Rocky Mountain spotted fever, and three cases of this disease have already been reported this season. Unusual abundance of the tick has been reported from eastern Massachusetts.

North Dakota. J. A. Munro (May 18): Rocky Mountain wood tick (D. venustus Marx.) reported from Amidon (Slope County) by D. E. Lawrence. (Det. by C. B. Philips.)

CATTLE

SCREW WORM (Cochliomyia americana C. & P.)

General. F. C. Bishopp (May 25): Hibernation studies show that the primary screw worm fly overwintered as far north as Valdosta, Ga., and Uvalde, Del Rio, Gonzales, and New Braunfels, Tex. With the coming of warmer weather the usual northward spread of the pest is taking place, infestations having been reported from Menard and Sonora on about April 15, Round Mountain on May 8, and from Adamsville southward on May 21. Adults were taken at Johnson City on May 8. No cases have been reported this season in Texas as far north as Dallas. The population in the vicinity of Uvalde built up rapidly during April. One ranchman reported 120 infestations among his animals. By May 21 infestations had become quite numerous throughout the county.

H. E. Parish (May): C. americana is quite active in Menard County, Tex., and several collections of larvae have been made from the southern part of Kimble County. Practically all calves and lambs develop cases of myiasis. The first infestation of C. americana at Menard was recorded May 8.

Puerto Rico. H. L. Dozier (May 25): On May 2, with the opening up of warmer weather, screw worms were becoming more active over the island. A number of cases were observed in the vicinity of Mayaguez.

STABLE FLY (Stomoxys calcitrans L.)

Texas. H. E. Parish (May): Stable flies are causing a great deal of annoyance to livestock in the vicinity of Menard.

A BLOWFLY (Phormia sp.)

Oklahoma. F. C. Bishopp (May 25): Fifty cases of myiasis occurring early in May in a number of dehorned cattle shipped into Oklahoma from Old Mexico

were reported. Upon investigation it was found that infestations were due to a species of Phormia, the black blowfly.

HORNFLY (Haematobia irritans L.)

Texas. A. W. Lindquist (April 30): The hornfly is becoming more annoying at Uvalde than during the corresponding period last year.

H. E. Parish (April 10): Hornflies first observed on livestock at Menard. (April 30): Flies quite abundant and causing annoyance to livestock.

HORSE

A BUFFALO GNAT (Simulium sp.)

Kentucky. W. A. Price (May 26): Buffalo gnats appeared in the tradewater section of Webster, Crittenden, and Caldwell Counties during the latter part of April and early in May, killing about 100 animals, mostly horses, mules, and cattle.

Tennessee. New York Times (News Items) (May 7): Dense swarms of Buffalo gnats, bred during high-water stages this spring, appeared last Sunday and killed 40 horses and mules in the past few days in Shelby County, officials reported today.

SHEEP

SHEEP KED (Melophagus ovinus L.)

Texas. O. G. Babcock (May 19): This wingless hypoboscid fly is rather numerous this season on sheep and goats at Sonora, Ozona Junction, in the ranch country in western Texas. This parasite has been introduced many times from the Northern States and is now becoming established, or acclimated to this hot climate. Usually it lets up during the hot season but increases as the cooler weather comes on. Complaints are becoming more numerous.

H. E. Parish (May): Sheep ticks are very abundant on several flocks of sheep in the vicinity of Menard.

POULTRY

TROPICAL RAT MITE (Liponyssus bacoti Hirst)

Mississippi. C. Lyle (May 23): Specimens of this mite were received from a correspondent at Raymond on April 22. They were causing considerable trouble.

DOGS

FOLLICLE MITE (Demodex folliculorum Simon)

Mississippi. C. Lyle (May 23): An infestation on a dog was found at West Point on May 12.

HOUSEHOLD AND STORED-PRODUCTS INSECTS

TERMITES (Reticulitermes spp.)

Rhode Island. A. E. Stene (May 28): Several complaints of termite prevalence have been sent in.

Connecticut. N. Turner (May 23): Eleven samples of winged termites, R. flavipes Kol., received and 41 infested buildings examined during the past month. Reexamination of buildings shielded with copper shows no reentry of termites.

New York. R. E. Horsey (May 13): Termites reported on May 13 to have seriously damaged old shoring of wood left in the ground around the foundations of a modern office building at Rochester.

Delaware. L. A. Stearns (May 12): Specimens of damaged wood fencing received from Leipsic.

Pennsylvania. H. E. Hodgkiss (May 27): More than the usual number of requests for assistance in controlling termites are being received.

West Virginia. L. M. Peairs (May 23): In a load of apparently fresh manure hauled in for garden use in Morgantown, winged forms of termites emerged in large numbers within a week of its delivery (about April 3) and continued to emerge for at least 6 days. Examination showed many workers, apparently in good condition, notwithstanding the disturbance to which they had been subjected. As late as May 15 the remnants of the manure heap were examined and workers were still to be found, possibly surviving individuals or a colony.

Ohio. E. W. Mendenhall (May 1): R. flavipes quite bad in some of the old houses in Summerford, Madison County.

Indiana. J. J. Davis (May 23): The usual enormous number of inquiries about termites have been received. Over 100 specific requests have been received since January.

Michigan. R. Hutson (May 20): Reports of termite damage have been received from Holland, Coldwater, Jackson, and Grand Rapids.

Tennessee. G. M. Bentley (April 18): Termites continue to be destructive in all parts of the State.



Nebraska. M. H. Swenk (May 20): Reports of damage to houses by R. tibialis Bks. were received from Buffalo and Dawes Counties, during the last month. This is the first report in Nebraska from as far northwest as Dawes County.

Oklahoma. F. A. Fenton (May 23): A large part of our correspondence deals with the question of termite control.

ANTS (Formicidae)

Virginia. H. G. Walker (May 25): What appears to be the pavement ant (Tetramorium caespitum L.) is causing severe injury to many eggplants in the Norfolk district. The ants bark the stems of the plants below ground, causing them to die.

Indiana. J. J. Davis (May 23): Ants have been frequently reported as abundant in lawns generally over the State.

Minnesota. C. Lyle (May 22): Ants in many forms are very abundant.

Nebraska. M. H. Swenk (May 20): Complaints of peonies being infested with ants were received from Dawson, Greeley, and Redwillow Counties. From Frontier County came the complaint of the common harvester ant (Pogonomyrmex occidentalis Cress.) working in a garden.

PEA WEEVIL (Bruchus pisorum L.)

North Dakota. J. A. Munro (May 18): An infestation of pea weevil in stored seed peas at Leith, Grant County, was found on April 11.

California. R. E. Campbell (May 14): Adults were numerous in a field of cannery peas in Marin County. In numerous small pods, some of them not more than 2 inches long, it was difficult to find a single pod on which there were no eggs, and many of them had 10 or 12.

BROWN SPIDER BEETLE (Ptinus brunneus Dufts.)

Connecticut. W. E. Britton (May 19): Millions of these beetles were reported as infesting grain and grain bags in New Britain.

Ohio. T. H. Parks (May 19): Specimens were received from Ross and Auglaize Counties with the statement that they were infesting houses.

LARDER BEETLE (Dermestes lardarius L.)

Minnesota. A. G. Ruggles (May 22): The larder beetle is abundant on meat at Saint Charles in Winona County.

ANGOUMOIS GRAIN MOTH (Sitotroga cerealella Oliv.)

Indiana. J. J. Davis (May 23): More than the usual number of inquiries have been received regarding infestation of Angoumois grain moth in seed corn and popcorn. Most of the inquiries refer to corn held over the second year in the southern half of the State.