I N S E C T P E S T S U R V E Y B U L L E T I N

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THE MORE IMPORTANT RECORDS FOR MAY, 1933

Outbreaks of the Mormon cricket are reported from parts of Idaho, Montana, and Washington.

Cutworms were reported from practically the entire country as doing the usual spring damage.

The chinch bug appeared in unusually heavy numbers from central Missouri to northeastern and central Oklahoma. In the more eastern part of the chinch bug belt from Ohio to Illinois very heavy rains during May materially reduced the numbers. There probably will be some trouble north of the normal range; as these insects seem to have passed the winter very successfully in Minnesota, Iowa, and South Dakota.

The corn ear worm appeared in destructive numbers over the Southern States from North Carolina to Florida and Mississippi. Over much of this territory it is badly damaging tomatoes and corn, and in North Carolina it is destroying half-grown peaches. To a lesser degree it is damaging a wide variety of crops.

Fruit aphids continued to be quite generally scarce over the greater part of the country. The rosy apple aphid, however, was occasioning some concern in the South Atlantic and South-Central States.

The eastern tent caterpillar was generally prevalent from Maine to Maryland, defoliating roadside trees and neglected orchards.

The warm weather in May resulted in heavy emergence of the plum curculio in the Middle Atlantic States. In the Southeastern States infestation was generally light.

The Mexican bean beetle has been found at Monticello, Fla., which is the first record for this State. It has also been found in southern Mississippi. These records are of particular interest, as this insect has made practically no advance southward since its original introduction into northern Alabama in 1919.

The bean leaf beetle was generally damaging beans in the South Atlantic and South Central States westward to Texas.

Heavy damage to alfalfa by the pea aphid was reported from Maryland to Kansas. Similar reports were received from the Pacific Coast.

The tobacco flea beetle was generally prevalent from Virginia and North Carolina westward to Kentucky and Tennessee.

An outbreak of the Douglas fir caterpillar was reported from the Lake Tahoe district in Nevada. The last outbreak of this insect in this district was recorded 5 years ago.

Recent surveys in Connecticut and New York State, indicate that the European pine shoot moth has increased in abundance and in some reforested areas it is a serious factor.

GENERAL FEEDERS

GRASSHOPPERS (Acrididae)

Michigan. R. Hutson (May 22): Grasshoppers are moderately abundant. Hatching in some localities.

Minnesota. A. G. Ruggles and assistants (May): Not more than 1 per cent of the grasshoppers had hatched in the Red River Valley up to May 23. (Abstract, J.A.H.)

North Dakota. J. A. Munro (May 20): Grasshoppers were reported moderately abundant in Cass County May 19. We looked over some territory southwest of Fargo and found the young hoppers hatching.

South Dakota. H. C. Severin (April 26): No hatching as yet. (May 15): Eggs of Melanoplus bivittatus Say have begun to hatch.

Wyoming. C. L. Corkins (May 10): Grasshoppers are hatching generally over northern Wyoming. Indications are for more or less serious outbreaks somewhat of a localized nature throughout the Bighorn Basin and in Sheridan County.

Texas. F. L. Thomas (April 28): Grasshoppers are very abundant along railroads and in pastures in Brazos and Burleson Counties.

Utah. G. F. Knowlton (May 22): Grasshoppers continue hatching in various parts of northern Utah, but up to date no serious outbreaks have been observed or reported. Nymphs were most abundant in the Grantsville-Dolomite areas of Tooele County. Melanoplus sp. are emerging in small numbers at Lakepoint and Dolomite in Tooele County and at Lamp in Box Elder County.

A CAMEL CRICKET (Daihinia brevipes Hald.)

Oklahoma. C. F. Stiles (May 23): The California camel back cricket is appearing in large numbers in Roger Mills and Harmon Counties. Many of the gardeners say they are feeding on vegetation, but so far I have been unable to prove this.

MORMON CRICKET (Anabrus simplex Hald.)

Montana. A. L. Strand. (May 20): An outbreak has developed in the east end of Carbon County where the insect occurred last season. An area of about 10 square miles is affected. Bands of young crickets (3-4 instars) are working down into cultivated crops from the higher range land.

Washington. L. P. Rockwood and T. R. Chamberlin (May 6): After considerable exploration of the Sand Hills northeast of Pasco, we find that Mormon crickets are quite abundant over most of an area of at least 10 square miles of range land. They appear to have originated on the south sides of the higher ridges. The crickets were in the 4th, 5th, and 6th stages, mostly 5th.

CUTWORMS (Noctuidae)

Massachusetts. A. I. Bourne (May 25): There is already considerable evidence of the presence of cutworms, but as yet no indication of their relative abundance as compared with other years.

Connecticut. W. E. Britton (May 24): Injury to asparagus (10-15 per cent) at Danielson, Brooklyn, Canterbury, and Wauregan, May 17, and to cabbage and onion (10 per cent) at Windsor Locks May 19, was reported. Also many telephone inquiries have come to the office regarding cutworms on various garden plants. Most of these are local or within New Haven County.

New York. N. Y. State Coll. of Agr. News Letter (May 22): Cutworms are very numerous and causing considerable injury in the eastern part of Suffolk County.

Georgia. C. H. Alden (May 19): Cutworms are very abundant in vegetable gardens at Cornelia.

Michigan. R. Hutson (May 22): Cutworms are very abundant.

Minnesota. A. G. Ruggles and assistants (May): Cutworms are generally abundant throughout the State. (Abstract, J.A.H.)

South Dakota. H. C. Severin (May 20): The army cutworm Chorizagrotis auxiliaris Grote is abundant and destroying small grain in the western half of the State. Many complaints are coming in from many sections of the State. Worms are moving into grain fields from surrounding pasture land, also from abandoned fields, and are cutting off grain just beneath the surface of the ground in Pukwana.

Missouri. L. Haseman (May 23): Cutworms are very abundant over much of the State. At Columbia the variegated cutworm (Lycophotia margaritosa saucia Hbn.) seems to be most important.

Kansas. H. R. Bryson (May 25): The moths of the army cutworm have been out since May 1. They are so numerous that they have become a nuisance in dwellings. Efforts to find the eggs of these moths apparently confirm the results of previous studies made with this insect that the first moths do not deposit eggs. Pupae retained for rearing purposes have not emerged.

Tennessee. G. M. Bentley (May): L. margaritosa saucia and Agrotis ypsilon Rott. are very abundant in Knox County.

Mississippi. C. Lyle (May 24): Specimens of L. margaritosa saucia were collected at Clarksdale, Coahoma County, on May 8, and sent to this office with the report that they were severely injuring bur clover, cotton, and other plants. A correspondent at Neshoba, Neshoba County, sent us specimens on May 10 with a report that they had caused severe injury to a 10-acre cotton field, one acre of which had to be replanted. Medium injury by this species to potatoes and other vegetables was reported from Guntown, Lee County, on May 3. A heavy infestation on alfalfa at Leland, Washington County,

was reported early in May. This species is moderately abundant on cotton at Meridian. The greasy cutworm (A. ypsilon) is scarce in East Jackson County, and moderately abundant in Yalobusha, Grenada, and Montgomery Counties. It is also scarce at Kosciusko, and moderately abundant at Ocean Springs, Monroe, and Wiggins, and very abundant in gardens and one cotton field in Robinsonville. Feltia gladiaria Morr. is scarce on onions at Kosciusko.

Nebraska. M. H. Swenk (April 20 to May 20): A report was received the last week in April from a Jefferson County correspondent stating that a field of alfalfa that had been planted last fall was damaged to the extent of about 50 per cent by C. auxiliaris.

Arkansas. D. Isely (May 22): At present there is an outbreak of the variegated cutworm in the northern part of the State, apparently originating in alfalfa and bur clover.

Oklahoma. C. E. Sanborn (April 25): L. margaritosa saucia was very abundant in northwest-central Oklahoma during February and March. Cutworms are moderately abundant in gardens.

Texas. J. N. Roney (March 25): Cutworms are attacking all crops planted, namely tomato, pepper, bean, and watermelon. Heavy abundance.
R. K. Fletcher (May 2): Injury by Prodenia ornithogalli Guen. was noticed scattered over 300 or 400 acres in Brazos County, although injury is not severe.
F. L. Thomas (April 28): Cutworms are scarce. Very few complaints received as yet from any part of the State, except Galveston County.

New Mexico. J. R. Eyer (April 21): Euxoa sp. are extremely abundant and destructive to alfalfa and all leafy vegetables in Dona Ana and Hidalgo Counties.

Montana. A. L. Strand (May 20): The pale western cutworm (Porosagrotis orthogonia Morr.) is much reduced in numbers from last year. Infestations of about one to the square yard occur this season, whereas in the same places in 1932 heavy damage to crops occurred. The army cutworm (C. auxiliaris) has been present in Gallatin, Cascade, and Yellowstone Counties but the amount of damage has not been large.

ARMYWORM (Cirphis unipuncta Haw.)

Maryland. W. H. Larrimer (May 29): Armyworm outbreak at Pearson, St. Mary's County, in small grain.

Virginia. C. R. Willey (May 22): Specimens were received from James City County, May 16, with the report that they were appearing in numbers, and crossing road, and moving from field to field. Many were parasitized by a tachinid.

WHITE GRUBS (Phyllophaga spp.)

New Hampshire. L. C. Glover (May 24): Two specimens were taken May 7. On the night of May 23 I took 113; it was a warm night. One other night I took 74.

Massachusetts. A. I. Bourne (May 25): The first May beetles were observed in Amherst the night of May 5-6. These have since become abundant.

Connecticut. W. E. Britton (May 24): In one case adults of P. tristis Fab. were feeding on bean foliage at New Haven.

Pennsylvania. T. L. Guyton (April 28): White grubs P. futilis Lec. and P. fervida Fab. are very abundant in the Harrisburg vicinity. (May 22): Adults are very abundant in central Pennsylvania.

Maryland. E. N. Cory (May 19): Phyllophaga spp. are quite abundant around College Park, and reports of injury have been received from Baltimore County. Blackberries and raspberries in Marlboro have been injured.

Virginia. W. J. Schoene (May 26): Complaints have been received from Giles and Pulaski Counties of injury to shade trees by May beetles. It has been reported that the foliage on some trees has been seriously injured. C. A. Willey (May 22): Phyllophaga damaged permanent bluegrass pasture last summer at Middlebrook, August County. Grubs and adults were dug up May 10. Adults are defoliating nut trees near Petersburg, roses in and around Richmond, raspberries near Norfolk, and ornamental cherries at Bristol.

Georgia. H. S. Adair (April 26): Considerable evidence of feeding has been observed in pecan orchards in the vicinity of Albany, especially in orchards which have received little or no cultivation during the past year.

Ohio. T. H. Parks (May 22): May beetles are more abundant than usual in Columbus.

Illinois. J. H. Bigger (May 13): White grubs are very abundant in western Illinois; recent survey shows larvae more abundant than in 1930.

Kentucky. W. A. Price (May 24): Adults of P. fusca Froel. and P. gibbosa Burm. have been abundant in the vicinity of Lexington during the past 3 weeks. Reports indicate that white grubs are abundant in other places in the State, especially at Muldraugh, where they were feeding on the foliage of apple trees.

Wisconsin. C. L. Fluke (May 24): White grubs are very abundant and are now moving up to the surface layer.

Minnesota. A. G. Ruggles and assistants (May): White grubs are generally prevalent throughout the State and reported as very abundant from Houston County. (Abstract, J.A.H.)

Iowa. H. E. Jaques (May): White grubs are very abundant in Osceola, Monroe, Black Hawk, Allamakee, and Clayton Counties. They are moderately abundant in Sioux, O'Brien, Buena Vista, Cass, Montgomery, Pocahontas, Union, Jasper, Poweshiek, Keokuk, Van Buren, Buchanan, Louisa, and Lee Counties.

Nebraska. M. H. Swenk (May 20): White grubs were reported doing damage in Seward and Sherman Counties during the last month. They were working in a lawn in Sherman County and were eating the roots of chrysanthemums and delphiniums in Seward County.

Mississippi. C. Lyle (May 23): On April 29 a correspondent at New Albany, Union County, reported that May beetles (P. bipartita Horn) had severely injured pecan trees. May beetles have been very abundant during the past several weeks, attacking pecans, roses, and other tender growth. They were doing serious damage to roses in Hinds County on April 28.

JAPANESE BEETLE (Popillia japonica Newm.)

New York. C. H. Hadley (May 23): The heaviest infestation in New York, which is at Long Island City, shows this spring a marked decrease in turf injury due to treatment of the turf in the large Community Courts. Many of the small private lawns still show grub injury. The heavy part of this infestation covers about 10 city blocks.

Pennsylvania. C. H. Hadley (May 23): Field surveys in the New Jersey-Pennsylvania area in May show larvae congregated near the surface of the ground and actively feeding. In general, in the older infestations a decrease in numbers is indicated as compared with the same time in 1932, but in more recently infested sections the usual increase has been experienced. A considerably greater proportion of the grubs occur at this time in the earlier stages of growth than was the case a year ago.

ASIATIC BEETLE (Anomala orientalis Waterh.)

Connecticut. W. E. Britton (May 24): Larvae ascended to the surface of the ground earlier than in some other seasons. Injury to untreated lawns is being reported every day.

New York. C. H. Hadley (May 23): The infestation in meadowland at Jericho, which was first observed in 1931, has become serious enough so that approximately half an acre of turf is now ruined and extensive plots without a living plant are not uncommon in this area.

ASIATIC GARDEN BEETLE (Autoserica castanea Arrow)

New York. C. H. Hadley (May 23): The grubs are more numerous on Long Island than they were a year ago.

Pennsylvania. C. H. Hadley (May 23): A new and quite heavy infestation has been found in the Laurel Hill Cemetery in Philadelphia.

COMMON RED SPIDER (Tetranychus telarius L.)

Mississippi. C. Lyle and assistants (May): The red spider is very abundant on strawberry and ornamentals. It is very abundant on plants in general at Ocean Springs. There is a heavy infestation on Camellia japonica in the vicinity of Pascagoula. Injury to various ornamental plants has been reported recently from Caledonia and Columbus, Lowndes County, Belzoni, Humphreys County, and Quitman, Clark County. The correspondent at Caledonia indicated that the infestation was very heavy, the arborvitae plant being almost completely enclosed in the webs.

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)

Illinois. W. P. Flint (May 20): May thus far has been very rainy, with rains of the heavy shower type occurring in all parts of the State. The rainfall is considerably above normal for this month. These rains have had a very unfavorable effect on chinch bugs since they left their winter quarters and have greatly reduced their numbers.

Minnesota. A. G. Ruggles (May 23): Chinch bugs came through the winter in good shape. They are active around Lake City and Red Wing.

Iowa. H. E. Jaques (May): The chinch bug is very abundant in Ringgold County and moderately abundant in Palo Alto, Van Buren, Henry, and Lee Counties.

South Dakota. H. C. Severin (April 26): The chinch bug is scarce.

Missouri. L. Haseman (May 23): Recent flights of chinch bugs to wheat have brought alarming numbers into the crop over much of central and northern Missouri.

Kansas. H. B. Hungerford (May 11): Chinch bugs are unusually abundant at Lawrence for this time of year. They survived the winter in large numbers.
H. R. Bryson (May 25): A heavy flight of chinch bugs occurred at Manhattan on April 29 and May 8. On May 1 the adult bugs were sufficiently numerous to cause considerable injury to spring wheat and barley in an experimental nursery. Eggs were found in the field May 5 at Manhattan, but no young bugs have been found at this writing. However, young bugs are present in fields in southern Kansas. Several reports of adults causing injury feeding at the base of corn plants have been received. At Alma and at Manhattan eggs were found at the base of corn plants. The adults also were reported injuring barley at Calista, and numerous at Argonia. Chinch bugs are more numerous at Manhattan this spring than they have been for several years.

Oklahoma. C. E. Sanborn (May 23): Chinch bugs are very abundant in the northeastern and central parts of the State. Young are now hatching.
C. F. Stiles (May 23): No doubt we have the worst outbreak we have had in the past 15 years. All of the central and northeastern part of the State is heavily infested; the infestation centers around Creek County. It is almost impossible to examine any field without finding the bugs in large numbers. In some instances corn is heavily infested, there being as many as 50 bugs on a plant. At this time the bugs are depositing eggs and a few have already hatched. Some oat fields have already been plowed up.

Texas. R. K. Fletcher (April 27): This insect is abundant throughout a cornfield near College Station, but injury is not yet apparent. Corn is 12 to 15 inches high.

HESSIAN FLY (Phytophaga destructor Say)

Kansas. H. R. Bryson (May 25): The Hessian fly was a factor in the winter killing of wheat by weakening the plants, making them less resistant to low temperature. The fly was especially injurious in Russell County, where many fields were killed 80 to 100 per cent. The spring brood of fly at Manhattan is not as heavy as might have been expected, judging from the fall infestation. Parasites appear to have been a factor since large numbers of them have been found.

CORN

CORN EAR WORM (Heliothis obsoleta Fab.)

North Carolina. R. W. Leiby (May 20): Larvae of what is regarded as this moth are reported as burrowing in and destroying half-grown peaches of the Carmen and Early Rose varieties in a few commercial orchards near Candor. The larvae apparently transferred their activities to peach fruit when vetch grown in the orchards was plowed under.

Florida. E. W. Berger and G. B. Merrill (May 23): The corn ear worm is very abundant at Gainesville; injury is unusually severe in some early plantings.

Alabama. J. M. Robinson (May 20): The corn ear worm is moderately abundant on tomato at Brewton and Dothen, and moderately abundant at Auburn.

Kansas. H. R. Bryson (May 25): First moths of corn ear worm were taken at light on May 18.

Arkansas. D. Isely (May 22): The corn ear worm is moderately abundant on alfalfa and vetch.

P. D. Sanders (May 24): Young larvae of the corn ear worm were feeding on the foliage of tomato plants in the fields and on the more mature plants, where fruits had formed; were tunneling into them at Nashville. There are approximately 150 acres of early tomatoes planted in this section for shipment to northern markets. Damage to the crop set is serious.

Louisiana. C. F. Smith and P. K. Harrison (April 27): The larvae of Heliothis, which were probably largely or wholly obsoleta, were unusually abundant at Baton Rouge and outlying vicinities during April. Crops observed infested included cabbage, strawberry (ripening fruit), corn, tomato, soybean, broad bean, and alfalfa. The most severely infested corn and soybeans were growing on land following winter vetch and were planted the same day (March 27) the vetch was plowed under.

Mississippi. C. Lyle and assistants (May): The corn ear worm was causing severe damage to sweet corn in east Jackson County. It was also recorded from Copiah, Stone, Forrest, and Rankin Counties, where it was damaging tomatoes. In Rankin County the damage to tomatoes was unusually severe. On many plants every fruit was infested. (Abstract, J.A.H.)

Texas. F. L. Thomas (April 28): Eggs of the corn ear worm have been more abundant this year in Brazos County in corn and alfalfa than they were 1932.

SOUTHERN CORN STALK BORER (Diatraea crambidoides Grote)

South Carolina. O. L. Cartwright (May 22): Adults are emerging in numbers at Clemson College.

CORN BILLBUGS (Calendra spp.)

South Carolina. O. L. Cartwright (May 22): Corn billbugs (C. cariosus Oliv.) are causing much injury at Florence.

Florida. J. R. Watson (May 26): The billbug is causing considerable damage to corn in various parts of the State, mostly northern counties.

Alabama. J. M. Robinson (May 20): Corn billbugs are abundant on corn at Oneonta and Troy.

SPOTTED CUCUMBER BEETLE (Diabrotica duodecimpunctata Fab.)

Georgia. O. I. Snapp (May 18): Young cucumbers at Fort Valley have been badly damaged.

Kansas. H. R. Bryson (May 25): The first adults of the year were seen on May 10. They are quite numerous at Manhattan in alfalfa and in clumps of volunteer corn.

Louisiana. C. E. Smith and P. K. Harrison (April 27): At Baton Rouge corn has received from slight to very severe damage by the larva. The injury was especially severe, amounting to 80 per cent or more of the stand, to corn planted March 27 on land following winter vetch which was plowed under immediately preceding the planting of the corn. The major portion of the injury occurred during the period from April 8 to 20, and some is still in progress. The first young spring-brood beetles were observed in the field at Baton Rouge on April 12.

Texas. P. K. Fletcher (April 27): Earliest planted corn was very seriously injured at the College Station.

ALFALFA

ALFALFA WEEVIL (Hypera postica Gyll.)

California. A. E. Michelbacher (May 19): The alfalfa weevil is very abundant in the Pleasanton area. Counts of several hundred (300 to 800) are being taken per 100 sweeps on the second crop, which is from one-quarter to one-half grown. In the Niles area the weevil can be collected with ease and the number of larvae and adults taken per 100 sweeps ranges around 100. In the Tracy area, as a general thing, only a few individuals can be collected per 100 sweeps. Of the adults collected in all three regions, the greatest percentage are of the spring generation. Larvae in all stages may be found in the fields at the present time.

GRASS

A SOD WEBWORM (Crambus sp.)

Nebraska. M. H. Swenk (April 20 to May 20): Injury to a lawn by sod webworms was reported from Scotts Bluff County the second week in May.

SUGARCANE

SUGARCANE BEETLE (Euetheola rugiceps Lec.)

Alabama. J. M. Robinson (May 20): The sugarcane beetle is moderately abundant on sugarcane at Frisco City and Elmore, and on corn at Excel and Anniston.

Louisiana. W. E. Hinds (April 28): Sugarcane beetles appear to be unusually widely distributed and are doing considerable damage. Egg laying began about the first week of April and newly hatched larvae were found in the field the middle of April.

J. W. Ingram (May 22): The sugarcane beetle began attacking young cane shoots during the latter part of March. Injury reached the maximum during the latter part of April and the first part of May, and has been decreasing since that time. While injury can be found throughout the State, the major injury, as in past years, has occurred in St. Mary, St. Martin, Lafayette, and Iberia Parishes. Large areas have had over 25 per cent of the plants killed. Injury is heavier than it was in 1932 but not so heavy as it was in 1931.

Mississippi. C. Lyle and assistants (May): This insect was recorded severely injuring corn in the vicinity of Hattiesburg and Utica during the latter part of the month. (Abstract, J.A.H.)

SUGARCANE ROOTSTOCK WEEVIL (Anacentrinus subnudus Buchanan)

Louisiana. W. E. Hinds (April 28): Sugarcane root-stock weevils occurring in stubble cane in Lafayette Parish appear to be a factor in the poor stands of cane which are being secured on some areas of well drained soil, as reported by Mr. C. B. Gouaux.

WIREWORMS (Elateridae)

Florida. T. E. Holloway (May 18): A correspondent reports that wireworms are injuring sugarcane in the Everglades. One 40-acre field shows a loss of 50 per cent. Replantings have been necessary to procure a stand at the State Experiment Station.

SUGARCANE BORER (Diatraea saccharalis Fab.)

Florida. T. E. Holloway (May 18): Reports from reliable observers in the Everglades indicate that great damage is being done by the sugarcane borer.

Louisiana. W. E. Hinds (April 28): Sugarcane borer moths began emerging about April 1 at Baton Rouge, and somewhat earlier, probably about March 20 in southern Louisiana. Eggs were first found April 6 at Baton Rouge. Among about 1,500 borer eggs collected to April 17 no Trichogramma parasitism was found and no Trichogramma in some 800 Lepidopterous eggs of other species up to that date.

T. E. Holloway (May 18): The sugarcane borer is slow in reaching harmful numbers this year.

Mississippi. T. E. Holloway and W. E. Haley (May 18): No indication of the presence of the sugarcane borer was found in an inspection of cane fields along the Mississippi Coast.

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

FALL WEBWORM (Hyphantria cunea Drury)

Georgia. J. B. Gill (May 25): The first brood of the fall webworm is unusually heavy and is destroying much foliage in pecan orchards of south Georgia. The insect is also common on persimmon, sweet gum and other trees along the edge of woodlands.

Ohio. T. H. Parks (May 12): Moths were brought to the office with the statement that they were present in a basement and coming into the living rooms of a dwelling house at Columbus. Upon inquiry it was learned that elm trees in the yard were badly infested last summer. These probably crawled into the basement to pupate. Emergence was somewhat earlier than would be expected out of doors.

Mississippi. C. Lyle and assistants (May): The fall webworm was first observed on gum trees in the vicinity of Lucedale, George County, on May 18.

A SCARABAEID (Hoplia trifasciata Say)

Massachusetts. A. I. Bourne (May 25): We received collections from Hampden County in the western part of the State and from Bristol County in the eastern part. These beetles were found in large numbers feeding on foliage of various fruit trees. It is not uncommon to find them present on foliage of fruit trees, but we have seldom had complaints of their presence there in such abundance.

APPLE

APHIDS (Aphiidae)

Massachusetts. A. I. Bourne (April 27): We found the apple aphid (Aphis pomi DeG.) first making its appearance about the 18th to the 20th of the month. Thus far throughout the State there has been little evidence of plant lice. Colonies that we have observed have been for the most part the grain aphid, Rhopalosiphum prunifoliae Fitch, and in general, wherever there have been colonies in an orchard, various species of lady beetles have been attracted and are disposing of them rapidly.

New York. N. Y. State Coll. of Agr. News Letter (May): Throughout May aphids were in general very scarce. Both green, A. pomi, and apple grain aphids, R. prunifoliae, were outnumbered by the rosy apple aphid, Anuraphis roseus Baker, over the greater part of the State. Hatching of the rosy apple aphid was practically completed by the last week in April in the western half of the State. By the middle of the month the rosy apple aphids had developed quite a population, however, and in some parts of the State appeared threatening. (Abstract, J.A.H.)

ROSY APPLE APHID (Anuraphis roseus Baker)

Maryland. E. N. Cory (May 22): The rosy apple aphid is very abundant.

Virginia. W. J. Schoene (May 26): Rosy aphids are very numerous all through the central portion of the State. As a general rule the injury is restricted to sections of orchards rather than to whole orchards.

South Carolina. W. C. Nettles (May 22): The rosy apple aphid is causing considerable damage at Clemson College.

Kentucky. W. A. Price (May 24): Rosy apple aphids have been abundant in many orchards of the State. Reports indicating injury have been received from Williamsburg, Pineville, Louisville, and Owensboro.

Missouri. L. Haseman (May 23): Some rosy aphids are showing up in the central and northwestern part of State, though not serious.

CODLING MOTH (Carpocapsa pomonella L.)

New York. N. Y. State Coll. of Agr. News Letter (May 15): In Ulster County on May 9 codling moth was found under bark in the pupal stage.
P. J. Parrott (May 22): The codling moth is moderately abundant to very abundant in western New York. Fifty per cent of the larvae have pupated.
P. J. Chapman (May 23): First codling moth captured in the field May 22.

Pennsylvania. H. N. Worthley (May 24): The codling moth is moderately abundant at State College. The first emergence of adults occurred on May 15 at Biglerville, Adams County, and on May 19 at State College, in Centre County. Warm weather the past few days has produced the first peak flight. Approximately 20 per cent of the spring brood had emerged on May 24 at State College.

Delaware. L. A. Stearns (May 25): Ninety eight per cent of the overwintering larvae had pupated May 25; first emergence of spring-brood moths April 29; heavy emergence about May 20; first eggs May 16; first larvae May 24.

South Carolina. O. L. Cartwright (May 22): First eggs at Clemson College May 3.

Georgia. C. H. Alden (May 19): The codling moth is scarce at Cornelia. Light first-brood injury. First-brood moths will be emerging around June 1.

Ohio. T. H. Parks (May 22): Emergence of spring-brood moths commenced May 12 in Lawrence County, southern Ohio, and has progressed rapidly since.

Indiana. J. J. Davis (May 26): First codling moths were reported at Vincennes May 3, but unfavorable weather following stopped emergence for some days. At Bedford, the first moths appeared at bait traps May 11, and the first eggs were laid May 15. We can usually figure on 14 days between egg laying and hatching, but with the unusually favorable conditions the eggs began hatching at Bedford May 23. The moths are coming out with a rush in southern Indiana, and it is likely that we will have one very large peak instead of two peaks for the first brood. There is a great abundance of codling moths throughout southern Indiana.

Illinois. W. P. Flint (May 20): The winter survival was not quite as great as has been the case during the past two years. From 50 to 75 per cent of the larvae survived in most cases. More emergence has been going on in southern Illinois for the past two weeks, and it is estimated that the first hatch will occur in the southern end of the State on the 17th or 18th. By the end of the month the first brood will be hatching up to the north-central part of the State. Nearly all overwintering larvae have pupated and we expect from present indications that the first brood will be rather bunched.

Missouri. L. Haseman (May 23): Emergence began in southern Missouri May 1, in central Missouri May 8, at Columbia May 17, and in northern counties May 19.

New Mexico. J. R. Eyer (April 21): Codling moths are very abundant.

Wyoming. C. L. Corkins (May 10): Control measures are applied only occasionally in Wyoming. This appears to be one of the years when control is justifiable. A good crop last year, followed by an exceedingly hot, dry summer, with a rising infestation of the moths, laid the foundation for trouble this year.

Idaho. R. W. Haegele (May 22): Beginning of spring emergence of moths occurred three weeks later than normal in southwestern Idaho.

Washington. E. J. Newcomer (May 23): This is the latest season since 1922, as a result of almost continuous cool, cloudy weather since April 29. Practically no moths have been caught in baits in Yakima Valley.

Oregon. D. C. Mote (May 9): B. G. Thompson reports development slow; only a few have pupated.

EASTERN TENT CATERPILLAR (Malacosoma americana Fab.)

Maine. C. R. Phipps (May 25): The eastern tent caterpillar is very abundant throughout the State. Nearly every unsprayed apple and cherry tree in western Maine is infested.
H. B. Peirson (May 15): The eastern tent caterpillar is very abundant in general over the State. Hatching started April 25 in Augusta.

New Hampshire. L. C. Glover (May 24): The eastern tent caterpillar is very abundant, fully as much so as last year. Mr. Conklin reported them last year, and thinks they will be about the same this year, possibly a little more abundant. Bacterial wilt disease is evident in some of the webs.

Vermont. H. L. Bailey (May 27): Eastern tent caterpillars are very abundant; more plentiful in general about the State than they have been since 1915.

Massachusetts. A. I. Bourne (May 25): The tent caterpillar seems to be present in greater abundance than for the last few years. This is particularly true of the eastern part of the State. Throughout practically all of that section the pest is present in great abundance along roadsides, particularly on the wild cherry, and on uncared-for fruit trees. A slight amount of evidence of its presence is found in some of the commercial orchards, although the regular system of spraying gives it little chance to make any headway.

Connecticut. W. E. Britton (May 24): Considerably more abundant throughout the State than it was last year.

New York. R. D. Glasgow (May 23): The eastern tent caterpillar is unusually abundant throughout eastern New York. I have personally observed this insect in notable abundance from Long Island north to Elizabethtown, and I have seen unsprayed apple trees 15 to 20 years old completely defoliated.
N. Y. State Coll. of Agr. News Letter (May): In general the tent caterpillars are much more abundant than they were last year throughout the State. Their

nests are very conspicuous in wild cherry and other roadside trees and in neglected orchards. Entire defoliation was observed in many places by the middle of the month. (Abstract, J.A.H.)

Pennsylvania. T. L. Guyton (May 22): The eastern tent caterpillar is very abundant generally over the State.

Delaware. L. A. Stearns (May 25): The eastern tent caterpillar is very abundant in the northern part of the State. The first brood is about mature.

Maryland. E. N. Cory (May 23): Heavy infestations in Prince Georges, Montgomery, Anne Arundel, Howard, Baltimore, Harford, Cecil, Dorchester, Wicomico, Caroline, Charles, Garrett, Frederick, Alleghany, and Calvert Counties, but not so heavy in Talbot, Kent, Carroll, Queen Annes, Worcester, Somerset, and Washington Counties. St. Marys County not yet heard from.

Tennessee. G. M. Bentley (May): Eastern tent caterpillars are very abundant. Adults are emerging.

FRUIT TREE LEAF ROLLER (Cacoecia argyrospila Walk.)

Connecticut. P. Garman (May 24): This insect is present in considerable numbers in two of the largest orchards of New Haven County. It appears in general to be on the increase.

New York. N. Y. State Coll. of Agr. News Letter (May): During a warm spell which occurred the first week in May leaf roller hatching reached its peak in eastern New York and the hatch was starting that week in the western half of the State. In general this insect is more prevalent than it was last year throughout the State. (Abstract, J.A.H.)

California. E. O. Essig (May 22): Fruit tree leaf rollers are very abundant in the San Francisco Bay region on apricots and prunes.

EYE-SPOTTED BUDMOTH (Spilonota ocellana Schiff.)

New York. N. Y. State Coll. of Agr. News Letter (May): During the first week in the month damage was noticeable in the Hudson River Valley: Bud development was very rapid in the western part of the State, and very little injury occurred in that region. By the end of the month some damage was observed in eastern New York. (Abstract, J.A.H.)

Pennsylvania. H. N. Worthley (May 19): Overwintered larvae are now one-half to three-fourths grown at State College.

BUFFALO TREEHOPPER (Ceresa bubalus Fab.)

New York. N. Y. State Coll. of Agr. News Letter (May 22): A buffalo treehopper nymph was noted on May 19 in Clinton County. They were first noted in Essex County on May 18.

Pennsylvania. H. N. Worthley (May 19): Oviposition scars are abundant on young trees, where there is an alfalfa cover crop at State College. Eggs are nearly ready to hatch.

Nebraska. M. H. Swenk (April 20 to May 20): The buffalo treehopper was reported injuring apple and peach trees in Clay County the last week in April.

LEAFHOPPERS (Cicadellidae)

Massachusetts. A. I. Bourne (May 25): In general the infestation of leafhoppers seems to be rather light as yet.

Connecticut. P. Garman (May 24): Apple leafhoppers (Typhlocyba pomaria McAtee) are generally late in emerging from eggs on bark in New Haven County. It is still impossible to tell how abundant they will be.

New York. N. Y. State Coll. of Agr. News Letter (May): During the latter part of the month T. pomaria developed in rather large numbers, and some stippling of leaves was observed in the eastern part of the State. Black leafhopper nymphs (Idiocerus provancheri Van D.) were first found on May 4 in Ulster County. (Abstract, J.A.H.)
P. J. Parrott (May 22): The apple leafhopper, T. pomaria, is moderately abundant in western New York.

APPLE REDBUG (Lygidea mendax Reut.)

New York. N. Y. State Coll. of Agr. News Letter (May): Redbugs began hatching in the lower Hudson River Valley the first week in May. By the middle of the month they were quite plentiful in this region and by the third week in the month were appearing in serious numbers in the western part of the State. (Abstract, J.A.H.)

SAN JOSE SCALE (Aspidiotus perniciosus Comst.)

Pennsylvania. T. L. Guyton (April 28): The San Jose scale is scarce in Franklin County, and very abundant in central Pennsylvania.

South Carolina. W. C. Nettles (May 22): The San Jose scale is very abundant at Clemson College. It is severe on apples even in sprayed orchards.

Mississippi. C. Lyle and assistants (May): San Jose scale is generally prevalent throughout the State and was reported as very abundant during May in Monroe County and the northern half of the State. It was reported on apple at Biloxi, Harrison County, April 18; on hawthorn at Corinth, April 28. (Abstract, J.A.H.)

Oregon. B. G. Thompson (May 9): San Jose scale infestation is apparently more serious than last year at Cottage Farm, Salem.

A SCARABAEID (Serica sericea Ill.)

Maine. C. R. Phipps (May 25): S. sericea is reported feeding on apple foliage. It has previously been reported feeding on blueberry leaves and buds (1931-32).

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

Connecticut. P. Garman (May 25): This mite is present in considerable numbers in several orchards visited in New Haven County.

New Hampshire. L. C. Glover (May 24): European red mite hatched the week of May 8.

Massachusetts. A. I. Bourne (May 25): The overwintering eggs were observed to be hatching on May 1, and between that date and May 4 they had hatched very generally throughout the State.

New York. N. Y. State Coll. of Agr. News Letter (May): During the last few days in April red mites began hatching in the Hudson River Valley. By the first week in May they were out in numbers and apparently more abundant than last year. By the end of the month considerable bronzing was observed in the Hudson River counties. (Abstract, J.A.H.)

PEACH

ORIENTAL FRUIT MOTH (Grapholitha molesta Busck)

Connecticut. P. Garman (May): Damage is not yet apparent, but we are expecting a large number in orchards because of the mild winter. Moths are just emerging.

New York. P. J. Parrott (May 22): The oriental fruit moth is moderately to very abundant in western New York; emerging in large numbers.

Delaware. L. A. Stearns (May 25): Overwintered larvae 100 per cent pupated May 5; peak of spring brood emergence April 30 to May 4; first eggs April 28; first larvae May 5. Twig injury conspicuous May 22-24.

South Carolina. W. C. Nettles (May 22): The oriental fruit moth is severe in peach orchards in Clemson College and Greer.

Georgia. O. I. Snapp (May 19): Considerable twig injury in one orchard at Culloden.:
W. H. Clarke (May 14): The first adults of the first brood emerged today from field material collected at Thomaston. Twig infestation is light to moderate. (May 20): Oriental fruit moth is moderately abundant at Thomaston. First-brood adults are emerging.

Tennessee. H. G. Butler (May 22): The earliest first-brood moths emerged today from twigs collected May 6 and 8 at Harriman.

Mississippi. C. Lyle (May 23): A small peach tree at Wiggins, Stone County, was reported on May 20 to be heavily infested with the oriental fruit moth. Injury to peach trees was also reported from New Albany, Union County, on April 20.

PLUM CURCULIO (Conotrachelus nenuphar Hbst.)

Massachusetts. A. I. Bourne (May 25): The plum curculio is emerging from hibernation and coming into the orchards in rather large numbers. We have just begun to note, within the last two or three days, the first evidence of feeding and egg-laying scars on cherries and plums.

New York. N. Y. State Coll. of Agr. News Letter (May): The first plum curculio to be jarred from a tree in the eastern part of the State was collected May 11. This is the same date that the first beetle was collected last year. During the last week in May feeding punctures were found on cherries and pears. (Abstract, J.A.H.)

Delaware. L. A. Stearns (May 25): First emergence of plum curculio from hibernation April 18; peak May 9; first-brood grubs three-fourths mature and drop of infested peaches began May 24.

Maryland. E. N. Cory (May 22): The plum curculio is moderately abundant. It is late in emerging in numbers at Hancock.

North Carolina. P. D. Sanders (May): Slight damage by overwintering beetles is noted in the Nashville district. Larvae were entering soil in small numbers May 11.

Georgia. O. I. Snapp (May 18): Full-grown larvae began to leave peach drops on April 29, and the peak of first-brood larvae emergence occurred on May 7 at Fort Valley. The first pupation of the season was recorded on May 18. Pupation is earlier than in 1932, and a second brood of this insect is expected here this year. The general infestation is heavier than last year, but lighter than that of an average year. (May 21): Emergence of Triaspis curculionis Fitch, a common hymenopterous parasite of curculio larvae, started today. Parasitism is expected to be heavier than usual on account of the high percentage of small curculio larvae this year.
G. F. Moznette and H. S. Adair (April 26): The plum curculio is reported by local peach growers as being much less abundant in this locality (Albany) than in former years. The infestation was so light that the first spray was omitted. The small number early in the season is probably due largely to the total absence of a peach crop during 1932 in this locality.
C. H. Alden (May 19): The plum curculio is moderately abundant at Cornelia. There is 20 per cent infestation in sprayed drops, 73 per cent infestation in unsprayed drops.

Illinois. J. H. Bigger (May): May 18 at Grafton I saw feeding which appeared to be 2 to 3 days old. Oviposition cuts were also present.

Wisconsin. C. L. Fluke (May 24): Specimens have been collected since May 15.

Tennessee. G. M. Bentley (May): The plum curculio is moderately abundant throughout the peach and apple district.

Missouri. L. Haseman (May 23): The plum curculio is less abundant than usual in central Missouri. It began work May 16.

Arkansas. P. D. Sanders (May 24): Pupae were found in cages today at Nashville. Two broods are almost sure to occur since the commercial crop of peaches does not move until July 15 - 20.

Mississippi. C. Lyle and assistants (May): The plum curculio is reported as very abundant throughout the greater part of the State.

CAMBIUM CURCULIO (Conotrachelus anaglypticus Say)

South Carolina. W. C. Nettles and O. L. Cartwright (May 22): The cambium curculio (C. anaglypticus) is more abundant in College orchards than during the last four years.

Georgia. O. I. Snapp (May 13): A few individuals of this species are being found in peach orchards during jarring operations at Fort Valley for C. nenuphar.

A CHRYSOMELID (Crepidodera erythropus Melsh.)

Ohio. T. H. Parks (May 3): The red-legged flea beetle was sent in late in April with the statement that the beetles were seriously injuring buds and foliage on peach trees in Scioto County.

RUSTY PLUM APHID (Hysteroneura setariae Thos.)

Tennessee. H. G. Butler (May 1): An infestation of the rusty-brown plum aphid was found on peach April 28. This infestation was found on the property of one of the better orchardists and is reported by him to be the first he has seen. I have not previously found this insect at Harriman in the past 3 years. This is thought to be the first record of this insect as a peach pest in this district. These insects are to be found on only a few trees.

PEAR

PEAR MIDGE (Contarinia pyrivora Riley)

New York. N. Y. State Coll. of Agr. News Letter (May): The pear midge was flying in large numbers the last week in April in the Hudson River Valley and by the third week in the month damage was more general and serious than usual in several parts of the valley. (Abstract, J.A.H.)

PEAR LEAF-CURLING MIDGE (Dasyneura pyri Bouche)

New York. N. Y. State Coll. of Agr. News Letter (May 22): Small maggots of the pear leaf-curling midge were found in Ulster County on May 18.

PEAR PSYLLA (Psyllia pyricola Foerst.)

Massachusetts. A. I. Bourne (April 27): We found the first few eggs of the pear psylla about the 18th or 20th of the month.

New York. N. Y. State Coll. of Agr. News Letter (May): During the first week in May psylla eggs were hatching in the eastern part of the State and egg laying was practically completed by that time in the western part of the State. By the third week in the month they were quite numerous in unsprayed orchards; they were inconspicuous elsewhere. (Abstract, J.A.H.)

PEAR THRIPS (Taeniothrips inconsequens Uzel)

New York. N. Y. State Coll. of Agr. News Letter (May): In the lower Hudson River Valley the pear thrips did considerable damage this year and was more troublesome than usual. (Abstract, J.A.H.)

PEAR LEAF BLISTER MITE (Eriophyes pyri Pgst.)

New York. N. Y. State Coll. of Agr. News Letter (May): The first blister mite to be observed this year was seen in Ulster County May 3. By the 15th it was quite in evidence in Wayne and Oswego Counties in western New York. (Abstract, J.A.H.) The pear leaf blister mite did considerable damage during the latter

part of the month in Orange, Dutchess, and Columbia Counties in the Hudson River Valley. (Abstract, J.A.H.)

CHERRY

BLOSSOM ANOMALA (Anomala undulata Melsh.)

Ohio. T. H. Parks (May 10): Swarms of these beetles attacked cherry trees on a farm near Barnesville and badly injured the blossoms in a short time.

BLACK CHERRY APHID (Myzus cerasi Fab.)

New York. N. Y. State Coll. of Agr. News Letter (May): The black cherry aphid was very abundant throughout the State. In most of the commercial sections control measures were necessary. (Abstract, J.A.H.)

PLUM

PEAR THRIPS (Taeniothrips inconsequens Uzel)

Oregon. D. C. Mote (May 9): Nymphs of the prune thrips, T. inconsequens, were emerging on April 25 in numbers near Albany. A few adult thrips were still emerging May 5.

RASPBERRY

A MITE (Eriophyes sp.)

Mississippi. C. Lyle (May 23): Heavy infestations of galls caused by Eriophyes sp. on Youngberry plants were reported from New Augusta, Perry County, on May 9, and from Orange Grove, Jackson County, on May 19.

GRAPE

GRAPE SCALE (Aspidiotus uvae Comst.)

Virginia. C. R. Willey (May 22): The grape scale is moderately abundant at Richmond. The first "crawlers" were noticed May 21.

GRAPE LEAFHOPPER (Erythroneura comes Say)

New York. N. Y. State Coll. of Agr. News Letter (May 22): A few adults were seen in Orange County.

Delaware. L. A. Stearns (May 25): The grape leafhopper is much more abundant in emergence from hibernation than it was in 1932.

CURRANT

IMPORTED CURRANT WORM (Pteronidea ribesi Scop.)

New York. N. Y. State Coll. of Agr. News Letter (May): The imported currant worm was unusually abundant in Orange and Ulster Counties. (Abstract, J.A.H.)

CURRANT FRUIT FLY (Epochra canadensis Loew)

Oregon. D. C. Mote (May 9): The currant fruit fly is emerging. Gooseberries were beginning to set at Corvallis on April 18. (S. C. Jones.)

CURRANT APHID (Myzus ribis L.)

New York. N. Y. State Coll. of Agr. News Letter (May): These aphids were observed hatching during the last week in April in the lower Hudson River Valley in Ulster County. They were not unusually abundant however. (Abstract, J.A.H.)

PECAN

PECAN NUT CASE BEARER (Acrobasis caryae Grote)

Georgia and Florida. C. F. Moznette and H. S. Adair (April 24): The characteristic spring shoot injury caused by this insect has been very difficult to find on pecan trees this season at Monticello, Fla., and Baconton, Leesburg, Cairo, and Albany, Ga. This condition indicates that this insect may not be abundant enough during the first generation to cause serious damage to the nut crop.

Texas. F. L. Thomas (April 24): Pecan nut case bearers are very scarce this year in the Brazos River bottoms of Brazos and Ft. Bend Counties.

PECAN LEAF CASE BEARER (Acrobasis palliolella Rag.)

Georgia. J. B. Gill (May 25): The pecan leaf case bearer has caused rather serious damage to bearing pecan orchards in southern Georgia.

Mississippi. C. Lyle and assistants (May): Heavy infestations of the pecan leaf case bearer in the Gulf counties. (Abstract, J.A.H.)

PECAN CASE BEARER (Mineola juglandis LeB.)

Georgia and Florida. G. F. Moznette (May): In some localities where pecan growers did not spray for this insect last season considerable damage is being done. In the vicinities of Monticello, Fla., and Cairo and Albany, Ga., where this insect is abundant, damage is not only noticeable on the buds and foliage, but the spring shoots are being damaged, and in many instances complete severing of the shoots at the base is observed.

HICKORY SHUCK WORM (Laspeyresia caryana Fitch)

Georgia. H. S. Adair (April 24): Fourth-instar larvae were observed feeding in phylloxera galls on the leaf stems of hickory at Albany. Although moths have been observed in pecan orchards throughout the month, no larval feeding has been recorded and only a single egg was found on pecan leaves April 21.

SMALLER WEBWORM (Tetralopha subcanalis Walk.)

Georgia. J. B. Gill (May 25): The caterpillar T. subcanalis is occurring more commonly on pecan trees of Albany than in former years.

BLACK PECAN APHID (Melanocallis caryaefoliae Davis)

Georgia. G. F. Moznette (April 20): Viviparous forms of this aphid were found present on pecan foliage on this date at Albany.

OBSCURE SCALE (Chrysomphalus obscurus Comst.)

Mississippi. C. Lyle and assistants (May): One of the heaviest infestations that I have ever seen was noticed on a pecan tree at Vicksburg on May 9. The scale was injuring the tree seriously.

PECAN PHYLLOXERA (Phylloxera devastatrix Perg.)

Mississippi. C. Lyle and assistants (May): A heavy infestation was noticed on a pecan tree in Vicksburg on May 9. The tree seemed to be weakened some from the infestation.

C. Lyle (May 23): Numerous complaints regarding phylloxera galls on pecan have been received at this office since May 1. Correspondents in Quitman, Claiborne, Warren, and Jefferson Counties have reported heavy infestations. On May 11 a very severe infestation was found on a pecan tree near Utica, almost every leaf being infested.

CITRUS

CITRUS WHITEFLY (Dialeurodes citri Ashm.)

Mississippi. C. Lyle and assistants (May): The citrus whitefly is scarce in Marion, Lamar, Forrest, Pearl River, Yalobusha, Grenada, and Montgomery Counties Itwas moderately abundant in southwestern Mississippi, Ocean Springs, Meridian, and Wiggins. (Abstract, J.A.H.)

GREEN CITRUS APHID (Aphis spiraecola Patch)

Florida. J. R. Watson (May 26): The green citrus aphid is very scarce at the present time, due to the fact that there is very little growth on citrus trees because of the drouth, and the fungus disease Empusa was very active in April.

CITRUS RUST MITE (Phyllocoptes oleivorus Ashm.)

Texas. S. W. Clark (April 10): P. oleivorus is extremely abundant on citrus at Weslaco.

Mississippi. C. Lyle and assistants (May): The citrus rust mite is moderately abundant in Marion, Lamar, Forrest, and Pearl River Counties.

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

SEED CORN MAGGOT (Hylemyia cilicrura Rond.)

Virginia. C. R. Willey (May 22): The seed corn maggot is damaging corn in lowlands at Irwin, Goochland County. Specimens were brought in May 18.

South Dakota. H. C. Severin (May 20): The radish and seed corn maggot is unusually abundant over the State.

Alabama. K. L. Cockerham (May): In examining two plats of early-planted Irish potatoes at Foley it was noticed that severe damage was being done by a maggot to the seed pieces in one plat. Random examinations showed 40 per cent of the seed pieces attacked. It is affecting the stand and the vitality of the young sprouts. The damage was confined to the plat on which potatoes were planted on February 22. There was no damage whatever noted on the other plat which had been planted on February 15. Determined by C. T. Greene as Hylemyia sp.

Mississippi. C. Lyle (May 23): Specimens were sent to us from Corinth, Alcorn County, on May 3, with a report that they were destroying stands of beans.

Utah. G. F. Knowlton (May 20): Seed corn maggots are seriously damaging a few fields of corn in the vicinity of Salt Lake City. The cold, backward spring has noticeably retarded germination of corn and various other crops.

A MOLE CRICKET (Scapteriscus acletus R. & H.)

Alabama. J. M. Robinson (May 20): Mole crickets are abundant in gardens at Silas.

Mississippi. C. Lyle (May 23): Complaints regarding injury by mole crickets to garden crops were received recently from Harrison and Jackson Counties.

FLEA BEETLES (Halticinae)

Maine. C. R. Phipps (May 25): Flea beetles are very abundant on vegetables.

New York. P. J. Parrott (May 22): Cabbage flea beetles are very abundant in western New York.
N. Y. State Coll. of Agr. News Letter (May 22): Flea beetles are very numerous and causing considerable injury in Suffolk County.

Maryland. E. N. Cory (May 20): Reports from County Agents indicate that flea beetles have been quite serious on tobacco.

Ohio. N. F. Howard (May 24): Flea beetles have not yet become abundant in central or southeastern Ohio, in contrast with a year ago when they were very abundant and very injurious on vegetable crops.

Nebraska. M. H. Swenk (April 20 to May 20): A report of the western cabbage flea beetle (Phyllotreta pusilla Horn) was received from Clay County.

Alabama. J. M. Robinson (May 20): Flea beetles are moderately abundant on sweetpotato at Bessemer.

Mississippi. C. Lyle and assistants (May): Flea beetles P. vittata disceedens Weise were abundant on eggplants at Durant, Holmes County, on May 9, and at Greenwood, Leflore County, May 22. Flea beetles were also noted doing considerable damage to eggplant in Lincoln County. A correspondent at Tupelo, Lee County, reported on May 15 that two rows of mustard had been severely injured by them. Black flea beetles are very abundant on sweetpotato at Ocean Springs, Jackson County. (Abstract, J.A.H.)

Louisiana. W. E. Hinds (April 28): Striped flea beetles (P. vittata Fab.) are abundant at Baton Rouge and seriously injurious to turnips.

FALSE CHINCH BUG (Nysius ericae Schill.)

Kansas. H. R. Bryson (May 25): This insect was reported causing injury to radishes, mustard, potatoes, and other garden crops at Sedan, Eureka, Winfield, and Manhattan, May 10 to 15.

A SLUG (Limax sp.)

Tennessee. J. U. Gilmore and J. Milam (May 16): For the first time at Clarksville this pest attacked tobacco transplanted to the field. Ten to 15 slugs were found per plant and serious defoliation was prevented by prompt application of remedial measures.

POTATO

COLORADO POTATO BEETLE (Leptinotarsa decemlineata Say)

Virginia. C. R. Willey (May 22): The Colorado potato beetle is reported at Montpelier and in Hanover County. One man reported these "eating up" potatoes in this section.
H. G. Walker (May 26): Colorado potato beetles are very abundant at Norfolk; more abundant than at any time during the past two years.

Illinois. J. H. Bigger (May 13): The Colorado potato beetle is very abundant; more than ordinarily abundant in the western part of the State.

Missouri. L. Haseman (May 23): Adults not very abundant at Columbia; ovipositing observed May 20.

Tennessee. J. Milam (May 23): Colorado potato beetle has recently appeared in numbers at Clarksville and is causing serious defoliation of potatoes.

Mississippi. C. Lyle and assistants (May): This insect is unusually abundant throughout the entire State. (Abstract, J.A.H.)

POTATO FLEA BEETLE (Epitrix cucumeris Harr.)

Connecticut. N. Turner (May 23): E. cucumeris appeared in large numbers May 19 near New Haven, causing considerable injury to potatoes.

South Carolina. A. Lutken (May 25): Potato flea beetles have been abundant on potatoes and eggplant in the northwestern part of the State.

BEANS

MEXICAN BEAN BEETLE (Epilachna corrupta Muls.)

Maine. C. R. Phipps (May 25): The Mexican bean beetle caged pupae failed to survive winter.

Connecticut. N. Turner (May 23): The beetle appeared slightly earlier than last year. Observed only in small numbers so far in garden beans in the southern part of the State.

Pennsylvania. J. N. Knull (May 18): The first adult was observed at Hummelstown on May 18.

Virginia. L. W. Brannon (April 27): The first Mexican bean beetle of the season was found in the field feeding on snap beans in the Norfolk area on April 27. This is the earliest record of emergence since the Station was established in 1929. At this time the earliest plantings of snap beans were just up. The first eggs were deposited on May 4, or 7 days after emergence.

North Carolina. L. W. Brannon (April 27): The first beetle of the season in the Elizabeth City area was collected in the field feeding on snap beans on April 27. Only one adult was found on several rows of garden beans. The oldest beans in this locality were just coming up.

South Carolina. F. Sherman (May 22): The first adults were found in a field May 5 to 7, in Clemson College.

Georgia. W. H. Clarke (May 8): A moderate number of beetles were observed in a field at Thomaston, where they were doing considerable injury to bean foliage.

Florida. J. R. Watson (May 26): A light infestation has been found at Monticello. This is the first instance we have known of the appearance of this beetle in Florida.

Ohio. N. F. Howard (May 18): The survival in central and southern Ohio is very high, and it is quite possible that it will equal the record survival which obtained a year ago. Records from the hibernation cage at Arlington Farm, Va., indicate that the survival there also is very high.

Indiana. J. J. Davis (May 26): The first report was received May 21 from Evansville, where the beetles were becoming very destructive. Other localities from Morgantown south have reported abundance since May 23.

Tennessee. J. U. Gilmore (May 19): Adults are plentiful at Clarksville and heavy damage to early beans is indicated.

Mississippi. C. Lyle (May 23): Specimens were received for the first time from southern Mississippi, on May 18, when a correspondent at Hattiesburg, Forrest County, sent in several larvae with a report that beans and peas had been severely injured. The correspondent indicated that he first observed the pest last fall when most of his bean and pea vines were destroyed. A second batch of specimens was received on May 19 from the vicinity of Hattiesburg.

BEAN LEAF BEETLE (Cerotoma trifurcata Forst.)

North Carolina. P. D. Sanders (May): The bean leaf beetle was injuring beans rather severely at Fayetteville May 9, Nashville May 11, and Hope May 11.

South Carolina. F. Sherman (May 22): The bean leaf beetle is more abundant than it has been for the last 4 or 5 years.
W. J. Reid, jr. (April 20): The bean leaf beetle is quite abundant on snap bean plantings in the commercial growing areas around Charleston. The infestation is suffcientIy great to warrant control measures, especially since the plants are being retarded by dry soil conditions.

Georgia. W. H. Clarke (May 8): A small area of field peas at Thomaston had been injured to such an extent that replanting has been necessary. Considerable numbers of the beetles are present on beans in gardens.

Kansas. H. R. Bryson (May 25): The bean leaf beetle was reported doing injury to beans in Doniphan County and at Manhattan.

Tennessee. J. U. Gilmore (May 15): Bean leaf beetles are plentiful and about the usual amount of damage to snap beans has been observed at Clarksville.

Mississippi. C. Lyle and assistants (May 23): Injury to beans was reported from the following counties: Sunflower County, May 4; Montgomery County, May 18; Oktibbeha County, May 16; and Jackson County, May 15. (Abstract, J.A.H.)

Texas. R. K. Fletcher (April 20): The beetle is reported as very abundant on beans at Garland, Dallas Co. Beans are severely injured.

PEAS

PEA APHID (Illinoia pisi Kalt.)

Maryland. E. N. Cory (May 23): The pea aphid has been extremely injurious to alfalfa in Prince Georges, Anne Arundel, Howard, Baltimore, and Cecil Counties and probably elsewhere throughout the State, but these are the only counties from which we have records. Practically wiped out by a fungus disease.

Missouri. L. Haseman (May 23): The pea aphid is very abundant, destroying whole fields of alfalfa at St. Joseph, May 1 - 5.

Kansas. H. B. Hungerford (May 11): The pea aphid is quite abundant on alfalfa about Lawrence and is moving into the canning peas. There seems to be a splendid start of parasites and predators in the alfalfa infestations and as yet no damage has been done to the peas.
H. R. Bryson (May 25): The pea aphid is still a menace to alfalfa and garden peas in Kansas. The alfalfa is 12-14 inches in height and the injury is not so apparent, although the aphids are abundant in the fields. Reports of aphid injury have been received from Chapman, Hanover, Hiawatha, Newton, and Manhattan.

Mississippi. C. Lyle (May 23): Aphids, probably I. pisi, were reported as very abundant on Austrian winter peas at Columbus, Lowndes County, on May 15; and moderately abundant on English peas at Ocean Springs, Jackson County, on May 15.

Oregon. D. C. Mote (May 9): The pea aphid was found on peas near Albany, April 26. (A. O. Larson.)

California. E. O. Essig (May 22): The pea aphid is very abundant on alfalfa in central California.

CABBAGE

IMPORTED CABBAGE WORM (Ascia rapae L.)

Massachusetts. A. I. Bourne (May 25): The first cabbage butterflies were observed in the field May 12-14.

South Carolina. W. J. Reid, jr. (May 24): The worms began appearing in the fields near Charleston in larger numbers during April and have gradually increased in population until at the present they are doing quite severe damage to the few late plantings now present. An infestation count of 100 unpoisoned plants on May 19 showed a total cabbage worm infestation of 100 per cent, with a total of 1,110 worms present. The cabbage looper, Autographa brassicae Riley, was present on 100 per cent of the plants and constituted 83.9 per cent of the total worms; the diamond-back moth, Plutella maculipennis Curt., was present on 54 per cent of the plants and constituted 10.3 per cent of the total worms; and the imported cabbage worm, Ascia rapae L., was present on 38 per cent of the plants and made up 5.8 per cent of the total number of worms.

Illinois. J. H. Bigger (May 13): The imported cabbage worm is scarce in western Illinois. First adults were seen in Scott County May 10.

Missouri. L. Haseman (May 23): The imported cabbage worm has attracted less attention than usual this spring, though a few complaints have been received.

Mississippi. N. D. Peets (May 20): The imported cabbage worm has been causing considerable injury to cabbage in Lincoln and Copiah Counties for the past two weeks.

CABBAGE MAGGOT (Hylemyia brassicae Bouche)

New York. N. Y. State Coll. of Agr. News Letter (May 15): Cabbage maggot flies have been observed for the past two weeks in Suffolk County, and the first eggs were observed on May 5.
P. J. Parrott (May 22): Cabbage maggots are very abundant in western New York.

Pennsylvania. H. N. Worthley (May 19): Eggs first seen May 11 during period of heavy and frequent rains in State College.

Ohio. N. F. Howard (May 24): One report was received of damage on land on which a winter cover crop had been grown.

CABBAGE APHID (Brevicoryne brassicae L.)

South Carolina. W. J. Reid, jr. (April 25): Until parasites became sufficiently numerous apparently to have the infestation under control, the cabbage aphid threatened to do serious damage to late spring plantings of cabbage in the Charleston area. About 5 per cent of the young plants were rendered useless by the aphids before the parasites appeared in large numbers.

Tennessee. J. Milam (May 24): The cabbage aphid is probably more abundant at Clarksville than for some years. Considerable damage is being done to cabbage.

HARLEQUIN BUG (Murgantia histrionica Hahn)

Virginia. L. W. Brannon (May 6): Adults have been observed active in fields of crucifers in the Norfolk area since about the middle of April. The first eggs of the season were observed in the field on April 25. The first hatching eggs were observed on May 6.

West Virginia. L. M. Peairs (May 11): On May 5 I collected large numbers of the harlequin cabbage bug which had evidently survived the winter at Morgantown. They were congregating on a patch of Vaccaria. Since that time they seem to have scattered, but I find an occasional individual.

South Carolina. A. Lutken (May 25): The harlequin bug is moderately abundant in the northwestern part of the State.

Georgia. W. H. Clarke (May 20): The harlequin bug is scarce at Thomaston.

Ohio. T. H. Parks (May 22): The harlequin cabbage bug is very serious at Marietta, Washington County, and promises to do great damage to the early cabbage.
N. F. Howard (May 24): In southern and southeastern Ohio the harlequin bug is especially numerous, causing damage to crucifers, especially cabbage and horseradish. Eggs were present on the 22nd and 23rd of May, but were not yet abundant.

Kansas. H. R. Bryson (May 25): The harlequin cabbage bug was reported as numerous and causing injury to gardens at Winfield and Sedan April 27.

Mississippi. C. Lyle (May 23): Severe damage to turnips and mustard was reported from Hernando, DeSoto County, on May 15. Also abundant on turnips and kale at State College, Meridian, Lexington, and Ethel.

ONION THRIPS (Thrips tabaci Lind.)

South Carolina. W. J. Reid, jr. (May 24): The onion thrips infestation of cabbage, previously reported as appearing in the Charleston area about the middle of April, gradually increased throughout May. As a result of dry, hot weather and thrips injury the growth of cabbage plants is now practically at a standstill. This is particularly true in the case of immature plants. Unusually dry and hot weather conditions have existed during May and there has been a serious lack of rain since early March.

CUCUMBER

PICKLE WORM (Diaphania nitidalis Stoll)

Florida. J. R. Watson (May 26): The pickle worm has been unusually abundant this year and has ruined many fields of cucumbers. Usually early planted cucumbers escape this pest in Florida, but not so this season. Much summer squash has been injured also.

STRIPED CUCUMBER BEETLE (Diabrotica vittata Fab.)

Pennsylvania. J. N. Knull (May 22): The first adults were observed on pear blossoms at Hummelstown on April 30. The beetle is now very abundant.

North Carolina. P. D. Sanders (May 11): The striped cucumber beetle is present at Nashville and very injurious at Hope.

Ohio. N. F. Howard (May 18): An adult emerged from the cover in the Mexican bean beetle hibernation cage on this date. Other specimens were observed under natural cover while searching for the Mexican bean beetle.

Wisconsin. C. L. Fluke (May 24): First adults were collected in the woods May 10.

Mississippi. C. Lyle (May 23): The striped cucumber beetles were observed in numbers on young watermelon recently at Maben, Oktibbeha County, and on cucumbers, squash, etc., near Adaton, Oktibbeha County.

Louisiana. C. E. Smith and P. K. Harrison (April 27): The first specimens observed at Baton Rouge this season were collected while sweeping alfalfa April 24. The first severe infestation on cucurbits was observed this date.

SQUASH

SQUASH BUG (Anasa tristis DeG.)

South Carolina. A. Lutken (May 25): Squash bugs are abundant and doing considerable damage to watermelons in Barnwell and Allendale Counties.

Oklahoma. C. F. Stiles (May 23): The squash bugs are numerous in most plantings.

PICKLE WORM (Diaphania nitidalis Stoll)

Georgia. O. I. Snapp (May 18): This insect is causing considerable damage to young squash at Fort Valley.

TURNIP

TURNIP APHID (Rhopalosiphum pseudobrassicae Davis)

Ohio. N. F. Howard (May 24): Turnip aphids at South Point were becoming very abundant on early turnips, but early cabbage, which is already forming heads 3 inches in diameter, has not yet been affected.

ONIONS

ONION THRIPS (Thrips tabaci Lind.)

South Carolina. J. G. Watts (May 22): Onions are heavily infested and damaged by onion thrips at Clemson College.

Mississippi. R. P. Colmer (May 18): The onion thrips was causing considerable damage to onion in gardens at Pascagoula May 1.

STRAWBERRY

Arkansas. W. J. Baerg (May 25): The strawberry root aphid (Aphis forbesi Weed) and the cornfield ant (Lasius niger americanus Emery) literally dug up strawberry plants and prevented runners from sending down roots.

COMMON RED SPIDER (Tetranychus telarius L.)

New York. N. Y. State Coll. of Agr. News Letter (May 15): Red spiders were first observed on strawberries in the vicinity of Riverhead, Suffolk County, on May 3.

Texas. J. N. Roney (March 18): Red spiders were reported in moderate abundance attacking 1 and 2 year old strawberry plants in Galveston County.

BEETS

BEET LEAFHOPPER (Eutettix tenellus Bak.)

Utah. G. F. Knowlton (May 24): The beet leafhopper has reached the Uintah Basin, being taken in moderate abundance from Duchesne to Fort Duchesne, and in smaller numbers clear across the basin.

HOP FLEA BEETLE (Psylliodes punctulata Melsh.)

Utah. G. F. Knowlton (May 22): Hop flea beetles are doing moderate damage to young sugar beets at Magna, Vineyard, and in some other areas. The backward spring has greatly retarded beet development.

SUGAR BEET ROOT MAGGOT (Tetanops aldrichi Hendel)

Utah. G. F. Knowlton (May 22): An adult fly was taken upon sugar beets at Vineyard.

TOBACCO

TOBACCO FLEA BEETLE (Epitrix parvula Fab.)

Virginia. L. W. Brannon (April 14): Adults were observed injuring Irish potatoes for the first time during 1933 on April 14 at Churchland. The insects were fairly numerous in a large field of potatoes.

North Carolina. Z. P. Metcalf (May 5): Tobacco flea beetles are very abundant. Owing to the excessively hot, dry weather which has greatly retarded recently planted tobacco, the flea beetle has done more damage in this State than at any time in the last 25 years. It is reported generally from the eastern part of the State.

Tennessee. G. M. Bentley (May): The tobacco flea beetle is moderately abundant in eastern and middle Tennessee.
J. U. Gilmore (May 24): The first transplantings of tobacco at Clarksville are suffering from about the usual amount of damage.

Kentucky. W. A. Price (May 24): Flea beetles on tobacco have been reported from practically all tobacco-growing sections of the State.

TOBACCO BUDWORM (Heliothis virescens Fab.)

Florida. F. S. Chamberlain (May 6): Budworms are more abundant than normal in tobacco crops in Gadsden County. Where the standard poison bait is properly applied, even the heaviest infestations are thoroughly controlled.

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

BROWN-TAIL MOTH (Nygmia phaeorrhoea Don.)

New England. News Letter, Bureau of Plant Quarantine, No. 29 (May 1): The records so far obtained from the survey being carried on by the quarantine inspectors of the brown-tail moth distribution beyond the quarantine line show a definite spread in Maine northeast of the present quarantine line, and in New Hampshire north and west of the present quarantined area, including several towns in Vermont. This survey work has not yet been completed. Reports have been received that the infestation in the southwestern part of Maine, including York and Cumberland Counties, and the southern parts of Oxford and Androscoggin Counties, are more heavily infested than usual. There have also been reports of heavy infestation as far east as Castine, Maine, with a very heavy infestation at Rockland. There are very heavy infestations in the old infested section of New Hampshire.

FOREST TENT CATERPILLAR (Malacosoma disstria Hbn.)

Maine. H. B. Peirson (May): Caterpillars were observed in Township and near Ellsworth. Heavy outbreak of last year on poplar and white and gray birch was found to be heavily parasitized.

Virginia. C. R. Willey (May 22): This pest apparently is working northeastward. Infestation apparently is lighter in Lynchburg section than for the past two years. Specimens were brought in from Beaver Dam, May 17. The person bringing them stated that this is their first occurrence in numbers in this section.

DOUGLAS FIR TUSSOCK MOTH (Hemerocampa pseudotsugata McD.)

Washington. M. H. Hatch (May 18): This insect was reported as stripping a number of young Douglas firs of their new needles, at Medina, King County.

FALL CANKER WORM (Alsophila pometaria Harr.)

Vermont. H. L. Bailey (May 27): Fall canker worms are very abundant at Burlington. Larvae less than one-fourth inch long May 18. Elm and basswood chiefly infested.

New York. E. P. Felt (May 23): Fall canker worms are present in large numbers in southern Westchester County, on Long Island, and in the New Haven, Conn., area, and the probabilities favor extensive stripping.

SPRING CANKER WORM (Paleacrita vernata Peck)

Kansas. H. R. Bryson (May 25): Cankerworms are very abundant over the eastern half of the State. Hatching took place about April 25 at Manhattan. They have injured the foliage of elm, hackberry, and, in some instances, young apple trees. One report on April 25 stated that approximately one-half of a 60-acre orchard of young apple trees near Wamego had been defoliated. Reports of injury to elm trees and hackberry have been received also from Emporia, Russell, Manhattan, and other localities in the eastern part of the State.

ASH

A SAWFLY (Tomosthethus bardus Say)

Maryland. E. N. Cory (May 19): This insect is again injuring ash in Prince Georges County.

Ohio. T. H. Parks (May 24): A large ash tree on a city lot in Columbus was almost defoliated by sawfly larvae (Monophadnus barda Say) before the owner noticed them. When the tree was visited the larvae were wandering about over tree and ground and crawling up a nearby building and fence. Thousands of the larvae had attempted to go up the tree trunk again after dropping to the ground. This is the first Ohio record of injury from this sawfly that has come to us.

CARPENTER WORM (Prionoxystus robiniae Peck)

North Dakota. J. A. Munro (May 20): The carpenter worm is doing much damage to green ash at Mandan and Bismarck. Also found it present in northwest poplar at Mandan. It is moderately abundant at Mandan and Bismarck. Apparently this is our first record of its presence in anything but green ash.

CHESTNUT

PEAR-BLIGHT BEETLE (Anisandrus pyri Peck)

Washington. M. H. Hatch (April 29): A. pyri is very abundant in a small stand of young chestnut trees on the University of Washington campus. The trunks of the trees are about one inch in diameter and the trees are being attacked by chestnut blight.

ELM

ELM LEAF BEETLE (Galerucella xanthomelaena Schr.)

Connecticut. W. E. Britton (May 24): This insect emerged rather late from winter quarters in Greenwich, Norwich, and West Haven.

New York. E. P. Felt (May 23): Elm leaf beetles have commenced feeding in numbers at Fishkill.

Maryland. E. N. Cory (May 19): The elm leaf beetle is abundant in College Park and Hyattsville, and eggs are being laid at this time.

ELM SNOUT BEETLE (Magdallis armicollis Say)

South Dakota. H. C. Severin (May 20): The elm snout beetle is very abundant in eastern South Dakota and doing considerable damage to elm.

EUROPEAN ELM SCALE (Gossyparia spuria Mod.)

Nebraska. M. H. Swenk (April 20 to May 20): A report was received from Jefferson County of injury to elms by both the European elm scale and the white elm scale (Chionaspis americana Johns.).

FIR

DOUGLAS FIR CATERPILLAR (Euschausia argentata Pack.)

Nevada. G. G. Schweis (May 19): After a five-year interval in which no damage was reported, the silver spotted halisidoa has again appeared in great numbers in the forests at Lake Tahoe and is doing much damage to fir trees. Occasionally where firs overlap with pines the caterpillars are feeding on pines, but the damage is not so severe or noticeable as on firs.

LARCH

LARCH CASE BEARER (Coleophora laricella Hbn.)

Maine. H. B. Peirson (May): The larch case bearer was very abundant, May 17, in Sydney, and was moving to opening buds.

Vermont. H. L. Bailey (May 27): This insect is generally abundant throughout the State. Trees in large plantation at Douner Forest Farm, Sharon, showed 10 to 80 per cent defoliation May 26.

New York. R. D. Glasgow (May 23): The larch case bearer is now quite generally injurious to larch in ornamental plantings throughout eastern New York. This insect is again causing severe damage also to American larch in the forests of northern New York.

JUNIPER AND CEDAR

JUNIPER WEBWORM (Dichomeris marginella Fab.)

New York. R. D. Glasgow (May 23): The juniper webworm appears to be unusually troublesome in some parts of Westchester County and of Long Island.

Maryland. E. N. Cory (May 19): The first record of emergence was obtained Wednesday on cage specimens at College Park. The webworm has been reported from Baltimore City.

JUNIPER SCALE (Diaspis carueli Targ.)

New York. P. J. Parrott (May 22): The juniper scale is moderately abundant in western New York.

A SOFT SCALE (Lecanium fletcheri Ckll.)

Kansas. H. B. Hungerford (May 11): We found quite a heavy infestation on red cedar in Lawrence. (Determined by H. Morrison)

MAPLE

WOOLLY ALDER APHID (Prociphilus tessellatus Fitch)

Alabama. J. M. Robinson (May 20): The woolly alder aphid is moderately abundant at Florence on maple leaves.

Mississippi. C. Lyle (May 23): A heavy infestation was observed on maple trees in Starkville on May 15. Migratory forms were already present, however.

PINE

EUROPEAN PINE SHOOT MOTH (Rhyacionia buoliana Schiff.)

New York. R. D. Glasgow (May 23): This insect is now causing extensive and very serious damage to red pines in ornamental plantings and on small afforested areas; it has been distributed with infested nursery stock until it is now established in ornamental plantings in or near most of the larger cities of the State, and apparently promises to become a pest of major economic importance.

PALES WEEVIL (Hylobius pales Boh.)

New York. R. D. Glasgow (May 23): The pales weevil is causing severe injury to several pine species, but particularly to Scotch pine in the neighborhood of Saratoga Springs and Glens Falls. This insect is destroying many trees, not only in young Scotch pine plantations but also in plantations 15 years old or more. I have recently found this insect to be responsible for considerable losses in a Westchester County nursery, where it has caused very serious damage both to Scotch pine and to Mugho pine.

A WEEVIL (Hypomolyx piceus DeG.)

New York. R. D. Glasgow (May 23): This weevil has recently been found responsible, in the higher altitudes of northern New York, for severe injury to Scotch pine plantations similar to that which has been caused by the pales weevil in the neighborhood of Saratoga Springs.

PINE NEEDLE SCALE (Chionaspis pinifoliae Fitch)

Maine. H. B. Peirson (May): Pine leaf scale was abundant on red pine and spruce in Bingham, April 28.

Massachusetts. A. I. Bourne (May 25): The crawling young were first observed May 20 at Amherst. Prof. Whitcomb observed the first young at Waltham on the 18th.

Ohio. E. W. Mendenhall (May 23): The pine leaf scale is found quite bad on some of the Mugho pines in central Ohio.

Minnesota. A. G. Ruggles (May 23): Pine leaf scale eggs are not hatched yet.

Mississippi. C. Lyle (May 23): C. pinifoliae heterophyllae was found on pine received from Ocean Springs, Jackson County, May 9.

Nebraska. M. H. Swenk (April 20 to May 20): A report of injury to pine trees was received from Merrick County the third week in May.

WILLOW

EUROPEAN WILLOW BEETLE (Plagiodera versicolora Laich.)

Pennsylvania. J. N. Knull (May 5): Adults are abundant on willow at Hummelstown, Dauphin County. First eggs were observed May 5.

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

CARROT BEETLE (Ligyrus gibbosus DeG.)

South Carolina. F. Sherman (May 22): A report of attack on sunflowers has been received from Greenville County.
O. L. Cartwright (May 22): The sunflower beetle is unusually abundant at Clemson College.

AMARYLLIS

A MITE (Tarsonemus approximatus narcissi Ewing)

Washington. C. F. Doucette (May 11): From April, 1933, report, Sumner, Wash., Station: Mites of what is considered this species (T. approximatus narcissi) and variety were found on bulbs of Hippeastrum sp. (hybrid amaryllis) in the laboratory greenhouse. The extent and numbers of the infestation indicate that this mite is distinctly able to exist on this plant. An authoritative determination has not been received as yet, as males seem to be still quite scarce. This is the first knowledge of the occurrence of this mite on any plant other than narcissus.

ARBORVITAE

ARBORVITAE APHID (Lachnus thujafalinus Del G.)

South Carolina. W. C. Nettles (May 22): This aphid is abundant on arborvitae at Clemson College.

BOXWOOD

BOXWOOD LEAF MINER (Monarthropalpus buxi Labou)

New York. R. D. Glasgow (May 23): Injury by the boxwood leaf miner is very prevalent in ornamental plantings in southeastern New York and on Long Island, and in some nurseries.

Delaware. L. A. Stearns (May 25): The boxwood leaf miner was abundant in Wilmington May 11 to 17.

Maryland. E. N. Cory and staff (May 23): Boxwood leaf miners are present in a number of places in Baltimore City and Baltimore County. Emergence is in full swing at present.

CANNA

CANNA LEAF ROLLER (Calpodes ethlius Cram.)

Mississippi. K. L. Cockerham (May 22): The canna leaf roller has appeared in very injurious numbers. Yard plantings of cannas at Biloxi have been attacked to such an extent that they appear very unsightly.

CREPE MYRTLE

CREPE MYRTLE APHID (Myzocallis kahawaluokalani Kirk.)

Mississippi. C. Lyle (May 23): Crepe myrtle twigs showing a medium infestation were received from Kosiusko, Attala County, on April 20. Aphids were found to be very abundant on crepe myrtle in Jackson on April 29. The injury to the plant was very outstanding.

GLADIOLUS

GLADIOLUS THRIPS (Taeniothrips gladioli M. & S.)

New York. P. J. Parrott (May 22): Gladiolus thrips is very abundant in western New York.

HOLLY

HOLLY LEAF MINER (Phytomyza ilicis Curt.)

Maryland. E. N. Cory (May 19): The holly leaf miner is being received from various points of the State, notably in Baltimore, Montgomery, Prince Georges, and Washington Counties.

JAPANESE LANTERN

POTATO STALK BORER (Trichobaris trinotata Say)

Pennsylvania. J. N. Knull (May 18): Adults of the potato stalk borer are abundant on Japanese lantern plants at Hummelstown this spring.

LARKSPUR

CYCLAMEN MITE (Tarsonemus pallidus Bks.)

Connecticut. W. E. Britton (May 24): This mite is curling terminal leaves and buds of larkspur at New London, Yalesville, and New Haven.

NARCISSUS

NARCISSUS BULB FLY (Merodon equestris Fab.)

Washington. C. H. Martin. From April, report, Sumner, Wash., Station: During March the majority of the larvae of M. equestris had left the bulbs to pupate. On March 28 larvae remained in 8.3 per cent of the infested bulbs. These figures include larvae of all sizes, including the supposed two-year forms. On April 24 there still were some full-grown larvae within the bulbs which had not pupated. April 12. Adults of both types of bulb flies were observed flying near the laboratory cages. Surveys in commercial fields did not show any adults. The large number of pupae being carried this season under various conditions gives the probable explanation of this very early emergence, and it is not considered as a definite date for the emergence of flies under normal conditions. April 27-28. Adult Merodon were again seen around the laboratory

cages, but were not observed in Puyallup Valley fields. No emergence had been observed in pupae (several hundred) caged for emergence data. Reports from growers in the Portland, Oregon, area stated that several adults were observed there in fields April 25-30.

TAXUS

BLACK VINE WEEVIL (Brachyrhinus sulcatus Fab.)

New York. R. D. Glasgow (May 23): The black vine weevil has been very injurious to taxus in many parts of eastern New York and Long Island. About two weeks ago at Garden City, L. I., I personally collected 34 larvae (not yet reared through for identification, but presumably of this species) from about the roots of single small taxus plant not over 18 inches high.

VIRGINIA CREEPER

LEAFHOPPERS (Cicadellidae)

Utah. G. F. Knowlton (May 23): From recent identifications it appears that Erythronura ziczac Walsh is the most common leafhopper damaging Virginia creeper in northern Utah, with E. elegans McA. being next in abundance upon this ornamental climber.

South Dakota. H. C. Severin (May 20): Woodbine leafhoppers are unusually abundant for this time of year and are already doing considerable damage to woodbine and related plants.

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

TROPICAL RAT MITE (Liponyssus bacoti Hirst)

Georgia. W. E. Dove and D. G. Hall (May 27): At Savannah persons reported who were affected by bites on the skin. An examination of the premises revealed the presence of tropical rat mites.

MOSQUITOES (Culicinae)

Connecticut. N. Turner (May 23): Aedes cantator Coq. is about as abundant as usual. A. fitchii Felt and Young and associated species are very abundant in southern Connecticut.

Utah. G. F. Knowlton (May 22): Mosquitoes are becoming troublesome in the northern end of Tooele and Skull Valleys and along the northern end of the Great Salt Lake.

A MIDGE (Leptoconops kerteszi americanus Carter)

Utah. G. F. Knowlton (May 2): Biting midges are extremely abundant and annoying in the Grantsville, Flux, Dolomite, and Timpie areas of Tooele County.

SAND FLIES (Culicoides spp.)

Mississippi. C. H. Bradley (May 27): "Punkies" were collected from cattle in the upper portion of the Yazoo delta and were identified as C. biguttatus Coq.

United States. Monthly Letter of the Bureau of Entomology, U.S.D.A., No. 227 (March): W. E. Dove, Savannah, Ga., reports that "A species (of Culicoides) reported as a biter of man in Maryland, Florida, and elsewhere, C. biguttatus, has been reared from tree holes. This is the first record of the rearing of this species. Prior to this time only C. guttipennis Coq. was reared from tree holes."

Florida. W. E. Dove and D. G. Hall (May 27): C. dovei Hall is very abundant and extremely annoying at Fort Pierce.

Georgia. W. E. Dove and D. G. Hall (May 27): At Savannah C. dovei is the predominating species at this time. Concentrations of larvae in ditches are comparable to those found during last year.

BLACK WIDOW (Lathrodectes mactans Fab.)

Utah. G. F, Knowlton (May 10): Black widow spiders were found to be very abundant in the foothills between Lampo and Penrose. A number of individuals have been noted from Magna, Logan, Garland, Snowville, Grantsville, and Skull Valley.

CATTLE

HORN FLY (Haematobia irritans L.)

Texas. E. C. Cushing (May): Horn flies began to be troublesome on May 5 (40 to 100 per animal). By May 18 the number had increased to about 200 to 300 per animal, and on May 24 some animals had as high as 1,500 to 2,000.

HORSE

HORSE FLIES (Tabanidae)

Georgia. W. E. Dove and D. G. Hall (May 27): Tabanus costalis Wied. began to appear in the vicinity of salt marshes about May 10, and on May 27 they were about as abundant as they were last year. They are severe biters of man and have a seasonal incidence which follows that of Culicoides canithorax Hoffm.

Texas. E. C. Cushing (May): After a general heavy rain on May 14, Tabanidae began to cause some annoyance to livestock by May 18. By May 23 they became quite troublesome, especially in the bottoms along rivers and creeks.

BOTFLIES (Gastrophilus spp.)

Iowa. E. F. Knipling (May 26): First larva of G. haemorrhoidalis L. was found attached in rectum of horse May 1. First dropping larva of G. nasalis L. was taken on May 13. Fecal examination of horses since that date indicates that this species is dropping in considerable numbers. First dropping larva of G. intestinalis DeG. was taken May 19. Previous examinations of feces were negative.

Missouri. Monthly Letter of the Bureau of Entomology, U.S.D.A., No. 226 (February): R. W. Wells, reports that of 2,200 eggs of G. intestinalis, collected from horses in the vicinity of Columbia, January 17 and 18, 2.9 per cent were viable and that of 1,300 eggs collected from horses at Ames January 2, 4.15 per cent were viable.

BLACK BLOWFLY (Phormia regina Meig.)

Iowa. E. F. Knipling (May 26): Approximately 85 per cent of the flies taken from traps during May 1 to 14 were Phormia regina.

POULTRY

A BILLBUG (Calendra sp.)

Georgia. W. E. Dove and D. G. Hall (May 27): Billbugs have been reported as causing the death of young chickens in one section of Savannah. Healthy chickens are found dead and with billbugs fastened in the mouth. The injury appears to be of a mechanical nature; the mucosa is punctured and death is caused by bleeding.

CHICKEN MITE (Dermanyssus gallinae L.)

Mississippi. C. Lyle and assistants (May): A report received on April 24 from Jackson states that the chicken mite is very abundant.

H O U S E H O L D A N D S T O R E D - P R O D U C T S

I N S E C T S

TERMITES (Reticulitermes spp.)

United States. T. E. Snyder (April): During April 339 cases of termite damage were reported to the Bureau of Entomology. The following list gives the number of cases reported from each section: New England, 3; Middle Atlantic, 143; South Atlantic, 43; East Central, 49; West Central, 20; North Central, 5; Lower Mississippi, 66; Pacific Coast, 10. During May 428 cases of termite were reported as follows: New England, 6; Middle Atlantic, 214; South Atlantic, 41; East Central, 66; West Central, 23; North Central, 1; Lower Mississippi, 36; Great Basin,2; Southwest, 34; Pacific Coast, 5.

ANTS (Formicidae)

Massachusetts. A. I. Bourne (May 25): There is considerable evidence of unusual abundance of ants, both in lawns and dwelling houses. The number of complaints of both types of activity has been unusually large for this part of the season.

Mississippi. C. Lyle (May 23): On May 16 a correspondent at Quitman, Clark County, sent us specimens of the Florida harvester ant, Pogonomyrmex badius Latr. with the following statement: "These ants build their nests in my farm and won't let anything grow near them." Reports have been received from various sections of the State regarding the abundance of fire ants, Solenopsis geminata xyloni McC. in lawns and flower beds. Prenolepis imparis Say var. testacea Emery were causing considerable annoyance in a kitchen at Tupelo on May 1.

WHITE-MARKED SPIDER BEETLE (Ptinus fur L.)

Ohio. T. H. Parks (May 3): A home near Columbus was found to be infested with these beetles. They were brought into the home in an old quilt brought from Illinois. This quilt was found to be well populated with the insect. The beetles were scattered all through the interior of the quilt where they had caused no serious damage except their presence. To all appearances they had hatched inside and fed on the cotton filling. This is the first time this pest had been called to our attention as a household insect.

Minnesota. H. H. Shepard (May): The white-marked spider beetle was found in large numbers on stored flour at Duluth, St. Louis County, May 4.

A SPIDER BEETLE (Mezium americanum Lap.)

Massachusetts. A. I. Bourne (April 27): Specimens were sent in from a house in Dorchester where they were reported as being rather abundant.

PEA WEEVIL (Bruchus pisorum L.)

Oregon. D. C. Mote (May 9): The pea weevil is appearing much later at Corvallis than last year.

INSECT CONDITIONS IN COSTA RICA

C. H. Ballou
San Jose, Costa Rica

(Unless otherwise indicated, observations were made at San Pedro de Montés de Oca)

COCCIDAE

Aspidiotus destructor Sign., present April 12 at Limon, especially harmful on coconut and Terminalia catappa L., a shade tree used in parks, highways, etc.

Aulacaspis pentagona Targ. especially harmful on Diospyros virginiana L., peach, and plum throughout April.

Coccus acuminatus Sign.[1] on guava January 21.

Eriococcus araucariae Mask.[1] on Araucaria braziliana A. Rich. January 5.

Icerya montserratensis R. & H. present April 11 on cinnamon at Limon.

Lepidosaphes beckii Newm. present April 20 on sour orange. Especially harmful throughout April on sweet orange and Poncirus trifoliatus Raf.

Protopulvinaria pyriformis Ckll. present April 11 on cinnamon at Limon.

(1) Det. H. Morrison.

Pseudischnaspis bowreyi Ckll. especially harmful throughout April on Diospyros virginiana L. and Poncirus trifoliatus Raf.

Pseudococcus citri Risso present April 4 to 18 on avocado, grapefruit and sweet orange.

P. virgatus Ckll. present on avocado April 18.

Saissetia hemisphaerica Targ. present during April at Limon on avocado, croton, Diospyros virginiana L., guava, Ixora chinensis L., sweet orange, Poncirus trifoliatus, and starapple.

ALEYRODIDAE

Aleurocanthus woglumi Ashby. The beetles Hyperaspis centralis Muls.[1] and Pentilia discors Gorh.[1] feed on this blackfly.

HOMOPTERA

Diestostemma rugicolle Sign.[2] present April 13 on Terminalia catappa L. at Limon.

Graphocephala coccinea Forst.[2] present during April on Diospyros virginiana L. and sweet orange.

Stictocephala festina Say[2] present on sweet orange April 2, and on wheat throughout April .

HEMIPTERA

Chlorocoris atrispinus Stal present April 21 on sweet orange.

Collaria oleosa Dist.[2] on wheat throughout April.

Halticus citri Ashm. present on lettuce April 25 and on tomato throughout April.

COLEOPTERA

Brachyacantha bistripustulata F.[1] present April 4 on mandarine. Taken on targua (Croton gossypiifolium Vahl.) January 21.

Cerotoma rogersi Jac.[3] present April 25 on lettuce and on soybean throughout April.

Cycloneda pallidula Muls.[1] on croton December 1932, and on avocado January 28, 1933.

Epilachna defecta Muls.[1] on zorillo (Cestrum lanatum M. & G.) January 19.

Euproctus (?subdeletus Bates) or E. metricus Bates[4] was present on avocado on January 20.

Homophoeta cyanipennis var. octomaculata Cr.[3] taken on avocado March 25, on Casuarina equisetifolia March 10, on peach March 21, and on soybeans May 14.

(1) Det. E. A. Chapin. (2) Det. S. C. Bruner. (3) Det. H.S. Barber.
(4) Det. L. L. Buchanan.

Lobometopon guatemalensis Champ.[1] was feeding on peach-rust fungus on peach leaves, January 13, also very abundant on spikes of rice; appears to eat sap at injured places.

Mycotretus luteipes Lac.[2] taken at Alajuelita on January 21 on Pleurotus sp.

Nodonota irazuensis Jac. present on avocado throughout April.

Schoenicus panamensis Champ.[1] found in the flower of mango February 6, apple January 6, cashew January 28, pear January 30, avocado January 27, and orange January 30.

Stenotarsus flavago Gorh.[2] on corn at Tablozo in February. Reported by Carlos Madrigal.

DIPTERA

Anastrepha serpentina Wied.[3] reared on starapple fruit. Emerged March 27.
A. striata Schiner[3] were reared from maggots in the fruit of guava November 12 to December 18. They spoil most of the fruit that is exposed for sale in the San Jose Market.

Desmometopa tarsalis Loew[4] was very abundant between the stamens and the pistils of the flowers of orange.

Rhynchosciara brevicornis Rubs.[3] is found on the blossoms of avocado, from November 12 to December 18.

LEPIDOPTERA

Dicentria violascens H. S.[5] is very harmful on apple and pecan.

Eantis pallida Felder[5] present April 3 and 5, and kumquat, mandarine. Skipper reared on orange. Emerged March 12.

Euglyphis castalia Druce[5] moth reared on avocado. Emerged March 23.
E. larunda Druce[5] moth reared on avocado. Emerged March 12.
E. melancholica Butl.[5] present on avocado December 22, 1932,and April 6. The parasite Ichneumon emerged from pupa of caterpillar February 7.

Lycophotia margaritosa Haw.[5] an important pest on tobacco.

Machinia erythema Wals.[6] reared on avocado. Emerged March 5 and 12.

Papilio anchisiades idaeus Fabr.[5] on sour orange March 13.

Plutella maculipennis Curtis[6] on cauliflower December 27, 1932.

Stenomacra marginella H. & S. present on foliage, flowers, and fruit of avocado; frequently causes heavy loss of flowers, and deforms small fruit. It is present throughout the month of April and especially harmful. Adults only in latter part of month found on lemon, April 6.

(1) Det. E. A. Chapin. (2) Det. W. S. Fisher. (3) Det. C. T. Greene.
(4) Det. J. M. Aldrich. (5) Det. W. Schaus. (6) Det. A. Busck.